

3L
L: 5 m 56, M88
M88.50
69280

11923

PUBLIC HEALTH

THE JOURNAL OF
THE SOCIETY OF MEDICAL OFFICERS OF HEALTH

No. 1. Vol. L.

OCTOBER, 1936



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

"Public Health" is the Official Organ of the Society of Medical Officers of Health and a suitable medium for the advertisement of official appointments vacant in the health service. Space is also available for a certain number of approved commercial advertisements. Application should be made to the Executive Secretary of the Society, at 1, Thornhaugh Street, Russell Square, London, W.C.1.

Contents

Editorial

	PAGE
"Tempora Mutantur, Nos et Mutamur" ...	1
Scottish Health Services ...	2
Maternity and Child Welfare ...	3
The Joint Tuberculosis Council ...	4
The Midwives Act, 1936. Circular 1569 ...	4

Obituary

G. W. N. Joseph, M.D., D.P.H. ...	6
Archibald Ferguson, M.B., D.P.H. ...	6

Special Articles

The Public Health Act. By Professor W. W. Jameson, M.D., F.R.C.P. ...	7
Our Future. By G. C. M. McGonigle, M.D., D.H.Y., D.P.H. ...	9
Malnutrition as a Cause of Maternal Mortality. By Lady Williams, Hon. Sec., Joint Council of Midwifery ...	11

Papers and Discussions in Brief or Abstract

Ante-Natal Nutrition. By Dame Louise McIlroy, M.D., D.Sc. Professor S. J. Cowell, M.A., M.D. ...	19
The Ideal Dental Service. By J. S. Roberts, L.D.S. ...	21

Society of Medical Officers of Health

Branch and Group Elections, 1936-37 ...	23
Council Meeting ...	24
Home Counties Branch ...	28
Northern Branch ...	29

Book Reviews

The Subnormal Mind ...	30
Johannes de Mirfeld ...	30
The Minor Medicine of General Practice ...	30
Hints to Probationer Nurses in Mental Hospitals ...	30
Exploitation of the Deaf ...	30

Editorial 69280

"Tempora Mutantur, Nos et Mutamur"

Our excuse for the overworked quotation at the head of this column is its appropriateness, for the inevitability of change affects Societies and their journals no less than other human institutions. Members of the Society of Medical Officers of Health, when they see this number of their journal wearing a somewhat different aspect from that to which they have been accustomed, will be reminded that Dr. Charles Porter has retired from the office of Honorary Editor, to which he was elected by his fellows in 1925, and has passed on his responsibilities to new hands. He is not an easy man to follow in the editorship, for he has given to PUBLIC HEALTH not only the care and sheer hard work which a Society is prone to expect of its officers, but also a real gift for journalism in the best sense of the word. Dr. Porter is a personality, and he has eminently succeeded in endowing the pages of PUBLIC HEALTH with "character" and dignity; his retirement indeed means the end, for the time being, of a line of distinguished editors: Wynter Blyth, Arthur News-holme, Reginald Dudfield, F. J. Allan, G. F. McCleary, Shirley Murphy and R. A. Lyster, names that show what quality has been at the Society's service.

It is our privilege on succeeding to Dr. Porter's task to offer him, on behalf of all members of the Society, the most sincere congratulations and thanks for his distinguished period of office, interrupted only by his election to the Presidency during the session 1933-4; it is our natural feeling to envy his editorial gifts. The Society would wish also to thank Mr. A. H. James, who has been Dr. Porter's right-hand man throughout the period of his editorship, and who has kept faithful record of so many discussions at our general meetings.

Members will have observed that it has been the Council's policy during the past two sessions to unify the administration of the Society's business and the placing of the editorial responsibility for PUBLIC HEALTH in the hands of the Journal Committee and of the Executive Secretary in continuance of that policy. The responsibility is a very

69280

5L

L: 5 m 56, M88

* M88.50

real one, for the Society's journal is, on the one hand, its "ambassador" to outside bodies and on the other, the only medium through which many members who are prevented by circumstances from attendance at meetings can keep in touch with the Society's activities and with developments in the practice of preventive medicine. Moreover, the range of subjects covered by our journal's title becomes yearly more widespread. This is reflected in the multiplicity of items on our Council's agenda and by the far-reaching discussions at Branch and Group meetings. One of our aims in the future conduct of PUBLIC HEALTH will be at least to summarise the majority of papers read at meetings, and another to invite, from those who are best qualified to contribute them, articles reviewing new legislation or recent advances in particular aspects of preventive medicine. For further details of the future policy and control of PUBLIC HEALTH, you are referred to the Report of the Journal Committee, published on page 27 of this issue. We hope at least that no specialist in the Society's ranks will be justified in complaining that his own subject is consistently neglected by this journal. For this first issue, Prof. W. W. Jameson has written a short "guide" to the new Public Health Act and this contribution should be of value to many members who may have contemplated with some alarm the prospect of having to master a new measure.

Finally, an appeal. What Milton wrote of the Englishmen of his time should be equally apposite to our own Society: "There be pens and heads there, sitting by their studious lamps, musing, searching, revolving new notions and ideas . . . others as fast reading, trying all things, assenting to the force of reason and conviction." Let our members put their investigations and their theories on to paper and try their luck with us. The space available in PUBLIC HEALTH is subject to considerations of cost but there will always be room for a contribution which shows originality of thought or research. The Society is essentially dependent on the co-operative efforts of its members, and in the same way PUBLIC HEALTH must rely for its comparative success on the practical support which is forthcoming from its readers. We expect outspoken criticism of the altered "make-up" of this number; we hope that the verdict will be favorable.

Scottish Health Services

When the financial crisis occurred in 1931, the cost of local government was one of the subjects inevitably marked down for scrutiny. The Ray Committee, which reported on local expenditure in England and Wales in 1932, recommended quite a number of economies in public health

administration and ventured to criticise procedure in the scientific field which it was not appropriately constituted to appreciate. Perhaps for this reason the Ray Report is virtually dead. The corresponding committee for Scotland more wisely admitted its inability to make definite recommendations towards economy but advised instead that a comprehensive inquiry into the health services should be conducted. With this object the Secretary of State for Scotland appointed a Committee on Scottish Health Services in June, 1933, which has now reported after three years of deliberation.* There have been 88 meetings of the full committee and many meetings of sub-committees; evidence has been heard from 76 bodies and 22 individual witnesses; visits have been made to different parts of the country in order to study the services in operation. Official public health was represented on the Committee by Dr. A. S. M. Macgregor, Medical Officer of Health of Glasgow, by Dr. J. L. Brownlie of the Scottish Health Department (later replaced by Dr. T. Ferguson of that Department) and by Dr. John Jardine, Assistant Secretary to the Scottish Education Department. Other medical members were Dr. Craig, Mrs. Chalmers Watson, Mr. Miles and Prof. E. P. Cathcart, who occupied the chair from April, 1935.

The report covers 404 pages. The summary alone runs to 25 pages, and further abbreviation would be impossible. Here it is practicable to touch only on one or two of the issues which it raises. It finds that the public health system of the past has been fully justified by its results, but makes certain recommendations for amendment of existing law, e.g., as to the prescription of food standards, speeding up action for the removal of nuisances and the control of tipping. It emphasises the need for much more effective education of the public as to health, especially in the purchasing and preparation of foods. It presses for open spaces and facilities for recreation as a part of housing schemes and urges that the housing code for compulsory acquisition of land should be made applicable generally to all environmental services.

Interest, however, will be specially concentrated upon its discussion of the medical and allied services which occupies, with relevant questions of finance and administration, about a half of the Report. Stress is laid upon the need for a general practitioner service for all members of the class of which most of the adults are entitled to medical benefit under the National Health Insurance Acts. It is pointed out that much of the development of the

*Department of Health for Scotland. Report of Committee on Scottish Health Services. Cmd. 5204, H.M.S.O., 6s.

statutory services of local authorities and the pressure on hospital out-patient departments are due to this deficiency, and that the efficiency even of these services is correspondingly impaired.

"The statutory provision for general medical attendance should be extended to include dependants of insured persons and, so far as practicable, others in similar economic circumstances, and all the statutory provisions for general medical attendance should be co-ordinated." "This co-ordinated service should be based, as far as possible, on the family doctor, who should act as health adviser and in liaison between the homes of the people and the statutory health services."

The Committee comes down definitely on the side of the panel system with remuneration by capitation fee, which it tentatively suggests should be at the rate of 6s. per dependant. It envisages some replacement of whole-time service in maternity, child welfare and school health by this general practitioner service, and returns more than once to the need of reform in medical education to make the general practitioner a fit adviser of the people in the preservation of health. His functions are to include attendance on all pregnant and parturient women on his panel as part of a new Maternity Service with or without whole-time salaried midwives.

Administration of the scheme should be in the hands of the larger local authorities, insurance committees being abolished. Additional contributions of 3d. per week per male and 1d. per week per female insured person, with State subvention but no contributions by employers, are estimated to be required to finance the scheme. The appropriate sums are to be paid to the local authorities out of insurance funds, these authorities to provide amounts sufficient for the medical care of the indigent non-insured through the same panel system. Each authority would be required to appoint a general practitioner service sub-committee containing representatives of insured persons and the medical profession. Recommendations are also made for tightening up the supervision of insurance medical practice and for assisting and advising its participants.

The Committee recognises that even the larger authorities of Scotland are, in many cases, too small for efficient management of such an extended service and especially of the scheme of regional hospitals propounded in 1926 by the Hospital Services (Scotland) Committee, adopted by the Scottish Department of Health and again endorsed by this Committee. Their view, however, is that areas of local government will have to be considered for other services as well as public health and that, for the present, combination of authorities enforced by a strengthened central department is the best practicable alternative. They also urge that the

central department should have more say in the appointment of medical officers of health.

Obviously, unanimity on such controversial topics could not be expected and the reservations, of which there are many, are perhaps as important as the main body of the Report. Everyone in the public health service must read this publication. Although it refers to Scottish Health Services there is almost nothing in it which has not a bearing on the present and future of public health in England and Wales. Indeed a similar enquiry south of the Border is overdue.

Maternity and Child Welfare

It is characteristic of Dr. M'Gonigle's work and outlook that he should have chosen "Our Future" as the title of his Presidential address to the Maternity and Child Welfare Group.

Readers will note that the rôle of prophet is disclaimed at the outset but read on and learn that whatever else the future may be it will not be dull. Those who know most of the achievements and difficulties of maternity and child welfare work will most readily accept this concept of the future as a fight for perfection and will have least difficulty in giving form and substance to those enemies referred to under the discreet abstractions of dogma and prejudice.

For those who have maternity and child welfare at heart the future will not be otiose. It may fairly be said of this work that it blazed the trail of public health thinking, across the threshold and into the home. As is very well known, Dr. M'Gonigle has carried this trail into the larder and has there started asking awkward questions about the housekeeping money. These questions are fundamental.

It is not a coincidence, but evidence of the interest that has been awakened in this subject, that three other papers read before the Maternity and Child Welfare Group and printed or summarised in this issue deal with various aspects of the question of nutrition.

Lady Williams adduces important experimental evidence and careful argument in support of the view that there is a *prima facie* case for believing that high puerperal death rates in certain areas are mainly due to malnutrition. The conclusion towards which Lady Williams' work is leading is one which would, if firmly established, exercise a profound influence upon steps being taken to reduce maternal mortality, and for this reason it is necessary to emphasise that her paper is confined almost entirely to a record of experiments carried out in certain areas hard hit by industrial depression and that no claim is made to a cast iron proof of her thesis.

This caveat, however, is equally a warning against

a facile assumption that the case is not proven. Her paper very clearly raises a question of the first magnitude for all those engaged in maternity and child welfare work and it would be a fitting response and entirely in accord with the presidential exhortation if opportunity were taken to test the matter by widespread local enquiry.

The brief summaries, appearing in this issue, of the papers read at Liverpool by Dame Louise McIlroy and Professor S. J. Cowell, on the subject of "Ante-natal Nutrition," illustrate the specialist approach to the same problem as that dealt with by Lady Williams. It is significant that the trend of Lady Williams' argument is towards conclusions that are in general harmony with the views expressed in these two important papers.

The Joint Tuberculosis Council

The sixth biennial report of the Joint Tuberculosis Council summarises the valuable work of that body for the years 1934-35. Perhaps the most important production during the last two years was the fourth report of the Employment Committee on "Care and After-Care Schemes." A fairly full summary of this report which reviews not only the work of care and after-care committees but the employment of patients on the staffs of sanatoria, and deals also with training colonies and occupational therapy generally is given. There is general agreement that the most difficult problem is finding suitable employment. The village settlement can, unfortunately, deal with only a fraction of the total number of cases. Disappointment is expressed that so few ex-patients are employed on the staffs of sanatoria in this country, whereas in America this method of employment is widely and successfully used. Apart from this instance no country appears to be any nearer solving the problem than we are.

Memoranda were presented to the Council in February, 1934, by Professor Lyle Cummins on "The Intradermal Tuberculin Test"; by Dr. D. P. Sutherland on "The Reactions following the Subcutaneous Injection of Tuberculin"; and by Dr. W. H. Tytler on "Tuberculin Allergy." The main points for these are given and form a valuable contribution to a very debatable subject.

In recent years considerable developments in collapse therapy and chest surgery have taken place, while the incidence of pulmonary tuberculosis has declined. Tuberculosis institutions have to be equipped at considerable cost for major surgical operations; the wisdom of this procedure has been challenged because of the decline in the number of cases and the very limited scope of the treatment. Dr. Heaf has, therefore, suggested "that certain conveniently situated institutions should alone be surgically

equipped and that these should also be utilised for the treatment of non-tuberculous conditions, such as bronchiectasis, lung abscess and new growths. Hospitals on such lines would serve as teaching centres, the dreaded word "tuberculosis" would not appear in their designation, and there would be better opportunities to secure skilled and efficient nursing staff. Moreover, the increased material would provide greater experience and improve the skill of the surgeons to the benefit of all patients." These hospitals also would receive the cases from less well-equipped institutions and tuberculosis dispensaries, which would become, as some are to-day, chest clinics. Such hospitals already exist in London, but the Council considers that through the co-operation of local authorities there might be a useful field in the provinces for similar institutions.

The committees set up in 1934 to investigate the results of artificial pneumothorax therapy, and the question of contact examination, have not yet completed their work.

Dr. Ernest Ward, the Hon. Secretary, deserves the thanks of all concerned with tuberculosis for producing this excellent *résumé* of the Council's work.

The Midwives Act, 1936 : Circular 1566

Circular 1,569,* issued by the Minister of Health on September 18th, and forecast in his address to the Southern Branch on the 14th, comprises a covering letter and the eagerly awaited explanatory memorandum (200/MCW) on the Midwives Act which became law on July 31st last. The Minister urges early formulation by local supervising authorities of their proposals for establishing a salaried midwives' service, so that they may be submitted to him by January 30th, and brought into operation by July 30th next; he will only grant an extension of these periods owing to exceptional circumstances.

The circular reminds local authorities that, where voluntary organisations have provided a properly organised domiciliary midwives' service, the maternal mortality rate has been below the national rate, and expresses the hope that the establishment of a similar service in all areas should do much to secure a reduction in that rate. Referring to his aim of improving the status of the midwifery profession, the Minister emphasises the importance of adequate remuneration. His suggestion that midwives employed by local authorities should receive salaries comparable with those of health visitors will no doubt commend itself to local authorities. Regarding superannuation, it is pointed out that authorities

*Ministry of Health Circular, 1,569, together with Memo. 200/MCW., H.M. Stationery Office, 6d. net.

which have schemes will be empowered to add up to 10 years in calculating allowances to retiring midwives, this provision being for the benefit of those who have reached or passed middle age on appointment. The Minister also draws attention to the power of authorities to terminate, within three years of July 31st last, the practice of midwives who are held to be incapable of efficient work by reason of age or infirmity. Lastly, he trusts that authorities will, where necessary, amend their rules so as to admit married women to the midwifery service, subject only to their efficiency and their ability to undertake whole-time employment. In this he has the concurrence of the County Councils Association and the Association of Municipal Corporations.

The memorandum explains the general scope of the Act and of its financial arrangements. A paragraph in Part I will be noted, pointing out that midwives employed in the new service, whether by local supervising authorities, welfare councils or voluntary organisations, shall be the whole-time servants of these bodies but need not devote the whole of their time to midwifery and maternity nursing.

Our readers will be mainly interested in Part III, "Procedure." Regarding the formulation of proposals, the memorandum directs each authority to estimate the number of domiciliary confinements likely to be attended each year by midwives and doctors, and the number likely to take place in institutions; it suggests that the establishment of the new domiciliary service may result in a diminution of institutional cases. For arriving at the number of midwives required for the service the Minister suggests, as a standard in populous areas, that each midwife should be able to attend 70 cases as a midwife and 30 more as a maternity nurse, whereas the figures for scattered rural areas will obviously be lower.

The memorandum makes a number of further suggestions regarding the organisation of the service and appends model forms of agreement with nursing and other voluntary associations. It refers also to the position of welfare authorities, which, while not being local supervising authorities, are already the employers of salaried midwives; it will be remembered that such authorities will be allowed two months, after the formulation of their local supervising authorities' proposals, to make representations to the Minister.

The new Midwives Act may be regarded as a first step towards the full organisation of a national maternity service. Its success must depend very largely on the co-operation which the Minister can secure from the local authorities responsible for its administration and the conference to be convened by the Royal Sanitary Institute at the

Central Hall, Westminster, on October 22nd next, should be of value to that end.

THE ROYAL SANITARY INSTITUTE.—The Royal Sanitary Institute has invited members of the Society to attend a conference on the "Midwives Act and its Operation," to be held at the Central Hall, Westminster, S.W.1, on Thursday, October 22nd, at 2.30 p.m. The Minister of Health will preside and address the conference and Dr. J. J. Buchan, medical officer of health, Bradford, will read a paper to open the discussion. Members of the Society who propose to attend this meeting are asked to notify the Secretary of the Royal Sanitary Institute, 90, Buckingham Palace Road, London, S.W.1, not later than October 15th.

THE Health Congress of the Royal Sanitary Institute will be held in Birmingham from July 12th to 17th, 1937.

SMOKE ABATEMENT.—The Eighth Annual Conference of the National Smoke Abatement Society is to be held from October 14th to 17th at the Science Museum, South Kensington, by permission of the Director.

The programme is as follows: The first day of the Conference, Wednesday, October 14th, is "Industrial Day," and will be opened by Captain Harry Crookshank, M.P., Secretary for Mines. Papers will be read dealing with prevention of grit and dust emission from pulverized fuel furnaces, and smoke prevention in the iron and steel and clay industries.

On Thursday, October 15th, "General Day," Sir Francis Fremantle will preside and Dr. Margaret Fishenden will open on the subject of the domestic smoke problem; Sir Arthur Hill, Director of the Royal Botanic Gardens, will speak on the effect of atmospheric pollution on vegetation, and Dr. J. S. Owens will read a paper on the developments in the investigation of atmospheric pollution.

On Friday, October 16th, "Health and Municipal Day," Sir George Newman will preside at the morning session and will speak on "Smoke, Light and Health." Papers will be read by Sir Pendrill Varrier-Jones on atmospheric pollution in relation to tuberculosis, Sir Henry Gauvain on light and clean air in relation to surgical tuberculosis and Sir Leonard Hill on the obstruction of light by smoke and its effect on health.

At the afternoon session Sir John Robertson will take the chair and Dr. A. S. M. Macgregor will speak on public health administration and smoke abatement, followed by Mr. H. G. Clinch, Chief Sanitary Inspector, West Ham, on "Smoke and the Sanitary Inspector."

In conjunction with the Conference but to run for the whole of October, there has been arranged a Smoke Abatement Exhibition to be opened by the Minister of Health on October 1st. Amongst the wide range of exhibits, those of most interest to our members will be in connection with the scientific investigation of the smoke problem and a series of model houses in which the various methods of prevention of domestic smoke will be shown, and the section demonstrating the effects of smoke on human health.

The Conference fee is 10s. 6d., and enquiries should be addressed to the Secretary, National Smoke Abatement Society, 36, King Street, Manchester, 2.

Obituary

G. W. N. JOSEPH, M.D., CH.B., LIV., D.P.H.

Members will have learnt with great regret of the untimely death on August 28th of Dr. G. W. N. Joseph, Medical Officer of Health for the County Borough of Warrington since 1913. We are indebted to Dr. T. W. Naylor Barlow, O.B.E., for the following appreciation of Dr. Joseph's work:—

"In the death of G. W. N. Joseph, of Warrington, those in the public health service have lost a very distinguished colleague and the Society of Medical Officers of Health an enthusiastic worker and loyal member.

"Joseph had a remarkably successful, indeed a unique, career as a medical student at Liverpool University in that he won every prize for which he was eligible to compete and possessed, on qualification in 1907, no fewer than ten medals gained for various medical subjects. After graduation he continued to work for some time at the university as research scholar before deciding upon public health as a career.

"On his appointment as M.O.H., Warrington, Joseph joined the North-Western Branch of the Society and remained a member thereof until his death.

"At the meetings of the Branch he was a regular attender and soon marked himself out for distinction by his energy, his clearness of vision, his wide outlook on affairs and his ability to express his views with force and ability. Accordingly he was appointed Hon. Secretary of the Branch in 1916 and he held that office for 15 years. The success of a Branch depends in no small degree upon its Secretary and while Joseph was directing affairs the Branch flourished exceedingly, the membership increased in number and the monthly meetings were well attended—an attendance of 30 or more could be relied on as a normality. This speaks volumes for the mental fare provided by the Secretary and his influence in persuading persons to read papers for discussion at the meetings. When he resigned the office to become President of the Branch in 1932 his colleagues showed their appreciation of his work by presenting him with a handsome gold cigarette case.

"He represented the North-Western Branch on the Council of the Society continuously from 1920 until his death. On the Council he was ever in the forefront when anything affecting the prestige of the Society or the welfare of his colleagues in the service was up for discussion—indeed, speaking in the light of a long experience of the Society and an intimate association of 20 years' duration with Joseph, I can truthfully say that it would be difficult to point out anyone who has worked harder

for the Society and through the Society for the betterment of his colleagues and the advancement of public health.

"Outside his work Joseph's hobby was stamp collecting. His collection included many rare specimens and is of considerable value. He was not greatly interested in outdoor games but was fond of shooting. It is a great mistake to assume (as I believe many of the public assume) that the holding of an appointment as M.O.H. of one of the largest towns or most populous counties marks out the holder as possessing intellect and ability superior to those qualities possessed by those holding similar appointments in smaller towns and counties. Joseph was one of many of those who prove the contrary. He kept Warrington in the forefront in all matters concerning public health and that his work was appreciated by those among whom and for whom it was done was shown by the large numbers who assembled at his funeral, representative of all classes of society and of the varied activities (municipal and otherwise) with which he was connected."

Since 1930, when he became the representative of his borough council on the general committee of the Northern Counties Association for the Blind, Dr. Joseph had found a new interest in this work. He was a member of the Association's executive committee and of the medical sub-committee since 1932, and chairman of the North Regional Consultative Committee on the Deaf-Blind since its inception in 1933. He also represented the Northern Counties Association on the general council of the Union of Counties Association for the Blind and on the Prevention of Blindness Committee from 1932. Lastly, he represented the Association of Municipal Corporations on the joint blind welfare committee of the County Councils Association and the A.M.C.

Mr. Joseph Challinor, secretary of the Northern Counties Association for the Blind, writes:—

"The work put in by Dr. Joseph on behalf of this Association was phenomenal both in amount and quality, and his death leaves a gap which will only be adequately filled with great difficulty."

ARCHIBALD FERGUSON, M.B., B.S., LOND., D.P.H.

We record with great regret the death on September 14th, of Dr. Archibald Ferguson, Medical Officer of Health for the Metropolitan Borough of Stepney since June, 1933. Dr. Ferguson was a student at St. Bartholomew's Hospital, and took the London and conjoint qualifications in 1912, and the D.P.H. in 1913. He served in the War, becoming Captain, R.A.M.C., and later became Tuberculosis Officer and Deputy M.O.H. at Stepney. He succeeded Dr. Julia M. Browne as M.O.H. on her marriage.

The Public Health Act

By Prof. W. W. JAMESON, M.A., M.D., F.R.C.P., D.P.H.
Professor of Public Health, University of London.

The last session of Parliament saw the passage of four great consolidating Bills dealing with public health, housing, pensions and health insurance. The first, and most important, does more than consolidate the existing law—it simplifies and amends a somewhat confused mass of enactments; that it met with so little adverse criticism is a great compliment to the skill and industry of the Departmental Committee which prepared the draft Bill. The Bill, which applies to England and Wales but not to London, received the Royal Assent at the end of July and the Act comes into operation on October 1st, 1937.

The Public Health Act, 1936, should be studied in conjunction with the Local Government Act, 1933, as well as with the admirable second Interim Report of the Committee, issued with the draft Bill. It contains more than one-third of all the law affecting the work of a medical officer of health, the only public health legislation untouched by its provisions being that on food, housing, midwives, school medical work, mental disease, social insurance and factories and workshops. Nearly the whole of the Public Health Acts and amending Acts have been repealed besides those special Acts dealing with baths and washhouses, canal boats, water supply, smoke abatement, notification of infectious disease, isolation hospitals, notification of births, maternity and child welfare, tuberculosis and registration of nursing homes. Acts and parts of Acts which have been adoptive are now of general application; clauses of local Acts which have met with universal approval and various important amendments of the existing law have been incorporated. The draftsman of the Act is to be congratulated on his success in simplifying, so far as it can be simplified, legal phraseology.

It may be of service to direct attention to some of the amendments included in the Act. First, the old term "sanitary authority" has disappeared and throughout the Act the words "a local authority" or "a county council" are used. Port sanitary authorities will be known as port health authorities and the First Schedule provides for the qualifications, appointments, duties and tenure of office of medical officers of health and sanitary inspectors of port health districts. It will be remembered that the Local Government Act, 1933, makes similar provisions for medical officers of health and sanitary inspectors. Joint committees to be replaced in most instances by joint boards and the property and liabilities of existing isolation hospital committees, established under the Isolation

Hospitals Acts, are to be transferred within a period of two years either to a joint board or to the council of a county or of a single authority.

Some important amendments of the law are made with respect to sanitation and buildings. The present system under which a sewer automatically vests in a local authority is replaced by a procedure for the taking over of the sewer by the local authority analogous to the taking over of a private street. Section 17 provides that a local authority may at any time declare that any sewer not completed before the commencement of the Act shall become vested in them. Such sewers will be known as "public sewers" and the owner of a sewer aggrieved by the proposal or the refusal, of the local authority to make such a declaration may appeal to the Minister. A new clause (Section 38) has been inserted dealing with the drainage of buildings in combination and repealing numerous local Act clauses on this subject. New definitions are given of drain and sewer, cesspool, water closet and earth closet (Sections 90 and 343).

Under local Acts many authorities could require the owner or occupier of a building to provide covered dustbins, for the reception of house refuse, of any prescribed material, size and construction. This provision appears in the new Act as well as a clause making it an offence for anyone other than a person employed by a local authority to sort over or disturb the contents of a dustbin when placed in a street or forecourt or material deposited in any place provided by the authority for refuse.

Certain specified nuisances are to be known as "statutory nuisances." These are set out mainly in Section 92 but others will be found in Sections 141, 259 and 268. It is of interest that Sections 39, 44 and 45 refer to any cesspool, private sewer, drain, soil pipe, rain water pipe, spout, sink, closet, or other necessary appliance in such a state as to be "prejudicial to health or a nuisance," but the term "statutory nuisance" is not used nor is the same method of procedure provided for abating the nuisance.

Thirteen trades are defined as "offensive" and, as heretofore, a local authority may add to the number. All existing orders declaring fish frying to be an offensive trade go out of force at the end of three years. Urban authorities are, however, empowered, and may be required by the Minister, to make byelaws regarding the trade of fish frying. Byelaws with regard to offensive trades, the trade of fish frying (and indeed all byelaws relating to sanitation and buildings) are normally to cease to have effect at the expiration of ten years.

A new clause (Section 269) was inserted in the Bill at a late stage dealing with tents, caravans and moveable dwellings. Its object is to enable local authorities to grant licences either to owners of

land authorising the land to be used for moveable dwellings or to owners of such dwellings authorising them to station their dwellings on land within the district. Certain classes of persons, including proprietors of travelling circuses, are exempt and the Minister is empowered to grant certificates of exemption to properly organised clubs.

In the past occupation of a new house has been forbidden until the local authority have certified that a sufficient water supply is available. In future the local authority will have to consider the adequacy of the water supply when the plans of the proposed house are deposited in accordance with the byelaws, and not after the house has been completed. A useful provision in Section 233 enables a local authority to make byelaws regulating swimming baths and bathing pools not under their own management but open to the public and for the use of which a charge is made. The byelaws may deal with purity of the water, adequacy of accommodation, conduct of persons resorting to the baths and prevention of accidents.

That part of the Act which deals with the prevention, notification and treatment of disease will be of special interest to the public health service. It includes provisions relating not merely to infectious disease, as the term was used in earlier legislation, but also to tuberculosis, prevention and treatment of blindness, provision by a local authority of nurses for attendance on infectious patients in their own homes, and payment by a county council or a local authority of annual contributions towards the support of any association for providing nurses. A later section empowers a county council or local authority to provide a laboratory for the making of necessary bacteriological, chemical and other examinations.

The Departmental Committee must have found it difficult to clarify the law on "infectious disease." They compromised by using two expressions only: (1) "infectious disease," which is left undefined as in the Public Health Act, 1875, and (2) "notifiable disease" which is defined in Section 343 in much the same terms as those of the Infectious Disease (Notification) Act, 1889, with the omission of the words "continued or puerperal" fever. There was an unsuccessful attempt at the last minute to include measles. The Minister may in any regulations he makes with respect to any disease apply, with or without modification, to that disease any enactment, including any enactment in the Public Health Act, relating to the notification of disease or to notifiable diseases. In the same way a local authority may by order and with the approval of the Minister add to the list of notifiable diseases and while such an order is in operation all the provisions of the Act relating to notifiable diseases

will apply to the disease in question. Note that the restriction on sending or taking infected articles to laundries or public washhouses is extended to include cleaning establishments.

As in the Midwives Act, 1936, the term "welfare authority" is introduced. For the purposes of the Public Health Act it means a county borough council or, in a county district, the council of the county or of the district who immediately before the commencement of the Act were the local authority for the purposes of the Notification of Births Acts, 1907 and 1915. Every welfare authority must appoint a maternity and child welfare committee to whom shall stand referred all matters relating to notification of births, maternity and child welfare, and child life protection. The Act repeals Part I of the Children Act, 1908, and those sections of the Children and Young Persons Act, 1932, dealing with child life protection, and includes a new provision requiring persons to whom children are sent for short holidays by a *bona fide* charitable organisation to notify only the first child.

A statutory definition is given of "workplace," which, while not including a factory or workshop, includes any place in which persons are employed otherwise than in domestic service. The section in the Factory and Workshop Act, 1901, prohibiting the employment of women within four weeks after childbirth is re-enacted and it is of interest that any person who obtains a power of entry under the Act to a factory, workshop or workplace and discloses any information so obtained of any manufacturing process or trade secret is liable to a fine not exceeding £100 or to imprisonment for a term not exceeding three months.

Finally, it should be noted that an "authorised officer" means an officer of the council authorised by them in writing, either generally or specially, to act in matters of any specified kind, or in any specified matter. The medical officer of health, surveyor and sanitary inspector of a council, by virtue of their appointments, are, however, deemed to be authorised officers within their provinces.

No Act of Parliament, least of all a public health Act, can be expected to satisfy everyone. The Departmental Committee might have confined their attention to consolidation of the law but they would have found such a task wellnigh impossible. They might on the other hand have included in the draft Bill—indeed they were urged to do so—many more amendments than the Act contains. They adopted, however, the wise course of advising only such alterations as seemed necessary to clarify the existing law and such others as had already met with wide local acceptance. Amending Acts and other consolidating enactments will follow, but the Public Health Act, 1936, will long remain the principal Act for England and Wales.

Our Future*

By G. C. M. M'GONIGLE, M.D., D.HY. (DURH.), D.P.H.

Medical Officer of Health, Borough of Stockton-on-Tees.

The role of a prophet is always a risky one so, despite the title of my address, I decline to assume it. To all who are interested in science for its own sake, the future must ever be of importance and there is a fascination in attempting to visualise the future implications of present-day practice and tendencies. This one can do without exercising one's doubtful qualifications for seeing into the future. We, whose sphere of work is concerned with maternity and child welfare are, as the years pass, slowly and painfully learning our subject. Fortunately for our peace of mind the practice of our branch of medicine has not yet reached a state of stability. I say, fortunately, for no one can rest content with present results. Conditions relative to maternity and child welfare have greatly ameliorated during recent years but, perfection is not yet. Much of the improvement which has occurred should, in all honesty, be attributed to those scientists who, by means of nutritional experimentation on animals, have materially advanced our knowledge of nutritional science. Our task, and I venture to state that we have been somewhat dalliant in its performance, has been to interpret and apply the knowledge gained in the laboratory to human beings. Our knowledge has increased and is increasing daily, but there yet remain outside our grasp many missing links of the chain of knowledge. When these links are placed in our hands we must apply them fearlessly, unhampered by the toils of dogma or prejudice. Unless we are urged on relentlessly by the desire for perfection we must rank ourselves as failures.

Our idealism should envisage perfection—nothing less should satisfy us. Those who talk and write of an irreducible minimum in infantile mortality, in stillbirths or premature births are false to the idealistic conception of perfection which we should have ever before us. An infantile mortality rate of nil (except for accidents of violence) a maternal mortality rate of nil and five-year-old children handed over without blemish to our colleagues in the school medical service—these should be our ideals.

Such a conception of our vocation may, in this year of grace, appear to be Utopian and fantastic, but nothing less should form our vision. Such idealism may be Utopian but it is not fantastic.

One of the greatest living seekers after knowledge has recently told of work carried out by him to its natural and logical conclusion—perfection. He, of course, does not claim that he has attained or

*Presidential Address to the Maternity and Child Welfare Group, Liverpool, July 3rd, 1936.

even approached perfection, but it is obvious that, in all his activities, he is inspired by the divine urge to approach the ideal. I refer, as you may have guessed, to the work in India of MacCarrison. The significance of his investigations is now beginning to dawn upon a delighted scientific world. His recent reports, giving a summary of his work with rats, are of such importance that they deserve the most careful study by all who are interested in the physical well-being of the race.

MacCarrison has bred rats for years because he needed them for his nutritional studies and it must be obvious that he should be able to breed healthy rats, otherwise the interpretations of the effects of deviation from his standards for rat sociology would be of doubtful value. He had to be able to exclude the possibility of variables caused by the conditions under which he nurtured them.

Through the years MacCarrison gradually determined the constituents of ideal rat environment and ideal rat nutrition and he saw to it that his rats were given these conditions. The results are important. His standard rat colonies have a known and constant fertility rate, they have no maternal, infantile or disease death rate. They live happily until they attain the Nirvana of old age. Postmortem their bodies indicate no disease.

If this Utopian state of affairs can be attained among rat colonies why not among human beings? There is no valid reason. The breeding experiments with rats have been carried to their logical conclusion—the attainment of perfection.

By altering the diets of portions of his rat colonies to approximate to the dietaries of certain human tribes in India, MacCarrison finds that, in the bodies of his rats, are produced diseases similar in nature to those which afflict the different tribes. This is suggestive of much future good to human beings if the lesson it teaches is fearlessly applied. Admittedly there are vast differences between rats and human beings, but there are also similarities. Both are mammals and neither is purely carnivorous or herbivorous and, though it might be unwise to push the deduction too far, it does appear that these rats hold out for humanity a hope of health greater than ever before.

Before we can hope to strive for perfection we must study our subject, sifting carefully the few scientific data from the confused mass of opinions and quasi-scientific humbug which so often masquerade under the guise of fact. Facts, proved facts, are few and as such they should be cherished; not discarded or ignored because they do not happen to fit easily into our scheme of things.

MacCollum, in America, has also bred rat colonies and he also has attained the capacity to breed healthy rats; but he has gone further. He has bred super rats which are larger and heavier and live longer than normal rats. This state of affairs has been brought about by nutritional means, largely, I understand, by increasing the quantity of iodine and liver in the rats' diets.

This introduces a complexity into our idealistic search for perfection, or rather it emphasises the fact that in any effort towards the attainment of perfection we must attune our minds to ever rising standards—a very good thing for everybody.

A moment ago I compared MacCollum's super-rats with "normal" rats. That is the first occasion on which I have used the word normal in this address. It is a word I dislike for it is so often made to do duty for "mean" or "average" that confusion arises. Loose use of this word has led many investigators into tedious predicaments. So many people have fallen into the error of assuming that the mean of a number of observations constitutes normality that normality connotes to them a physical condition in which many pathological conditions may be present. Can it be truly stated, for instance, that normal dentition in elementary school children supposes the presence of considerable caries? Yet that is what must be assumed if average and normal are confused. Application of the word normal to the nutritional state of the body has also caused confusion. Normal nutrition should be nearer to optimum nutrition than to the average of an area, school or class.

Much confusion and not a little bitterness have arisen over the assessment of nutrition in human beings. There are those who state that its incidence is trifling, whilst others, equally sincere in the expression of their opinions, aver that a considerable proportion of the community is under-nourished. The layman cannot understand this diversity of statement. If those who say that malnutrition is, in its incidence, rare mean by malnutrition that there are physical signs of a shortage of total food intake they are undoubtedly correct in their statement that it is rare. But if, on the other hand, is meant by malnutrition that there exist signs that suboptimal physical conditions are present and that these conditions or states are attributable to certain deficiencies in the dietary then they, too, are right in their statements. A child with signs of old rickets may not at the time of examination show any signs of malnutrition but the bony changes do indicate that at some time or other during the child's life there was suboptimal nutrition in that it obtained an insufficient quantity of vitamin D, calcium or phosphorus, or of two or all of them.

A woman who is pregnant may show no signs of physical malnutrition, yet she may suffer from

painful cramps in the legs. If to this woman is administered calcium in an absorbable form her cramps disappear in a few hours and by giving or withholding the calcium we can control the incidence of the cramps. Is that woman malnourished? I say she is, for she suffers from a painful condition due to a shortage of what should be a normal dietary constituent. The fact that we can, apparently, prevent certain cases of abortion and premature birth by giving vitamin E raises the same problem. A man on a sailing ship dying from scurvy is dying from malnutrition, just as surely as from the total deprivation of all food.

We have all been perturbed at the numbers of women who fail to breast-feed their infants. Text books on maternity and child welfare devote considerable space to the care of the breasts and to measures designed to aid the establishment and maintenance of lactation, but the fundamental factor in milk production receives but little notice. Practical knowledge of milk production is possessed by thousands of dairy farmers and we ought not to allow prejudice or pride to prevent us from going to them for information and instruction. The farmer knows well that the cow requires a daily ration of food adequate to maintain health and working capacity. This is known as the maintenance ration; but he gives in addition a milk producing ration calculated at so many pounds of food per day per gallon of milk yield. This addition contains a high protein content, for protein is one of the keys to milk production.

A pint of human milk contains about 12 grammes of protein and this protein can only be obtained from one source, namely, the protein content of the mother's diet. The human body is not a perfect biochemical factory and it requires approximately 24 grammes of protein intake for an output of 12 grammes of milk protein. Much of the 24 grammes should consist of first class protein.

The study of family budgets of unemployed and lowly paid families makes it abundantly clear that many women are unable to purchase even a minimum protein maintenance ration. Is there any cause for wonder, then, that they are unable to spare sufficient protein for milk production?

Such facts as these must be taken into account when we set for ourselves the goal we wish to attain. They must be faced as material influences in our work, not dismissed as being beyond our control.

Can we be content to strive for less than perfection? I feel, if we are so content, that we are false to the trust which our calling imposes upon us. To conceal truth in the science of medicine and in its application to maternity and child welfare is to fall short of the idealism of the search for perfection.

Malnutrition as a Cause of Maternal Mortality*

By LADY WILLIAMS,

Hon. Secretary, Joint Council of Midwifery.

I. EXPERIMENTAL EVIDENCE.

In the autumn of 1933, the Executive Committee of the National Birthday Trust Fund, an organisation formed in 1928 with the object of promoting the safety and welfare of mothers, decided to employ its funds in two new directions.

The first plan was to offer to the various organisations especially concerned with midwifery, facilities in the way of offices and secretariat for the formation of a Joint Committee to consider the problems of district midwifery. This Committee was formed in January, 1934, and reported early in 1935. The majority of its recommendations were embodied in the recently enacted Midwives Act of 1936.

The second plan consisted of an offer to the Rhondda Urban District Council, Glamorgan, of co-operation and funds to enable much-desired improvements in the maternity services of the area, which it had not proved possible to carry out owing to lack of funds, to be put into operation. The object of this plan was to discover first, whether by intensive efforts in any given area, in which high puerperal death rates have prevailed for some years, a reduction in the number of maternal deaths could be brought about; and secondly, whether any clue could be obtained from such an experiment as to which of many possible improvements in the maternity services of these areas was the most urgently required.

The offer was accepted by the Council, and the scheme was started in January, 1934.

The Rhondda area was selected as particularly suitable for such an experiment, on account of the serious unemployment prevailing there, and the resulting difficulty experienced by the local authority in providing extensions of the maternity services without the aid of additional funds. The population of about 140,000 (since reduced to 135,000) consists almost entirely of miners and their families. The maternal death rate was high, and tending to rise. The average rate for the previous six years was 7.20 per thousand live births. The percentage of cases delivered in hospital was only 7.5 per cent. owing to lack of hospital accommodation.

The scheme jointly carried out by the local authority and the National Birthday Trust Fund in 1934 consisted of an increase in facilities for ante-natal examination; of the provision of the

services of an obstetrical specialist both for consultation at the ante-natal clinics, and to attend without charge any individual patient in her home at the request of any medical practitioner in the area; of resident refresher courses for about half the practising midwives, and of the appointment of two experienced District Sister-Superintendents kindly loaned by Queen Charlotte's Hospital as Assistant Inspectors of Midwives, with a car for their exclusive use. A number of other smaller benefits were provided, including a supply of free disinfectant to every midwife.

In spite of all these efforts, the number of puerperal deaths continued to rise throughout the year 1934, and reached the peak figure of 11.29 per 1,000 total births.

When the scheme was drawn up, at the end of 1933, no idea was entertained that the high puerperal mortality in this and adjoining areas was due to any large extent to malnutrition of expectant mothers, and the apparently generous milk distribution made by the local authority to necessitous cases was thought to be adequate. Only a small sum, therefore, was allocated by the Fund during 1934 for providing additional food to women in especially poor circumstances.

The evidence of malnutrition was, however, so striking that, on the suggestion of the two Sister-Superintendents, it was decided at the end of the year to supplement the original scheme during 1935 with a supply of foodstuffs which would be distributed through the clinics at the discretion of the Medical Officers in charge, and which it was hoped would do something to make up the grave deficiencies in the diets of many of the most necessitous cases. This was done with the sole object in view of helping to save the lives of undernourished mothers, and was not planned as in any sense a scientific experiment with regard to the value of any particular foods. In the first place, the difficulties of administration and distribution prevented the provision of fresh foods, and only tinned or bottled products could, therefore, be supplied. In addition it proved impossible to keep accurate records, whether of the number of mothers in receipt of the food at any one time or of the precise amount consumed by each woman. It was also necessary to take into account the preferences of the women themselves, and unpalatable foods such as cod-liver oil were rejected on these grounds.

A sharp fall in the puerperal death rate followed immediately upon the introduction of this scheme,

*Paper read to the Maternity and Child Welfare Group, London, June 19th, 1936.

RHONDDA URBAN DISTRICT.

Year.	No. of Deaths.	No. of Maternal Deaths.				Puerperal Death Rate.		
		Per 1,000 Total Births.				Per 1,000 Total Births.		
		From Sepsis.	From Other Causes.	Associated Causes.	Total (All Causes).	From Sepsis.	From Other Causes.	Total.
1934	2,342	10	17	7	34	4.18	7.11	11.29
1935	2,308	9	2	3	14	3.90	0.87	4.77

the rate dropping from 11.29 in 1934 to 4.77 in 1935. (See Schedule at head.)

This result seemed to bear witness to the success of the feeding experiment, particularly as not a single death occurred amongst those mothers who had received the extra food. It was, therefore, decided to continue the food distributing scheme in the same form during 1936.

As the reduction of the death rate might reasonably be attributed as much to the good results of the improved medical and midwifery facilities as to the feeding scheme, however, it was arranged by the kindness of Lord Bute, who made a generous gift of £2,500 for the purpose, to test the point by extending the feeding scheme alone to five adjoining towns of a similar type (Aberdare, Caerphilly, Gelligaer, Llantrisant and Pontypridd, with a combined population of about 164,000). If the same drop in the maternal death rate occurred in these areas in 1936 as had taken place in the Rhondda Valley in 1935, a *prima facie* case would be established in favour of the view that the high puerperal death rates in these and similar districts are due to malnutrition rather than to lack of hospital and other medical facilities, and would justify further enquiry into the whole question of malnutrition in relation to maternal mortality by a scientific body such as the Medical Research Council.

The record of the first six months of 1936 seems to show that the drop in the number of puerperal deaths is in fact due rather to the improvement, slight as it is, in the nutrition of the poorest of the expectant mothers than to any other causes, since the reduction in the number of deaths in the new areas has been greater than that in the Rhondda itself. The provisional figures (kindly supplied by the Medical Officers of Health) are set out in the Schedule at foot, which contrasts them with the average of the previous eight years. It will be noted that the whole of the fall in the number of deaths is in the category of "other causes," those due to sepsis having actually risen. This may be attributable to the fact that there has been a sharp rise in the number of deaths from septic abortion, especially in the Rhondda area. Three out of nine septic deaths in 1935 were due to this cause, and three out of four in 1936. On the other hand, evidence from other areas seems to suggest that the puerperal death rate classed as due to "other causes" is more markedly affected by malnutrition than is the septic rate, and further investigation on this point seems to be desirable. The fall in the "other causes" rate which occurred in the Rhondda area in 1935 as compared with the average of the previous eight years was as great as 79.53 per cent., *i.e.*, from 4.25 to 0.87. In the six combined areas during the first six months of

District.	Population.	No. of Total Births.		Puerperal Death Rate per 1,000 Births.					
				From Sepsis.		From Other Causes.		Total	
		No. in 8 years (1927-1934).	Estimated number in 6 months in 1936.	Average in 8 years (1927-1934).	Six months in 1936.	Average in 8 years (1927-1934).	Six months in 1936.	Average in 8 years (1927-1934).	Six months in 1936.
Rhondda ...	140,000	20,225	1,100	2.97	*3.64	4.25	1.82	7.22	5.46
5 New Areas	189,000	29,457	1,600	2.20	1.875	4.45	1.875	6.65	3.75
Total ...	329,000	49,682	2,700	2.51	2.60	4.37	1.85	6.88	4.45

* Note 3 out of 4 Septic Deaths were due to Septic Abortion.

1936, it has been 57.66 per cent., from 4.37 to 1.85.

With the aid of a grant of £3,000 from the Commissioner for Special Areas which was received in March, 1936, the National Birthday Trust Fund has this year extended the feeding scheme to include the town of Merthyr Tydfil in Glamorgan, the whole of the Special Areas of Monmouthshire and the towns of Gateshead, South Shields and Sunderland in Durham. This scheme has only been in operation for from three to four months, and the good preliminary results may not prove to be a true indication of the final figures.

The foods distributed in these new districts have not been precisely the same as in the original areas.

In Glamorgan the foods supplied have been as follows:—

Food.	Analysis (per cent.).
MARMITE	Water ... 26.76
VEGETABLE	True Proteins ... 4.49 = 0.72 Nitrogen
EXTRACT	Ammonium Salts 0.53 = 0.43
	Soluble Nitrogenous bases and Amino - Compounds ... 34.25 = 5.48
	*Mineral Matter .. 19.87
	Non-nitrogenous Extractive matters (by difference) ... 14.10
	100.00
	Total Nitrogen... 6.63
Containing	*Sodium Chloride 12.36
	*Phosphoric Acid (P ₂ O ₅) 4.40
	Total Crude Protein (N x 6.25) = 41.4
	Vitamin B ₁ content +++
	" B ₂ " +++
OVALTINE EGG AND MILK EXTRACT	Protein (N x 6.3) ... 14.2
	Fat ... 8.01
	Carbohydrates—
	Reducing Sugars 60.1
	Dextrin 7.8
	67.9
	Ash ... 3.76
	Organic Phosphorus calculated as P ₂ O ₅ ... 1.18
BRANDOX EXTRACT OF BEEF	Moisture ... 21.79
	Protein content ... 30.62
	Creatinine ... 2.40
	Other Extractives ... 24.94
	Mineral Matter ... 20.25
DORSELLA DRIED MILK	Moisture ... 2.40
	Milk Sugar ... 38.46
	Proteins ... 25.27
	Butter Fat... 27.60
	Mineral Salts ... 5.55
	Lactic Acid ... 0.72

Also small quantities of Natyo Oil and Malt Extract, and "Ferolac."

The number of mothers who received these foods in the Rhondda in 1935 was approximately 720, and during the first six months of 1936 approximately 360, that is to say 1,080 in all. During these periods the following amounts of food have been distributed to the mothers:— 6,541 4 oz. cartons of Marmite, 5,821 8 oz. jars of Brandox, 5,763 tins of Ovaltine, and 184 1 lb. tins of Dorsella Dried Milk; but the amount of each food given to each mother cannot be estimated with any degree of accuracy, as the supply was continued for much longer in some cases than others, the distribution being made entirely at the discretion of the Medical Officers in charge of the Clinics, by whom the proportion of the different types of food was also varied to suit the individual cases. Each woman received, in addition to the above, one pint of milk per day from the Council during the last three months of pregnancy.

In the Durham and Monmouthshire areas this distribution has been varied by the omission of the extract of beef and the substitution of an additional quantity of dried milk. Full details of distribution and number of mothers assisted in these areas are not yet available.

Some idea of the inadequacy of the diets which these foods were designed to supplement can be gained from the following example of cases recently assisted. (See Table overleaf.)

This list includes some of the poorest cases investigated, but the majority of those benefiting under the scheme had less than 4s. per week to spend on food, and none of the patients receiving this assistance would have been able to afford the variation of diet recommended by the British Medical Association as essential for health. Even with the addition of the foods provided and of one pint of milk daily, therefore, it seems probable that the malnutrition of these women was not fully overcome, and that many others who received no assistance were living on totally inadequate diets. Far more comprehensive efforts are thus required to obtain a true measure of the improvement in the health of expectant and nursing mothers which would follow if they all received adequate nutrition whether in this area or throughout the country. The results obtained in Glamorgan from the expenditure of comparatively small sums upon additional food seem to suggest that work along these lines in other areas is likely to be more fruitful than expenditure upon hospital accommodation, or other similar efforts to improve the maternity services of the district, since it appears that no amount of medical skill can avail to save the lives of women whose constitution has been undermined by prolonged malnutrition, whether this be due to poverty or merely to ignorance.

EXAMPLES OF INCOME AND EXPENDITURE.

Description of Family.	Income.	Rent.	Outgoings. Coal, Light, Insurance and Debts.	Amount left over for Weekly Expenditure on Food and Clothing.	Amount per Head.
Mrs. K. (Wattstown) Husband and five children (three school age) twin babies...	s. d. 41 0	s. d. 11 6	s. d. 3 8	s. d. 15 2	s. d. 2 2
Mrs. O. (Treherbert) Husband and six children (five school age) one baby...	38 0	10 0	6 0	22 0	2 9
Mrs. P. (Gelli) Husband and eight children—one working...	43 6	7 6	5 6	30 6	3 0½
Mrs. M. (Cwm Park) Husband in hospital with T.B. Baby— three weeks old	19 6	6 0	8 4	3 8	1 10
Mrs. T. (Pen-y-graig) Widow—daughter with illegitimate baby. One boy working (his income included)	28 0	6 0	6 2	7 10	1 11½

II. STATISTICAL EVIDENCE POINTING TO MAL-
NUTRITION AS A CAUSE OF MATERNAL
MORTALITY.

In the course of enquiries into maternal and infant death rates in a sample selection of towns and counties in different parts of England and Wales, carried out in connection with the work of the Joint Council of Midwifery, a number of graphs were prepared showing these rates during the preceding seven years.

The original object of the enquiry was to discover whether any connection could be traced between maternal death rates and the percentage of cases delivered in hospital in different types of area. The results were unexpected, for in the sample districts selected, covering about a third of the population of England and Wales, the advantage appeared to lie with those districts which had only a moderate number of maternity beds. Progressive towns such as Manchester, in which, in the year under review (1933) 50·2 per cent. of the births occurred in hospital, had a maternal death rate of 4·43 per 1,000 total births, and recent substantial increases in the percentage of hospital deliveries in several other towns, for example, Plymouth, had failed to reduce the number of deaths, the rate in Plymouth being as high as 5·95 per 1,000 total births in 1933. Yet in the same year many rural areas and some towns with comparatively few maternity beds nevertheless achieved remarkably low puerperal death rates, for example, Wiltshire (2·27), East Suffolk (2·37), Berkshire (2·53), East Sussex (2·64), Norfolk (2·66), Lincolnshire (Lindsey) (2·86) and Portsmouth (1·98). The high maternal mortality of New York State, in which over 70 per cent. of births take place in hospital, also discouraged the hope that a reduction

in the number of maternal deaths can be secured merely by increasing the provision of hospital beds for normal cases.

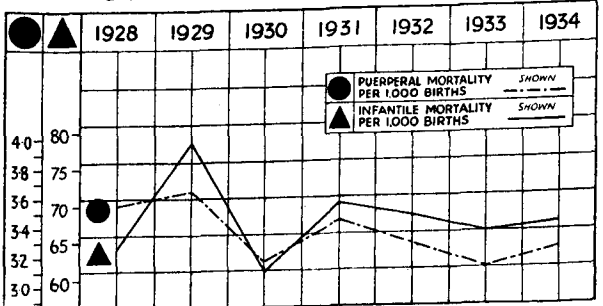
The result of this enquiry and the failure of the medical scheme carried out in the Rhondda Valley during 1934 seemed to suggest that the answer to the problem of how to reduce the maternal death rate of all districts to the level of the best areas must be looked for in some other direction than in the mere improvement and extension of medical facilities of whatever sort. The increase in the number of attendances at ante-natal clinics during these years of sharply rising puerperal mortality was even greater than that in the number of hospital deliveries, and the development of various other services in many individual districts had also failed, in most cases, to reduce the percentage of maternal deaths in the areas concerned.

A study of the numerous reports dealing with the problem which have been published in recent years provided few satisfactory clues, for none of the explanations advanced could be made to cover all the facts. The wide variations in the rates between two apparently similar districts were generally attributed either to inadequate hospital and medical facilities, lack of ante-natal care, or to environmental conditions such as bad housing, transport difficulties, and the industrial employment of girls. Yet none of these factors could possibly be held to be the cause of the sharp fluctuations in the rates from year to year, which the charts revealed, and which clearly called for some explanation, since the same peaks were to be found in the same years in many different areas in different parts of the country.

The most obvious of the influences to which these year-to-year fluctuations could be attributed

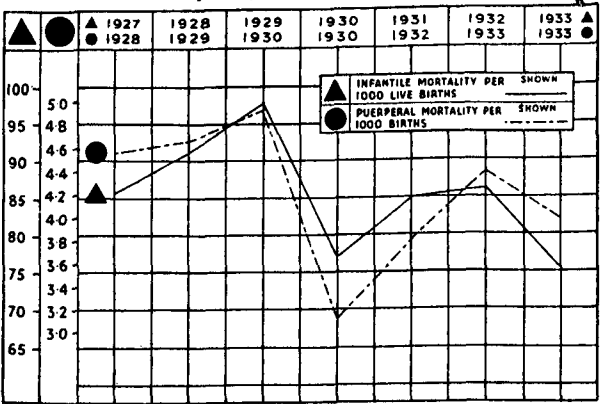
were those of climate and, to a lesser degree, of epidemics. Both these factors would tend to affect the maternal and infant death rates simultaneously, and charts were therefore prepared showing the two rates on the same graph, in the hope of finding some correlation between the two which might help to fix the responsibility for high death rates in one of these directions. A close correspondence did in fact appear in the seven-year charts of London and Birmingham (see Chart I, Birmingham),

Chart I.—City of Birmingham (population, 1,002,400).
Infant mortality average, 66; puerperal mortality average, 3·34.



but in almost every other area examined the lack of correlation was striking. Still more strange was the discovery that in the great majority of depressed districts, such as Lancashire, South Wales and the North Eastern areas, the two rates, although completely opposed in the same year, correspond closely if charted in successive years, that is, if the infant rates are shown for the year preceding the maternal (see Charts II, "Manchester" and III, "Glamorgan"), whereas in prosperous towns and counties there was no such correspondence. Supposing that the correlation between infant and maternal death rates in rich towns is attributed to the effect upon both rates of climatic factors, then in poor districts it must be assumed that some other factor is at work capable of overriding the effects of climate and epidemics, and of producing a contrary effect, which is strong enough to reverse

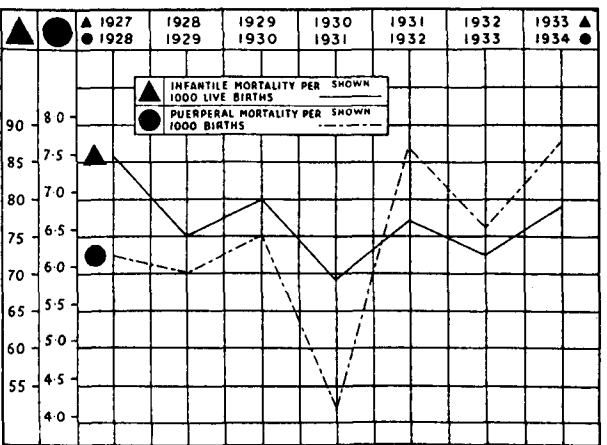
Chart II.—City of Manchester (population, 766,300). Rates in successive years, infantile preceding puerperal.



the correlation between the two rates in any one year and to produce a correspondence in successive years instead. It is difficult to imagine any influence but that of malnutrition which would extend over two years and which could be strong enough to cause such an effect.

An explanation of this curious correlation in successive years in terms of nutrition was provided by the records of the arrangements made for feeding mothers in the Rhondda Valley during the 1926 strike. The strike began in May and went on for seven months. Elaborate schemes for providing hot midday meals for expectant mothers were carried out by the Strike Committee and other agencies, and the Council distributed milk to the value of £23,500 to all the expectant and nursing mothers in the area. As a result of this extra nourishment, almost all mothers were able to nurse their babies for the full period, and the infant death rate fell from 96 per 1,000 live births in 1925 to 69 in 1926. The majority of the expectant mothers benefiting by the scheme did not give birth until the following year, 1927, when

Chart III.—County of Glamorgan (population, 766,000). Rates in successive years, infantile preceding puerperal.



the good effect of the extra food on their health showed itself in a fall in the maternal death rate from 5·24 to 3·42 per 1,000. In Cardiff, where the same conditions prevailed exactly the same result followed. (See Chart IV, "Rhondda U.D.C.," overleaf.)

That the drop in the number of infant deaths in the year of improved nutrition and of the maternal deaths in the following year was attributable to the beneficial effects of extra nourishment seemed to be borne out by the fact that during the 1921 strike, when little was done for the mothers, who went on short commons with the rest, a rise in the infant death rate occurred in the year of the strike and of the maternal rate in the next (see Chart V, "Cardiff, 1921-27," overleaf.)

At first sight, it seemed as if the explanation

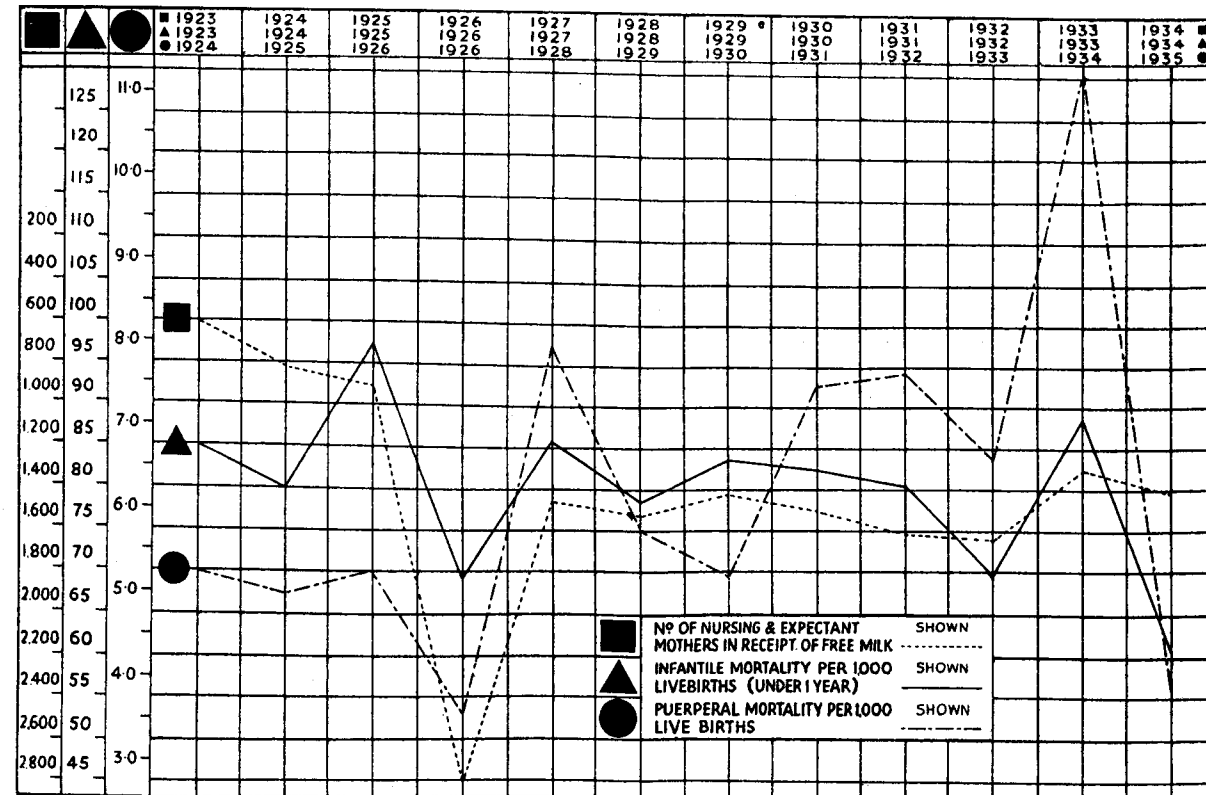
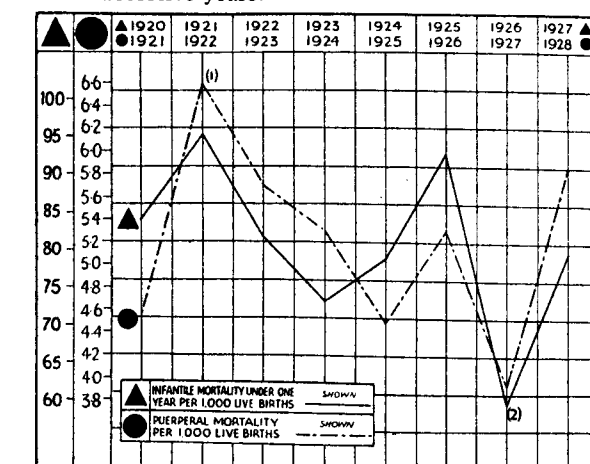


Chart IV.—Rhondda U.D. (population, 140,000). Chart illustrating correlation between (a) the infantile death-rate, 1923-34, (b) the number of expectant and nursing mothers in receipt of 1 pint of milk daily from the Council, 1933-34, and (c) the puerperal death-rate in the succeeding years 1924-35.

suggested for this correspondence by the experience in 1926 was insufficient, as in normal years it seemed as if only 25 per cent. of the pregnancies commencing in the year of shortage or plenty would, in fact, terminate in the following year. This argument would hold good if the changes in nutrition coincided with January 1st in each year from which date the returns of deaths are calculated.



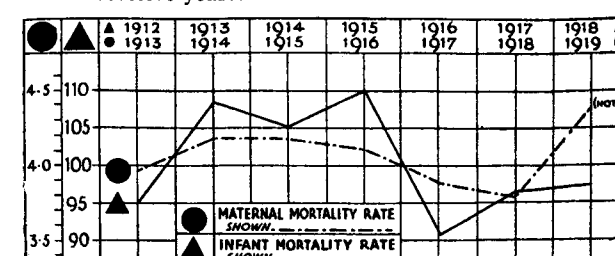
- (1) Coal Strike of 1921, when little was done to assist mothers.
- (2) Coal Strike of 1926, when much assistance and food was provided for mothers and infants.

lated. On the other hand, if they occurred in the summer, as in the case of the coal strike of 1926, the effects would naturally be thrown forward, as they were on that occasion, so that the majority of the expectant mothers affected by the change would give birth in the following calendar year.

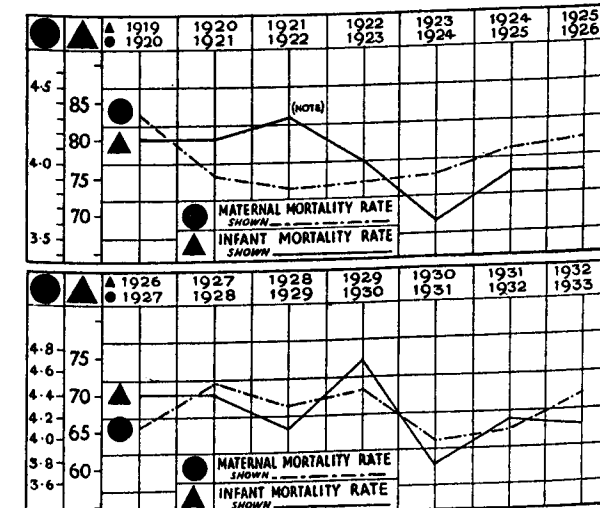
It is, therefore, of interest to note that economic changes such as the crisis of 1931, have occurred in the latter half of the year, and that changes in national and municipal budgets become operative in the early summer. Seasonal unemployment in the coal industry also begins in May, and many other factors tend to bring about nutritional changes in the summer rather than in January.

A study of the infant and maternal mortality figures for England and Wales during the previous 21 years revealed that the correspondence between the two rates in successive years was clearly visible

Chart VI.—England and Wales. War period. Rates in successive years.



Charts VII and VIII.—England and Wales. Periods 1919-26 and 1926-33. Rates in successive years.

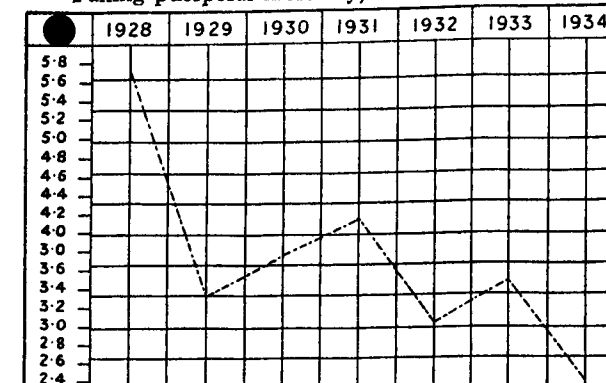


during periods of food shortage, or of economic depression (see Charts VI, "War Period" and VII, "Slump Period") but this correspondence disappeared during comparatively prosperous times such as the years 1920-1926 (Chart VIII). The rise in the maternal death rate in 1919 following the acute food shortage of 1918 was very marked.

This effect was also noticeable in the charts of individual areas, the correspondence between the two rates in successive years being marked in bad times, and not in good. It was also noticeable that areas in which prosperity was increasing tended to show a falling maternal death rate, and where prosperity was decreasing a rising one (see Charts IX, "Nottingham" and X, "Northumberland.")

The evidence in support of the view that malnutrition is a large, if not a principal, cause of maternal and neo-natal mortality which becomes apparent from a consideration of the statistics, is not by any means confined to the correspondence of the maternal and infant death rates in successive years. A stronger proof exists in the average level of the death rates in different parts of the country,

Chart IX.—City of Nottingham (population, 268,000). Falling puerperal mortality, 1928-34.



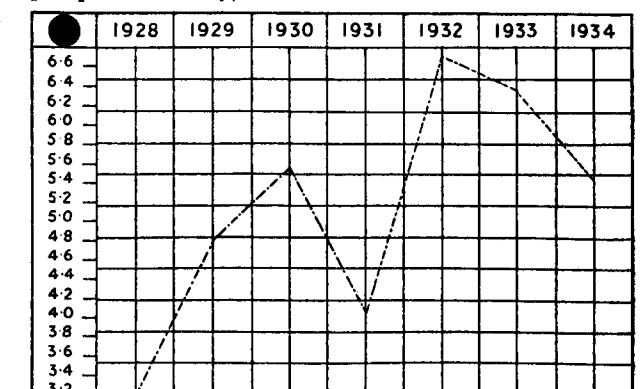
for these, with a few often-quoted exceptions, are very much higher in poor areas than in prosperous.

In the seven year period, 1927-33, covered by the investigation, 1,759 more mothers and 25,423 more infants died amongst a population of 6,148,000 living in the distressed industrial areas of Durham, Glamorgan, Lancashire, Monmouthshire, Northumberland and Yorkshire, than amongst 6,035,300 in London and Middlesex.

In the same period the infant death rates of the five principal coal mining counties averaged 50.98 per cent. more, and the maternal death rates 41.05 per cent. more than those prevailing in Middlesex and Essex.

These wide differences in the rates of the two sets of areas cannot be attributed to climatic conditions, since the climate of South Wales and Monmouthshire is milder and far less fog-ridden than that of London and Essex. Neither can they be attributed to any great extent to bad housing, since the slums of London compare unfavourably with the well-built houses of Glamorgan and other areas. Girls are more employed in industry in London and Middlesex than in the colliery districts.

Chart X.—County of Northumberland. Rising puerperal mortality, 1928-34.



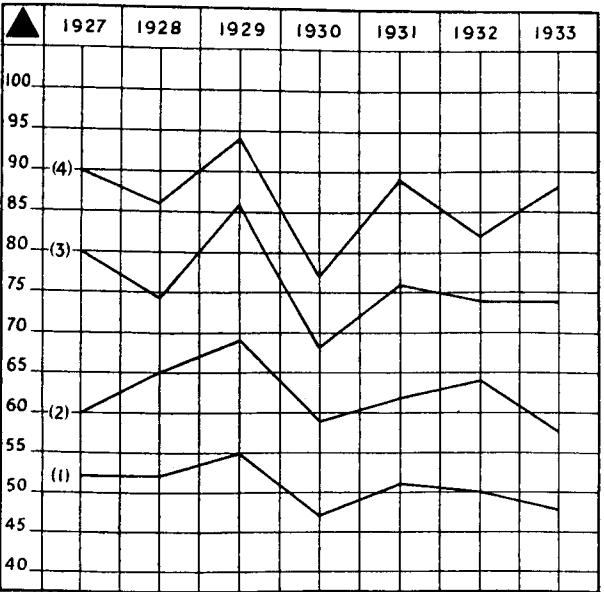
The one outstanding difference between the two populations is economic, and hence nutritional. Probably 70 per cent., or more, of the families in the London area can afford to provide themselves with a fairly adequate diet, whereas fully 70 per cent. of the families in the distressed areas were living below the poverty line during the period under review, and are still doing so.

The correspondence between degree of prosperity, and level of mortality rates has been illustrated most convincingly by Dr. M'Gonigle in his book *Poverty and Public Health*. The same facts are merely shown in another way when the rates of a number of different areas, or groups of areas, are charted on the same scale (see Charts XI, "Infant Death Rates" and XII, "Maternal Death Rates"). It seems impossible to attribute to mere chance the fact that the prosperous districts such

as Middlesex, Essex and London are at the bottom of the lists and the most distressed towns and counties of Durham and South Wales at the top. The lowest average maternal mortality for a town of over 140,000 inhabitants is that of Brighton (2.52 per 1,000 total births).

Chart XI.—Infantile mortality. Average levels in relation to economic position and percentage of unemployment, 1927-33.

- (1) Prosperous Southern industrial counties (Middlesex and Essex). Average, 51.
- (2) Prosperous Southern towns, including London. Average, 62.
- (3) County Boroughs of England and Wales. Average, 76.
- (4) Seven Ports in depressed areas. Average, 87.

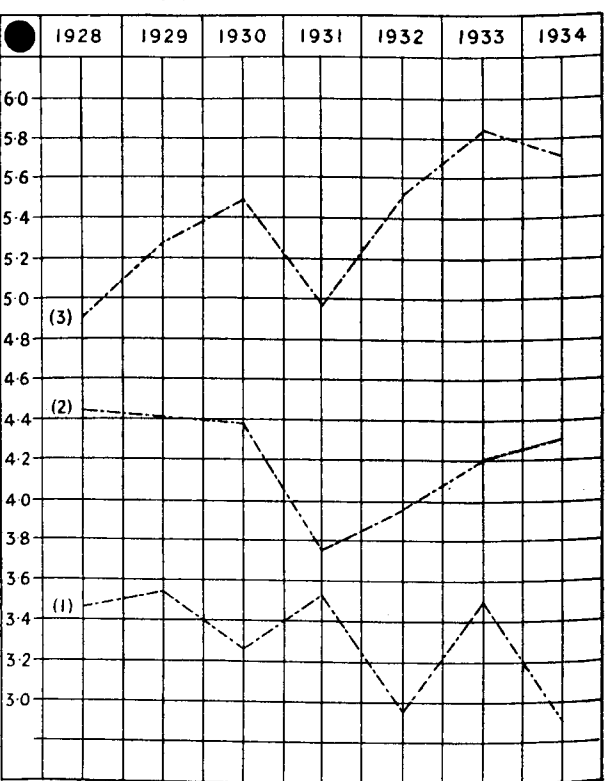


The idea that climate plays the principal part in the annual variations visible on every chart seems to be yet further dispelled by Charts XIII ("Seven Ports in Distressed Areas") and XIV ("Eight Southern Towns and Ports").

The peak in the infant death rates in 1929, which appears in all districts without exception is, no doubt, largely due to the severe weather in that year, but the dip in 1930 followed by the sharp rise in 1931 and 1932, which is noticeable in those areas in which unemployment was widespread at that time, does not appear in the charts of more prosperous districts, in which a rise in 1930 and fall in subsequent years often occurs. In Chart XIII ("Seven Ports in Distressed Areas") the peaks and valleys in the maternal death rates correspond to the years following those in the infant death rates, as already pointed out, and thus seem to dispose of the idea that either climatic or epidemic factors can underlie their variations. On the other hand the comparatively generous scales of milk distribution and out-relief which prevailed

Chart XII.—Puerperal mortality. Average levels in relation to economic position and percentage of unemployment, 1928-34.

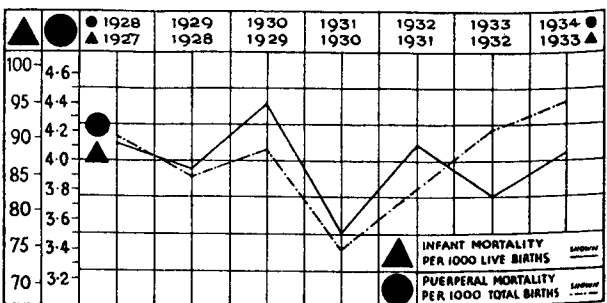
- (1) Prosperous Southern towns, including London. Average, 3.32.
- (2) County Boroughs. England and Wales. Average, 4.21.
- (3) Five Counties in depressed areas (coal-mining). Average, 5.36.



in 1930, and the adverse effect upon nutrition of the "cuts" in these benefits in 1931-2, seem to provide an adequate explanation for the striking differences in the outlines of these two charts. Such changes would not have affected the richer districts, but only those in which the scale of public assistance was an important factor.

In view of the fact that the result of the food distribution scheme in Glamorgan has been to produce a much greater reduction in the number

Chart XIII.—Infantile and maternal mortality in successive years. Birkenhead, Cardiff, Hull, Liverpool, Newcastle-on-Tyne, Sunderland, Swansea.



Papers and Discussions in Brief or Abstract

Ante-Natal Nutrition

The final session on July 3rd of the National Conference on Maternity and Child Welfare at Liverpool was organised by the M. & C.W. Group of the Society and took the form of a discussion on "Ante-Natal Nutrition," introduced by papers from Dame Louise McIlroy, D.B.E., M.D., D.Sc., formerly Professor of Obstetrics and Gynaecology, University of London, and Prof. S. J. Cowell, M.A., M.D., Professor of Dietetics, University of London, which are briefly summarised below. A full report of the conference was published in the August issue of *Mother and Child*.

Dr. G. C. M. M'Gonigle (M.O.H., Stockton-on-Tees), President of the Group, introducing the opening speakers, said that economic difficulties arose in the application of our technical knowledge of nutrition. The national conscience had been deeply stirred by the questions of maternal mortality and nutrition, and he felt that a bold policy in guaranteeing the nutrition of the expectant mother would have general backing and support.

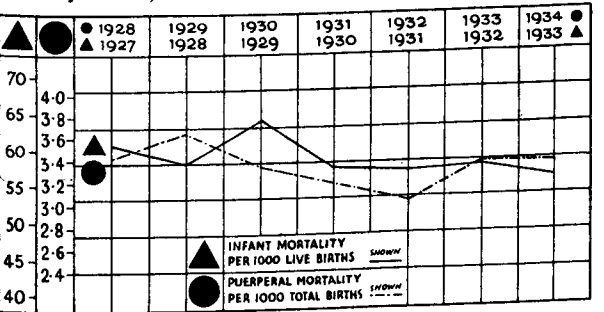
DAME LOUISE MCILROY.

Much attention has been paid by our public health authorities in an endeavour to find some solution of the problem of the supply of an adequate diet for those classes of the community whose diet is deficient. A general estimate has been made that 50 per cent. of the people of Britain suffer from inadequate diet, and are, therefore, exposed to the dangers of deficiency diseases.

The influence of diet is of paramount importance in the prevention of most of the complications of pregnancy. The sources of nutritional and nervous derangements are to be found in most cases in the alimentary tract. Diseases of pregnancy, such as toxæmia, should be classified as deficiency diseases, as they are due to the inadequate supply of substances vital for the maintenances of the health of the mother and for the nutrition and growth of the foetus. The foetus draws upon the mother for its physiological requirements, and if the supply is inadequate depletion of the maternal stores is a consequence, as shown by symptoms in the mother of sleeplessness, nervous disorders, muscular cramp due to calcium and phosphorus deficiency and drain. The foetus becomes a parasite rather than an integral part of the mother hostess.

Toxæmia can generally be prevented by an adequate supply of carbohydrates, proteins, vitamins and mineral salts. The assimilation of these substances by healthy digestive processes is also essential and this is estimated by routine weight-taking and advice as to exercise. Toxæmia ranks high in the etiology of maternal deaths, as a predisposing cause of hæmorrhage, shock and post-natal disablement. Puerperal sepsis can be traced primarily in many cases to toxæmia or nutritional deficiency, just as, in infants, rickets and allied condi-

Chart XIV.—Infantile and maternal mortality in successive years. Brighton, Bristol, Croydon, East Ham, Plymouth, Portsmouth, Southampton, West Ham.



of puerperal deaths from "other causes" than in those from sepsis, it is of interest to note that the fall in the puerperal death rate of areas with large numbers of unemployed in 1931, and the rise in 1932 and 1933, were principally due to variations in the "other causes" rate.

The charts selected for inclusion in this paper are merely samples of a series of over 50 submitted to the Minister of Health in April, 1936. The districts selected for analysis, whether as single areas or groups, were those having a population of over 140,000, as smaller areas do not provide sufficient data to make the effects clear. Even in towns of 140,000 population, the number of maternal deaths is usually too small for the general trend of the rates to be noticeable until grouped together.

Certain notable exceptions to the above generalisations should be mentioned. The most striking is that of the maternal death rate of County Durham, a depressed area which nevertheless fails to show the features which appear in other similar districts. Some explanation of this may be found in the fact that 1½d. rate is levied in this county to provide free and cheap milk to necessitous mothers, and that no cuts in this service were introduced in 1931-2. The number of families in receipt of milk in 1931 was 12,355, and this rose to 13,352 in 1932. Two other towns which have been included in the prosperous category despite much poverty within their boundaries, on account of their exceptionally good mortality rates, are East Ham and West Ham. The same explanation is offered in these cases as in that of Durham. The only important exception which nutritional factors do not explain is Liverpool, which has maintained the low average rate of 3.21 during the last seven years, despite increasing unemployment.

Note.—The figures cited in this paper and the charts prepared from them are derived from the Statistical Reviews and Annual Health Reports, or from figures kindly supplied by Medical Officers of Health. The graphs have been prepared with the kind assistance of the actuarial staff of a leading insurance company, and the figures checked by a qualified accountant. Any errors which may have crept in should be attributed to the author.—J. E. W.

tions tend to lower the resistance to infectious diseases.

The administration of supplementary substances such as calcium, iron and radiated foodstuffs is essential in some cases of marked deficiency, but our ante-natal clinics would do well to study food values more, and thereby by prevention reduce the necessity for prescribing. The high prices of the fresh foodstuffs which we advise at clinics lead to the consumption of large quantities of bread because it is cheap and bulky, and to an excessive carbohydrate diet. Tinned foods are preferred to fresh meat or fish, as they are appetising and require no preparation.

Routine weight-taking is a valuable guide to the nutrition of the expectant mother. The average monthly gain in weight during pregnancy is about 3 to 4 lbs. after the first three months, and rather less in the last two weeks. If the gain is below the average, the patient is probably under-nourished; if it is in excess it is due either to gross overfeeding or to occult oedema of the tissues due to toxæmia. In excessive gain proteins such as meat and eggs and salt should be forbidden and daily open-air exercise is advised.

The whole value of ante-natal clinics lies in prevention rather than treatment. The attendance of patients is often faulty; women do not seem to realise that they should put themselves under the care of a doctor from the beginning of pregnancy. We see the excellent results of ante-natal care when comparisons are made between the ultimate results in hospital of "booked" and "emergency" cases.

The staffing of ante-natal clinics still leaves much to be desired. Every patient should be seen and examined by a doctor at each visit, and not only by a nurse. The medical attendants should have had special training in practical obstetrics and the value of dieting as an aid to the prevention of the complications likely to arise in pregnancy. An improved midwives' service will do much to lessen the dangers of child-birth, but it is the knowledge of disease and its prevention which has been acquired by the trained medical practitioner which will serve to prevent the occurrence of toxæmia and other complications.

PROF. S. J. COWELL.

Studies of the metabolism of women during pregnancy and lactation have led to the formulation of certain principles which may influence the choice of food during pregnancy. First, the protein requirement. There is considerable storage of protein by the mother, not only to provide material for the foetus and placenta, but to supply tissue for the hypertrophy of the breasts and uterus. The amount of protein retained by the healthy mother is actually much larger than that represented by these stores; the surplus probably can be regarded as a reserve to provide for the losses encountered during parturition and to prepare for the ensuing lactation. The available data suggest that the amounts of protein taken in our ordinary diets—70 to 100 grammes—suffice to meet these requirements, but it would not seem advisable to reduce this amount during normal pregnancy. It is likely that the quality of the protein is of great importance, and the little evidence at present existing suggests that the protein of milk is of particular value. This is one reason why

the use of liberal quantities of milk during pregnancy should be strongly encouraged.

Concerning the mineral requirements, calcium is particularly likely to be lacking in the diet during pregnancy. The mother begins to store calcium rapidly after the fourth month and the foetus after the seventh month. To prevent loss of calcium from the mother's skeletal stores it is necessary to provide her with something like 1.6 grammes of calcium a day, an amount considerably greater than that present in our usual diets. It is well recognised that lack of calcium combined with lack of vitamin D may determine the onset of osteomalacia, but lesser degrees of deficiency may result in painful cramps or even tetany. The extra calcium needed at this time may conveniently be given in the form of milk or other dairy products.

Iron may also be lacking in the diet. It has lately been shown that the hæmoglobin of women need not be lower than that of men. It appears that the average woman does not get quite enough iron in her diet to compensate for her menstrual losses. Considerable iron is lost during parturition and repeated pregnancies do undoubtedly tend to produce quite severe grades of secondary anæmia. It is reasonable therefore to include in the diet during pregnancy food which contains adequate supplies of available iron.

The last point concerns the vitamin content of the diet. The need for vitamin D to protect the calcium stores of the mother has already been mentioned. Vitamin A and the various water-soluble vitamins are particularly essential during the period of pregnancy and lactation, as much for the sake of the infant as for the mother herself.

The basis of the ideal diet during pregnancy should be in my opinion a liberal supply of milk—at least a quart a day. Liberal servings of green vegetables, some fresh fruit, and, if possible, a salad, should be included each day. An egg provides valuable vitamins and mineral elements. If it is considered advisable to cut out meat, cheese may be substituted, but in my opinion this ought not to be necessary. Butter should replace margarine. The inclusion of liver once a week will aid hæmoglobin formation, and sea-fish will provide iodine. These dietary items will provide adequate supplies of most known essential constituents except vitamin D, which may be given separately in the form of either cod liver oil or a concentrated preparation. It is my belief that such a diet would secure freedom from many of the common disturbances that arise during pregnancy and would promote free lactation subsequently.

DISCUSSION.

Dr. C. O. STALLYBRASS (Deputy M.O.H., Liverpool) thought that under-nourishment was due to an inadequate quantity of food, which might be due in its turn to inadequacy of the family budget—a deplorable deficiency in a civilised community when the bounties of nature were multiplied many times by the help of science. It was the duty of the politician to remedy this state of affairs. Or it might be due to dissipation of an adequate family income on drink or debts, dogs or devilment. This was a problem in applied psychology, and was not under discussion. Or the mother might deflect the food she needed to her children. But neither insufficiency

nor excess of food was likely to produce those "lively" mothers who delivered themselves. Turning to malnutrition, caused by defect in the quality of the food supplied, he said that when the mother was unable to afford the right kind of food it was very definitely the function of the ante-natal clinic to put this right; the local authority possessed adequate powers to make this possible. Discussing lime deficiency during pregnancy, he quoted the experiments of Garwood Richardson, of Chicago, who gave 201 pregnant women, of whom 195 were in their first pregnancy, an adequate dose of vitamin D. A further 99 women who did not receive vitamin D acted as controls. It was found that those who did not receive the vitamin had a definite deficiency of lime in the blood. But those receiving the vitamin showed some entirely unexpected results. It was found that the average time of labour in the primipara was reduced from 18 hours to 6 hours. The improved clotting power of the blood led to a reduction in the blood loss, which is a factor in the production of anæmia. Moreover, the better muscle tone of the womb and the better clotting of blood in the veins of the placental site reduced the risks of puerperal sepsis. There appeared to be a reduction in toxæmia. If those observations could be repeated there would appear to be an unanswerable case for the administration of cod-liver oil or its concentrates to all women in at least the later months of pregnancy.

DAME LOUISE MCILROY, replying to some criticisms of her remarks about withholding cod-liver oil and irradiated substances from women in pregnancy, said that she was merely pointing out that women were being treated in clinics from an artificial point of view. The use of such substances was justified because they kept those patients well who had an inadequate diet.

The Ideal Dental Service*

By JOHN S. ROBERTS, L.D.S.,
Dental Officer, Hants County Council.

The ideal dental service would allow the masses to receive conservative dental treatment at a cost they could afford, with facilities for annual inspection and treatment when necessary. The greatest fault with the present arrangements, as outlined below, is lack of continuity, which halves their usefulness.

Schemes under the Control of Local Authorities.—In *The Health of the School Child* for 1932 and 1934, the Chief Medical Officer has pointed out the ideal school dental service; unfortunately, he has little power to cause local authorities to take this advice, and they are too often not prepared to accept the advice of their own medical officers of health. Hence the marked differences between the dental schemes run by different authorities.

Authority "A" has the ideal service by which each school child is inspected and treated annually, and also schemes for the treatment of the pre-school child, nursing and expectant mothers, tuberculous patients and those in their mental and public assistance institutions.

Authority "B" has a scheme for treating only certain age-groups over the whole area or all children in certain areas. The only criterion should be whether treatment is necessary or not.

*Paper read to the Southern Branch.

The 1934 report suggests schemes for secondary school children. Any child who has passed from the elementary school should have the same facilities as were available before obtaining a scholarship, i.e., annual inspection, leaving those who can afford private treatment to refuse under the scheme.

Another important factor is that of payment. The actual amount varies but is usually 6d. per visit. The very poor cannot afford to find this small fee for two or three children at the same time and, rather than plead poverty, let them go without treatment. The fee should be abolished altogether.

National Health Insurance: Additional Benefit.—Dental benefit is an additional benefit, dependent upon the financial position of the member's society. If the society have any surplus funds, they can pay part of the cost and they thus exercise an unfortunate control over the profession. Naturally, these societies are only concerned as to the cheapness of the treatment, and not at all with the question of oral hygiene. Take the society who last year would not pay for the dental treatment of its female members on the excuse that they might later on claim maternity benefit. Unless the society has surplus funds a member cannot receive assistance even if his mouth is in a very septic condition; further he must pay his share before the societies will pay theirs. Dental benefit for insured persons should be a statutory one.

Industrial Clinics.—Enlightened employers look upon the welfare of employees as a business proposition and have organised dental clinics which employees can attend during working hours. Given facilities, the people are willing to make use of them.

Voluntary Hospitals.—The majority have an honorary dental staff for treating indoor and outdoor patients, but, as most of the work is extraction, they cannot be considered of great value in preventive dentistry.

Defence Forces.—As a result of the appalling dental conditions, the defence forces decided to have their own dental units, and lately the Navy and Army have reconsidered their units and improved them. Amongst the younger members of the forces, these dental clinics are appreciated, and the new entry must reach a certain standard of dental fitness. I learnt that there was little evidence amongst recruits of treatment at school clinics, no doubt because at the time these boys left school six years ago, few authorities had dental schemes covering the whole school life.

Private Practice.—This remains the chief source of treatment for the adult population but owing to the heavy overhead expenses of a dental surgery fees are high and, except for extractions, the masses cannot afford them.

It is obvious from the above summary of present services that the whole suffers because of a lack of continuity. Consider the adolescent boy who has received dental treatment under a local authority as a pre-school child, and again as a school child, so that he leaves school dentally sound, and has had impressed upon him the necessity of oral hygiene, part of which is annual inspection and treatment. Unless he works under an enlightened employer, he receives no assistance towards the cost of treatment until he is 19, when, if his society is in funds, he may receive treatment as an additional

benefit. Thus we have a gap of five years, known to be one of the most susceptible periods as regards decay.

I feel strongly on the lack of facilities between the ages of 14 and 19, as the name of the school dental service is at stake. During these years, teeth which were filled during school life may have commenced decaying at another point, and at 19 be beyond repair. Naturally, the patient gathers the impression that the school dentist's work is not of a lasting character, and in another few years this patient may be a parent. If we are prepared to spend money to turn out children from school dentally sound, we must continue to offer them facilities for treatment during adolescence. In Brentford and Chiswick an attempt is being made to offer adolescents dental treatment at a cost they can afford, and the result is being watched with great interest. This gap is completely removed in my ideal dental service.

The Ideal Dental Service.—It would be part of a national health service; and not a service on its own.

The head of the whole service would be the Chief Medical Officer who would advise the Ministry of Health on all questions of public health. The whole would be one department and governed as a national service.

On the staff of the Chief Medical Officer would be a chief dental officer to advise his chief on dental matters. The country would be divided into branches with officers in charge—the "staff officers" of the chief dental officer. Each branch would be divided into divisions with administrative officers, and each division sub-divided into districts with a senior officer in charge of the work of the dental officers under him. Each treatment officer would be allotted a certain area and would be expected to treat all men, women and children in that area. In the larger centres, two or more officers could work in co-operation. Each officer would have a properly equipped clinic in the health centre and a nurse-secretary, and would work eleven sessions a week, including two evenings.

For convenience, all school children would be inspected at the schools, and if an employer were agreeable, a clinic would be held at his works.

Unless for urgent treatment, patients would be seen only by appointment, and toothache would not be considered urgent in a preventive service. All records would be kept at the clinic and weekly details sent to the senior dental officer. No payments would be made at the clinics as these would be covered by a national health insurance.

All mechanical work would be carried out at the central laboratory attached to the headquarters of the senior dental officer. On his staff would be two or three officers concerned with the teaching of oral hygiene by lectures and demonstrations, and with investigations into dental diseases.

The salaries would be adequate to attract the best type of person. The staff would be superannuated, and arrangements made for retirement at 55 if necessary. The work of the dental officer is about the most trying of all professions, and we cannot expect all officers to be fit enough to continue working up to 65. Promotion to higher posts would be according to the length of service and administrative capabilities.

Under this national scheme we would approach

research work into dental diseases from a totally different angle and with far better results. On the staff of the C.M.O. there would be research workers, medical and dental, who would work as a team, instead of in separate units.

Cost.—The National Health Insurance Acts would be amended so that everyone employed below a salary of £400 paid a weekly amount, plus a small poundage, the age of contributing being reduced to 15 or 14 to ensure continuation from school life. The cost of running the whole would not be much more than present expenditure by local authorities, under the National Health Insurance Acts and in private practice; and the increase would be more than compensated by having a service which, because of its continuity, would produce better results.

Such a scheme cannot come for many years, because the medical and dental professions are not ready for it, the private practitioners would strongly oppose it and the profession has not sufficient members to staff it properly. Moreover, the masses themselves are not yet educated to the value of oral hygiene, but, thanks to the work already done, the younger generation is beginning to look upon our profession in a different light, and the time is ripe when we should move forward.

I would like to suggest a scheme which could be gradually put into operation within the next five years and if continued, lead to our Utopia. First, let the Chief Medical Officer take unto himself more authority and outline a definite scheme, as only thus can we be sure of having sufficient students take up dentistry.

The C.M.O. of the Board of Education should compel every authority to have a properly equipped dental service, so that every school child, elementary and secondary, can be inspected and, if necessary, treated every year. The salaries of the dental officers should be standardised, service under one authority to count for salary and superannuation should the officer move to another.

During their last year at school the children should be examined, treated, and issued with a certificate of dental fitness; this certificate could then be taken within six months to a private practitioner willing to accept the adolescent as a panel patient. For this the National Health Insurance Acts must be amended so that the age for contributing commences at the time of leaving school, and so that dental treatment becomes a statutory benefit.

The dentist would be allowed a capitation fee for all patients accepted, but these must be dentally fit. A person who had refused treatment under the school dental service, before being eligible for National Health Insurance dental benefit should pay the cost to the private practitioner for all treatment to secure dental fitness until five years' contributions have been paid. This might make the people realise the value of preventive dentistry.

The following appointments are reported in the school dental service:—F. S. Saunders, L.D.S., R.C.S., Eng., as Senior Dental Officer, Kent (Hills, L.D.S., R.C.S., Eng., as Assistant Croydon C.B.; and W. L. Cooper Jones, as Dental Officer, Hendon M.B.

Branch and Group Elections: Session 1936-37

METROPOLITAN BRANCH.
 President ... Dr. A. J. Shinnie.
 Vice-Presidents ... Dr. G. H. Dart.
 ... Dr. H. W. Barnes.
 Hon. Treasurer ... Dr. J. Macmillan, D.S.O.
 Hon. Secretary ... Dr. Vynne Borland.
 Representatives on Council Dr. Vynne Borland.
 Dr. James Fenton.
 Dr. A. G. G. Thompson.

WELSH BRANCH.
 President ... Dr. W. A. Murphy.
 Hon. Secretary and Treasurer and Representative on Council ... Dr. D. J. Thomas.

MIDLAND BRANCH.
 President ... Dr. A. Massey.
 Vice-Presidents ... Sir John Robertson,
 C.M.G., O.B.E.
 Dr. E. H. Snell.
 Dr. D. D'Arcy Ellis.
 Dr. G. N. Anderson.
 Dr. P. G. Horsburgh.
 Dr. E. H. Snell.
 Hon. Treasurer ... Dr. R. H. H. Jolly.
 Hon. Secretary ... Dr. H. Gibbons Ward.
 Representatives on Council Dr. R. H. H. Jolly.

EAST MIDLAND BRANCH.
 President ... Dr. H. L. Barker.
 Vice-President ... Dr. W. S. H. Campbell.
 Hon. Secretary and Treasurer and Representative on Council ... Dr. J. A. Stirling, D.S.C.

WEST OF ENGLAND BRANCH.
 President ... Dr. T. Peirson.
 Vice-President ... Dr. G. B. Page.
 Hon. Treasurer ... D. J. F. Blackett.
 Hon. Secretary and Representative on Council ... Dr. P. H. Stirk.

HOME COUNTIES BRANCH.
 President ... Dr. R. P. Garrow.
 Hon. Treasurer ... Dr. K. E. Tapper.
 Hon. Secretary ... Dr. C. E. Herington.
 Representatives on Council Dr. R. P. Garrow.
 Dr. A. W. Forrest.
 Dr. C. E. Herington.

NORTH-WESTERN BRANCH.
 President ... Dr. S. T. Beggs.
 Vice-President ... Dr. W. M. Frazer.
 Hon. Treasurer ... Dr. F. T. H. Wood, O.B.E.
 Hon. Secretary ... Dr. J. E. Spence.
 Representatives on Council Dr. S. T. Beggs.
 Dr. F. T. H. Wood, O.B.E.
 (One place vacant.)

NORTHERN BRANCH.
 President ... Dr. S. V. Tinsley.
 Vice-President ... Dr. J. McIntyre.
 Hon. Secretary and Treasurer ... Dr. J. A. Charles.
 Representative on Council Dr. G. C. M. M'Gonigle.

YORKSHIRE BRANCH.
 President ... Dr. J. C. Pickup.
 Hon. Secretary and Treasurer ... Dr. J. Mair.
 Representatives on Council Dr. G. H. Pearce.
 Dr. J. Mair.

SOUTHERN BRANCH.
 President ... Dr. A. E. Druitt.
 Hon. Secretary ... Dr. E. Croft Watts.
 Hon. Treasurer ... Dr. H. Leslie Cronk.
 Representative on Council Dr. R. H. Wilshaw.

EAST ANGLIAN BRANCH.
 President ... Dr. Irene M. B. Green.
 Vice-President ... Dr. A. P. Agnew.
 Hon. Treasurer ... Dr. G. W. Riddell.
 Hon. Secretary and Representative on Council ... Dr. V. F. Soothill.

COUNTY DISTRICT GROUP.
 President ... Dr. A. T. W. Powell.
 Vice-President ... Dr. A. F. Adamson.
 Hon. Secretary and Representative on Council ... Dr. E. W. Caryl Thomas.

FEVER HOSPITAL MEDICAL SERVICE GROUP.
 President ... Dr. E. H. R. Harries.
 Vice-Presidents ... Dr. H. S. Banks.
 Dr. E. W. Goodall.
 Dr. Sage Sutherland.

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

MATERNITY AND CHILD WELFARE GROUP.
 President ... Dr. Agnes Nicoll.
 Past-President ... Dr. G. C. M. M'Gonigle.
 Vice-Presidents ... Dr. Marjorie Back.
 Dr. R. J. Maule Horne.
 Dr. Stella Churchill.
 Hon. Secretary ... Dr. Muriel Radford.
 Hon. Asst. Secretary ... Dr. Virginia Saunders-Jacobs.
 Representative on Council Dr. Catherine Morris Jones.

TUBERCULOSIS GROUP.
SCHOOL MEDICAL SERVICE GROUP.
DENTAL OFFICERS' GROUP.
 (Elections pending)

The Society: Reports and Proceedings

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, September 18th, 1936, at 2 p.m. In the enforced absence of the President (Dr. W. G. Savage) the senior Vice-President who was in attendance at the commencement of the meeting (Dr. Charles Porter) was elected to take the chair. There were also present: Dr. T. W. Naylor Barlow, Sir Henry Brackenbury, Drs. G. F. Buchan, R. Veitch Clark, Capt. G. S. Elliston, Drs. James Fenton, James Ferguson, R. P. Garrow, W. W. Jameson, A. Joe, R. H. H. Jolly, Catherine Morris Jones, G. C. M. McGonigle, Agnes Nicoll, G. H. Pearce, R. M. F. Picken, T. N. V. Potts, T. P. Puddicombe, E. H. Snell, V. F. Soothill, J. A. Stirling, D. J. Thomas, E. W. Caryl Thomas, A. G. G. Thompson, H. G. Trayer, Ernest Ward, H. Gibbons Ward, R. H. Wilshaw and F. T. H. Wood.

Apologies for absence were received from the President, Drs. Vynne Borland, J. J. Buchan, A. W. Forrest, W. M. Frazer, James Mair, H. J. Milligan and P. H. Stirk.

Death of Dr. G. W. N. Joseph.—The Council stood in silence to signify their sorrow at the loss of Dr. G. W. N. Joseph, who had been a North-Western Branch representative since 1920, and expressed great sympathy with his relatives.

Minutes.—The Council approved the minutes of the last meeting held on May 15th, and of the special meeting held on June 26th to consider the draft new Section B Rules of the Central Midwives Board.

The following communication sent to the Central Midwives Board after the latter meeting, was also confirmed:—

July 3rd, 1936.

L. FARRER-BROWN, ESQ.,
Secretary,
CENTRAL MIDWIVES BOARD,
1, QUEEN ANNE'S GATE BUILDINGS,
WESTMINSTER, S.W.1.

DEAR MR. FARRER-BROWN,

My Council have now considered in detail the draft of the new Section B of the Board's Rules and the accompanying explanatory Memorandum.

I have been instructed to submit for consideration by the Board the following observations on the draft Section B:—

Rule 1. (a) (i).—Delay in being entered upon the Register of Pupils might be caused in the case of a general-trained nurse just qualified who had not in her possession as yet her certificate of registration as a general-trained nurse. We recommend that some new wording might be introduced to obviate the above possible delay.

(a), (b), (c).—c.f. Rule 38. We think it advisable to draw the attention of the Board to the possible desirability of the candidate presenting a certificate of physical fitness before being admitted to the Register of Pupils.

Rule 2.—The Society suggest that an upper age limit of 40 years for entry as a pupil is preferable to that of 45 years.

Rule 6.—The Society suggest that in order to avoid unnecessary delay in beginning the second part of the training, the C.M.B. might consider standardising the times for holding examinations.

Rule 7 (b).—In the case of a health visitor who had obtained a certificate of passing the First Examination, had done some health visiting, and then decided that she would prefer to complete the Second Part training and practise as a midwife, it is uncertain whether this Rule would allow of her reinstatement as a pupil midwife although more than five years had elapsed. The Society therefore suggest the addition of the words "The Board to have power to re-enter the names of any suitable cases in the Register if they think fit."

Rule 9.—In order to make the wording of this Rule accord with the amended Rule 7 above, the Society suggest the insertion after "which" in line 7 of the words "except by the permission of the Board."

Rule 11 (b), line 2.—After "50" add "pregnant"; after "women" take out the words "during the course of pregnancy." The Society thought that the present wording might be taken to imply that the pupil would have to be in attendance on 50 women throughout the course of their pregnancies.

Rule 11 (d).—In order to accord with the amendments suggested under (b) above, we recommend the deletion in line 2 of the words "(b) and." The Society suggest that it may be impracticable to complete (b) before any of (d) is undertaken.

(c).—The Society wish to urge that during this period there should be supervision and instruction by a pædiatrician in respect of the children.

Rule 12.—In regard to the position of pupils who are not trained nurses, the Society desire to express their opinion that the Board should impose a limiting period, after which no women would be accepted for midwifery training except general-trained nurses.

(a) (ii).—The Society are of opinion that, in addition to the subjects in Rule B 29 (a), (b) and (c), instruction in the physiology and hygiene of the normal infant should be specified under this Rule.

Rule 13 (d), line 1.—The Society recommend that "approved supervision" should stipulate for supervision by a person of special experience in respect of the children.

(e), line 3.—The Society suggest the substitution of "and" for "or."

(f).—The Society beg to suggest that the practical application of this section will be a matter of extreme difficulty and that in any case the training here mentioned should preferably be taken in the first period.

Rule 17 (b).—The Society suggest that this should read "it has ante-natal beds and associated with it ante-natal clinics and a post-natal department."

(c), line 2.—After "in obstetric work" we suggest the addition of "and one who has special experience in pædiatrics."

Rule 18.—For the purpose of the Second Part training, the Society feel that it is desirable that there should be affiliation also between the smaller training institutions and such larger ones as would be approved for the First Part training.

Rule 29 (m).—The Society suggest the addition of "The establishment and maintenance of breast feeding."

(p).—The Society recommend the addition of "the midwife's responsibility for advocating early and continued treatment."

Rule 31, line 3.—After "work" add "including full notes on mother and child."

Line 4.—We suggest that this would be more practicable if it read, after "answer," "elementary question on social legislation."

General Comment.—The Society wish to draw attention to the possibility of making some distinction between the pupil who has actually graduated from the first part of the examination and the one who has not actually done so.

Yours very truly,
(Signed) G. L. C. ELLISTON,
Executive Secretary.

Fully Paid Life Memberships.—The Council received letters from Drs. W. D. Betenson, G. F. McCleary and C. Killick Millard, thanking the Council for their decision to nominate them as fully-paid Life Fellows.

The following were also nominated for fully-paid life membership in accordance with Article 12.

On the recommendation of the Home Counties Branch—Dr. L. W. Dryland (formerly M.O.H., Kettering R.D.; joined the Society 1906), Dr. C. E. Goddard (formerly M.O.H., Wembley and Harrow U.D.'s; joined the Society 1904), Dr. A. E. Porter (formerly M.O.H., Reigate M.B. and R.D.; joined the Society 1901).

On the recommendation of the Welsh Branch—Dr. J. Howard-Jones (formerly M.O.H., Newport C.B.; joined the Society 1895).

A recommendation from the Midland Branch for the nomination for a life Fellowship of a senior member of the Branch, who was also an original member of the Birmingham and Midland Society of Medical Officers of Health when it was formed in 1875, was referred for enquiry by the General Purposes Committee, as it was reported that the Fellow in question was still carrying on his duties as a part-time M.O.H. and was therefore not strictly eligible for fully-paid life membership.

The Midwives Act.—A letter was received from the Secretary of the Royal Sanitary Institute inviting the attendance of members of the Society at a Conference to be convened by the Institute at the Central Hall, Westminster, on October 22nd, at 2.30 p.m. on the Midwives Act and its Operation, the Minister of Health to preside and Dr. John Buchan to read a paper opening the discussion.

Enquiry into Abortion.—A letter was received from Lady Williams, Hon. Secretary, Joint Council of Midwifery, announcing that the Minister of Health had approved a proposal by the Joint Council to enquire into the problem of abortion undertaken for other than medical reasons. The letter requested the Society to submit any comments or suggestions in connection with this enquiry as soon as possible, and invited the Society to nominate an additional representative to serve on the special committee as well as Dr. John Buchan.

The Council decided to refer this matter for consideration and report by the General Purposes Committee.

Report of the General Purposes Committee.—The report of the Committee was submitted by Dr. F. H. T. Wood, who acted as chairman in the absence of Dr. James Fenton.

128.—A meeting of the General Purposes Committee was held on Friday, September 4th, 1936, at 2 p.m., at the Society's house.

Present: Dr. F. T. H. Wood (acting Chairman), Drs. G. F. Buchan, J. J. Buchan, G. H. Pearce, R. M. F. Picken, Charles Porter, Ernest Ward and H. Gibbons Ward.

Apologies for absence were received from Drs. James Fenton (Chairman) owing to his attendance at the Sanitary Inspectors' Association Conference, Drs. R. Veitch Clark, R. H. H. Jolly, James Mair and H. J. Milligan.

129.—**Death of Dr. G. W. N. Joseph.**—The Committee learnt with great regret of the death on August 28th, of Dr. G. W. N. Joseph, who had been a member of the Council since 1920 and of the Committee since its institution. The Committee signified their sorrow at the loss of Dr. Joseph by standing in silence.

130.—**Post-Graduate Facilities for Departmental Officers.** (Arising from Minute 116. (See PUBLIC HEALTH, March, 1936, p. 227)). It was reported that the memorandum on the above subject, prepared by Dr. Nicoll, had been duly circulated to the Branches and Groups and that so far observations had been received from one Branch and three Groups.

A reminder had been sent to the Hon. Secretaries of Branches and Groups so that the memorandum could be further considered by the Council at their November meeting.

131.—**Training of Midwives.** (See PUBLIC HEALTH, June, 1936, page 328). It was reported that the Central Midwives Board had acknowledged the Society's observations resulting from its special Council Meeting of June 26th, and that they had also made an unofficial enquiry as to the names of pædiatricians in the areas where training institutions approved by the Board were situated. This enquiry had been referred to the M. & C.W. Group.

132.—**Recruitment.** The Executive Secretary reported that 164 new members (110 F., 54 A.) had been elected to the Society during the present session (the largest number since the session 1921-22), and that 30 candidates awaited election in October. Losses this session through deaths and resignation would probably total about 100, so that the net gain in the Society's strength might be estimated at 64, the best since 1925-26.

133.—**Enquiry into an Application for Election.** It was reported that an application for election which had been the subject of an enquiry by the Council at their last meeting in accordance with Article 10, had not been withdrawn, and that his name would, therefore, appear on the printed list of candidates for election on October 30th.

134.—**International Hospital Association.** (See PUBLIC HEALTH, June, p. 327). The Committee considered a letter from the Treasurer and Secretary of the Association in reply to the Society's decision against affiliation to the above Association at an annual subscription of five guineas. In his letter the Secretary urgently requested reconsideration of the above decision, stating that the Association was particularly anxious to have the Society's moral and financial support, and their active co-operation towards co-ordinating information about municipal hospital services.

RECOMMENDATION.—That the Council adhere to their previous decision not to become affiliated to the International Hospital Association.

135.—**Co-operation between the Society and the B.M.A.** (See PUBLIC HEALTH, June, p. 325). It was reported that Sir Henry Brackenbury, Professor R. M. F. Picken and Dr. W. Paterson (representing the Public Health Committee of the B.M.A.) and Drs. G. F. Buchan and F. T. H. Wood (representing the General Purposes Committee of the Society) had met at the Society's house on June 5th last and considered the need for the revision of the agreement as to co-operation which had been in force since 1923. The meeting came to an understanding on the general lines of re-interpretation and left the

drafting of the agreement to the Deputy Medical Secretary of the B.M.A. and the Executive Secretary. A further meeting is to be held to approve the draft for submission to the Society and the Association.

136.—*County Borough M.O.'s H. Group.* (See PUBLIC HEALTH, June, p. 321.) It was reported that in accordance with the suggestion approved by the Council, Dr. R. H. Parry convened a meeting of County Borough Medical Officers of Health during the Southport Congress. The meeting was attended by 38 M.O.'s H., of whom a large majority were in favour of requesting the formation of a Group. It was further agreed to appoint a small committee to draft the constitution of the proposed Group subject to approval by another general meeting of County Borough M.O.'s H. to be held in London during the week of the Public Health Congress (November 16th to 20th). Application will then be formally made to the Council for the formation of the Group.

137.—*Voluntary Mental Health Services.* The Committee considered a letter from Lord Feversham, Chairman of the Feversham Committee on Mental Health Services, which has been constituted to review these services, and to make recommendations for better co-ordination of the various societies working in this field. With this letter was enclosed the following questionnaire :

"1.—With what voluntary mental health organisations have you had contact in this work ?

"2.—What assistance have you received in this work from these bodies ?

"3.—What gaps, if any, have you observed in the services rendered by these bodies ?

"4.—What lack of co-ordination, if any, have you observed among these bodies, and what steps do you suggest might be taken to facilitate co-ordination between them ?"

The Committee was reminded that a questionnaire at greater length had already been sent to medical officers of health by the same committee.

RECOMMENDATION.—That the Council reply to the Feversham Committee that the Society has little direct contact with voluntary mental health organisations, but that individual medical officers of health would no doubt provide the information required in the replies sent in the questionnaire addressed to local authorities.

138. *Public Health (Drainage of Premises) Bill.* The Central Council for Rivers Protection forwarded a copy of the Public Health (Drainage of Premises) Bill and report of its second reading in the House of Lords and its discussion in the Committee stage.

Dr. John Buchan stated that the provisions of this Bill were of concern to his as well as to other local authorities, and at the request of the Committee agreed to submit a memorandum thereon for the next meeting.

139.—*Medical Curriculum.* The Committee considered a letter dated August 24th, from Sir Francis Fremantle in regard to reform of the medical curriculum. In his letter, Sir Francis said that he had headed a deputation from the Parliamentary Medical Committee to the Lord President of the Council on this subject. His letter continued : "We represented that the G.M.C. were now proposing certain amendments to the medical curriculum : that in our opinion these had been insufficiently considered from the point of view of the national welfare ; that the Medical Act of 1868 was based on the national needs, but that the G.M.C. are entrenched in a position in which they have apparently complete power of deciding the training of the future medical profession ; and that they represent almost entirely the views of academic clinicians. The result is that from the national point of view insufficient attention is paid to the national needs of

training in (a) Preventive Medicine ; (b) Mass Medicine ; (c) Municipal services and social conditions generally. We recognised that any sufficient amendment would require an amending Medical Act revising the constitution of the General Medical Council. It seems to me that Medical Officers of Health should, in their corporate capacity, consider and put forward requirements to this end. With that in view, I would gladly offer a paper to the Society, to open a discussion with a view to definite action."

The President-Elect (Dr. Ernest Ward) was inclined to substitute a discussion to be opened by Sir Francis Fremantle for a discussion previously proposed for February 19th next on "School Epidemics." The Committee supported his view.

RECOMMENDATION.—That Sir Francis Fremantle be asked to open a discussion on this subject on February 19th, 1937.

140.—*Returns of Deaths due to Abortion.* The Committee received a letter dated July 28th from the National Council of Women conveying the following resolution :—

"The National Council of Women urges the Minister of Health to instruct all Medical Officers to issue their returns of deaths connected with child-bearing in the same form as that adopted by the Registrar-General, showing deaths due to abortion, and deaths due to criminal abortion, separately from returns regarding other maternal deaths."

141.—*Facilities for Radiography in Tuberculosis.* The Committee considered a memorandum prepared by the Tuberculosis Group on the above subject.

RECOMMENDATION.—That the Group be thanked for this memorandum and that it be published in PUBLIC HEALTH. (It is hoped to include this memorandum in the November issue.)

142. *Method of Selection for the Presidency.* Dr. Ernest Ward asked the Committee to consider recommending to the Council a uniform method for the selection by the Council of a nominee for the Presidency of the Society. He pointed out that on the occasion of the selection of his own name by the Council, when there were three candidates, discussion had taken place at the meeting itself as to the method of voting which should be employed.

The Committee agreed that in fairness to the candidates a uniform method should be recommended to the Council. It was, therefore, agreed that the method should be one including the principle of eliminative voting, and that an appropriate formula should be drafted for the next meeting of the Committee.

143.—*Lindsey C.C. v. Marshall.* The Committee considered the judgment of the House of Lords confirming the decisions of Mr. Justice Lawrence and the Court of Appeal in awarding Mrs. Marshall £750 damages against the Lindsey C.C. for their negligence in allowing her to contract puerperal fever in the county council maternity home, Cleethorpes. (See report in the "B.M.J.," July 25th, pp. 200 and 201, and August 1st Supplement, pp. 100 and 101.)

It was agreed that some guidance should be given to members of the Society regarding the liabilities of local authorities which might arise from the decision in this case.

Dr. G. F. Buchan stated that he would prepare a memorandum for consideration at the next meeting of the Committee.

144.—*Refresher Courses for M.O.'s H. and Departmental Medical Officers.* Dr. G. F. Buchan said that he had been considering the desirability of the Society organising refresher courses, which would be held each year in large county boroughs or counties, and would be attended only

by medical officers of health or departmental medical officers.

The Committee was of opinion that the Society should take the initiative in organising such courses, and that the experience gained in this direction by the Joint Tuberculosis Council and the Maternity and Child Welfare Group should be studied.

RECOMMENDATION.—That a special Sub-Committee be appointed to report on this proposal, to consist of Drs. Ernest Ward, G. F. Buchan, James Ferguson and Professors W. W. Jameson and R. M. F. Picken, Dr. Wm. Brand (Hon. Secretary for Post-Graduate Courses, Joint Tuberculosis Council) and Dr. Muriel Radford (Hon. Secretary, Maternity and Child Welfare Group).

It was agreed also to recommend that the following resolution received from the Tuberculosis Group be referred for consideration by the sub-committee :—

"In the opinion of this Group it is desirable that Tuberculosis Officers and Medical Superintendents should be afforded facilities for attending the Provincial meetings of the Tuberculosis Association, and that the Ministry of Health should be pressed to agree to the provision of travelling and subsistence allowances."

145.—*Lavatory Accommodation at the Society's House.* Dr. Ernest Ward asked the Committee to consider making an improvement in the lavatory accommodation at the Society's house. Dr. G. F. Buchan pointed out that the matter had been gone into fully a few years ago and had been turned down on the ground of expense. He also reminded the Committee that there were only two and a half years' lease of the house to run, that the provision of better accommodation could only be made by using the room at present occupied by the Secretary of the Central Council for Health Education and that the cost would not be less than £65.

RECOMMENDATION.—That no action be taken on this matter.

146.—*Question as to an Application for Election.* The Executive Secretary reported that one of the applicants for election at the October meeting had at one time been an Assistant M.O. in a county whose appointments were then the subject of Important Notices in the "B.M.J."

A member of the Committee said that he was in a position to make enquiries of the candidate and that he would do so.

147.—*Annual Report of the Council, 1935-36.* The Executive Secretary submitted a draft of the above report, which the Committee approved for submission to the Council with certain minor amendments.

148.—*Initiative by the Committee and the Council.* Dr. Ernest Ward expressed the hope that more opportunity might be taken for discussion by the Committee and the Council of original suggestions for the advancement of public health work.

The Committee endorsed Dr. Ward's suggestion in principle and invited him to submit his proposals at the next meeting.

The Council adopted the recommendations of the Committee with the following amendments :—

To Minute 144—that the special sub-committee should have added to it the name of Dr. A. Joe, and that they have power to co-opt further members.

To Minute 148—the wording so altered as follows :—"Dr. Ernest Ward expressed the hope that more initiative might be shown by the Council and General Purposes Committee in putting forward suggestions for the advancement of public health work."

Capt. Elliston speaking on this Minute suggested that

the position of the school medical service and of the factory medical service were two points on which the Society should take initiative in making suggestions for advancement.

Report of the Journal Committee.—Dr. F. T. H. Wood presented the following report of the Journal Committee :—

Your Journal Committee report as follows :—

1.—*Meetings and Terms of Reference.*

We have held three meetings since our appointment by the Council (see PUBLIC HEALTH, June, p. 327) on June 5th, July 16th and September 4th. Our terms of reference were to consider the future arrangements and to undertake the future control of PUBLIC HEALTH. The members of the Committee are the President (*ex-officio*) Drs. G. F. Buchan, James Fenton, R. M. F. Picken and F. T. H. Wood.

2.—*Election of Chairman.*

Dr. F. T. H. Wood was elected Chairman of the Committee.

3.—*Remuneration of Editor.*

We recommend that the salary of Mr. G. L. C. Elliston as wholtime Executive Secretary, Editor and Advertising Manager be £600 per annum as from October 1st, 1936.

4.—*Responsibility of the Committee and of the Editor.*

We recommend the adoption of the following arrangements for the medical control of the journal :—

(a) All medical material submitted for publication to be subjected to review by the Chairman of the Journal Committee.

(b) Any question as to obtaining medical editorials, annotations or articles to be dealt with by the Chairman.

(c) The responsibility for refusals of contributions to rest with the Journal Committee, and decisions as to any modification or shortening of articles to be made by the Chairman.

(d) Decisions as to inclusion of any particular paper in any particular issue to be made by the Editor, in the light of space requirements and punctuality in getting to press.

5.—*Nature and Contents of PUBLIC HEALTH.*

After discussion of memoranda presented by the President (Dr. Savage) and the Executive Secretary, the Committee agreed :—

(a) That PUBLIC HEALTH should present as complete a record as possible of the activities of the Society, and that its editorial comments and annotations should represent the known views of the Society in regard to public health advances, administration and legislation.

(b) That the value of the journal as a scientific publication would be enhanced by occasional special contributions reviewing current knowledge in various departments of public health work ; and by accounts of epidemiological and field research work, even if such had not been read at meetings of the Society.

(c) That a monthly list of Government circulars and publications dealing with health administration, with short descriptive details, would be a useful feature.

6.—*Printing and Make-up.*

In regard to the printing and general appearance of the journal, we were strongly advised to obtain the expert advice of Mr. C. A. Biggs, of H.M. Stationery Office, who had acted in connection with the new printing contract for the "B.M.J.," and who was willing to give similar services to the Society for a fee of 15 guineas. We considered that it was desirable to put the printing of PUBLIC HEALTH on a contract basis and to invite

tenders from several other firms as well as Messrs. H. R. Grubb, Ltd., the present printers. We also agreed that while it would be preferable to retain the present size of page (Demy Quarto, 11 inches by 8½ inches) it would be as well for future reference to obtain at the same time tenders for printing in an alternative smaller size (Crown Quarto, 9½ inches by 7½ inches).

Mr. Biggs drew out a specification and invitations to tender were sent to ten printers. Eight tenders were received and after consideration of the prices and other factors, we decided to award a three-year contract to Messrs. H. R. Grubb, of Croydon, who have already printed PUBLIC HEALTH for some 20 years and whose tender was the lowest but one in the present instance, i.e., £38 2s. 0d. for an issue of 32 pages and cover, £42 14s. 0d. for 36 pages and cover and £46 5s. 0d. for 40 pages and cover, all printed in the Demy Quarto size.

Mr. Biggs has also advised us on paper, type and layout of the front cover and the editorial pages. Thanks are also due to Dr. Hugh Clegg, Deputy Editor of the "B.M.J.," for valuable advice and assistance.

7.—Contributors for Future Issues.

For the guidance of the Editor, the Committee approved a list of possible contributors on various special subjects, but it is hoped that members of the Society will co-operate by submitting articles and reports which may be of interest to other members and, therefore, suitable for publication in the journal.

Resignation of Dr. T. W. Naylor Barlow.—In connection with the election of members of the Council under Article 19(d), Dr. T. W. Naylor Barlow said that he regretfully decided that he must now withdraw after some 32 years as a member of the Council. On the motion of Dr. G. F. Buchan, seconded by Dr. G. H. Pearce, the Council expressed their regret at Dr. Barlow's decision and their grateful thanks for his long and valuable service to the Society.

Election of Members of the Council for 1936-37.—Under Article 19(d) there were eight nominations for the six places apart from the departmental officers. After a close ballot the following were elected:—Drs. Cyril Banks, J. J. Buchan, James Ferguson, Thomas Orr, T. N. V. Potts, E. H. Snell; and, as Departmental Officers, Drs. Louisa Adam, H. Stanley Banks and H. G. Trayer.

It was reported that Sir Henry Brackenbury and Dr. W. Paterson had been re-nominated by the British Medical Association under Article 19(e).

Under Article 19(f)—"Not more than four persons interested in the advancement of public health"—Sir Francis Fremantle, M.P., Capt. G. S. Elliston, M.P., and Professor W. W. Jameson were re-elected, and the name of Professor R. M. F. Picken was added.

Representation of the Society.—The following were elected as representatives of the Society:—

British Medical Association—Public Health Committee—Drs. G. F. Buchan and James Ferguson.

British Medical Association—Insurance Acts Committee—Dr. G. H. Pearce.

Royal Sanitary Institute and Sanitary Inspectors' Examination Joint Board—Two representatives for three years from January 1st, 1937—Drs. T. W. N. Barlow and R. H. Wilshaw.

Central Council for Health Education, 1936-37—Fourteen representatives. Drs. G. F. Buchan, Ethel Cassie, W. A. Daley, Capt. G. S. Elliston, Dr. James Fenton, Prof. W. W. Jameson, Drs. J. M. Mackintosh, John Macmillan, Lt.-Col. G. S. Parkinson, Drs. Charles Porter, Maitland Radford, W. G. Savage, Ernest Ward and F. T. H. Wood.

Central Association for Mental Welfare, 1936-37—Dr. T. P. Puddicombe.

Central Council for the Care of Cripples—Two representatives for three years from October 1st next. Drs. T. P. Puddicombe and Ernest Ward.

National Smoke Abatement Society, 1936-37—Two representatives. Drs. Cyril Banks and T. W. Naylor Barlow.

8th Annual Conference, National Smoke Abatement Society, Science Museum, Kensington, October 14th-17th, 1936—Drs. Cyril Banks and T. W. Naylor Barlow.

11th International Dairy Congress, Berlin, August 22nd-28th, 1937—Drs. Thomas Orr and W. G. Savage.

No action was taken in connection with the 4th European Mental Hygiene Reunion, Ministry of Health, October 5th-8th, 1936, and the 1st International Conference on Fever Therapy, New York, March 30th-April 2nd, 1937.

Post-Graduate Teaching in Public Health.—The Council considered a reference from the General Meeting of the Society held on May 15th last, when Professors Jameson and Picken opened a discussion on "Post-Graduate Teaching in Public Health," that the points raised in this discussion should be given further consideration by the Society with a view to making recommendations to the General Medical Council.

The Council appointed the following special committee to consider suggestions arising out of the above discussion—Professors W. W. Jameson and R. M. F. Picken, Drs. G. F. Buchan and T. N. V. Potts.

The meeting then adjourned.

HOME COUNTIES BRANCH.

President: (1935-36) Dr. A. W. Forrest; (1936-37) Dr. R. P. Garrow.

Hon. Secretary: (1935-36) Dr. R. P. Garrow; (1936-37) Dr. C. E. Herington, Public Health Department, Becontree Avenue, Dagenham, Essex.

The Annual Meeting of the Home Counties Branch of the Society was held at Society House, 1, Thornhaugh Street, W.C.1, on Friday, July 3rd, 1936, at 5 p.m.

Dr. A. W. Forrest (President), and nine other members were present, and the minutes of the meetings held on March 6th, April 3rd, May 1st and June 5th were read, confirmed and signed.

The following Officers and Representatives for the year 1936-37 were elected:—

President—Dr. R. P. Garrow (M.O.H., Hornsey).
Hon. Treasurer—Dr. K. E. Tapper (M.O.H., Bromley).

Hon. Secretary—Dr. C. E. Herington (M.O.H., Dagenham).

Representatives on Council of Society—Drs. R. P. Garrow, A. W. Forrest and C. E. Herington.

Representatives on Tuberculosis Group Committee and Kent Branch of B.M.A.—It was decided to defer the appointment of these Representatives and to ask for reports on their activities during the year. The present Representatives are:—Tuberculosis Group Committee—Drs. Lorraine, Mayberry and Renwick. Kent Branch B.M.A.—Drs. Brocklehurst and Johns.

It was unanimously resolved to recommend to the Society the following members for Life Membership of the Society:—Dr. C. E. Goddard (late Wembley U.D.C.); Dr. L. W. Dryland (late Kettering R.D.); Dr. A. E. Porter (late Reigate M.B.).

The consideration of a letter from Dr. E. W. Caryl Thomas suggesting that Dr. E. H. T. Nash be recommended for the Presidency of the Society for 1937-38 was deferred.

Letters were also received from the Secretary of the Society:—

(1) As to facilitating the attendance of representatives at the quarterly meeting of the Women Public Health Officers Association.

(2) As to letter from Dr. A. Nicoll on the subject of personnel in a Public Health Department.

The memorandum referred by the Council of the Society on the subject of the appointment of Medical Officers of Health was fully discussed, but no recommendations were adopted for submission to the Council.

THE NORTHERN BRANCH.

President: Dr. A. F. G. Spinks (1935-36). Dr. S. V. Tinsley (1936-37).

Hon. Secretary: Dr. J. A. Charles, Town Hall, Newcastle-on-Tyne.

The Annual Summer Meeting of the Branch was held at the Finchale Abbey Hotel, Durham, on Saturday, July 25th, 1936, and was attended by the President (Dr. A. F. G. Spinks), Drs. James Bannerman, Marion L. Bainbridge, J. L. Burn, C. M. Brown, J. A. Charles, E. F. Dawson-Walker, J. W. Gray, George Hurrell, Mary K. Henegan, Mary E. Howie, R. MacLeod, G. C. M. M'Gonigle, J. A. Neilan, J. W. H. Morrison, A. E. Raine, Dorothea W. Sinton, C. M. Smith and S. V. Tinsley.

It was agreed that the memorandum prepared by Professors Jameson and Picken on methods of appointment of medical officers of health be circulated to the members in time for consideration at a meeting of the Branch to be held early in September, 1936.

Officers and Representatives of the Branch for Session, 1936-37.

On the motion of Dr. Spinks it was unanimously agreed that Dr. S. V. Tinsley be nominated President of the Branch for the Session, 1936-37.

On the motion of Dr. Spinks, seconded by Dr. Tinsley, it was agreed that Dr. James McIntyre be Vice-President for the Session, 1936-37.

Dr. J. A. Charles was re-elected Honorary Secretary and Treasurer.

Dr. G. C. M. M'Gonigle was re-elected as the Branch Representative on the Council of the Society.

Drs. W. H. Dickinson and A. E. Raine were elected

as the direct public health representatives on the Council of the North of England Branch of the British Medical Association.

Drs. Mary E. Howie and E. F. Dawson-Walker were re-elected as representatives on the Executive Committee of the Newcastle-upon-Tyne Division of the British Medical Association.

It was decided to invite the North of England Branch of the British Medical Association to elect a general practitioner representative to serve on the Northern Branch Council of the Society of Medical Officers of Health. The Honorary Secretary was instructed to express to the North of England Branch of the Association the warm appreciation of the Northern Branch of the Society of the services of Dr. James Hudson during the past session.

MINISTRY OF HEALTH PUBLICATIONS.

The subjoined notes regarding recent Ministry of Health circulars, memoranda and reports are made available by courtesy of the Ministry. Readers are reminded that priced documents should be obtained not from the Ministry but from H.M. Stationery Office, Adastral House, Kingsway, W.C.2, who will open deposit accounts and receive subscriptions for the regular supply of publications of a specialised nature. Documents which are not priced in the following list are not obtainable from the Stationery Office, and if any reader wishes for a copy of one of these, it is open to him to apply to the Ministry direct.

Circular 1557 (encloses Forms H. 275a and H. 275b).—**Costing Returns—Public Cleansing.** Requests Clerks to certain Local Authorities to furnish particulars in connection with the collection and disposal of refuse and street cleansing in respect of the year ended March 31st, 1936.

Circular 1559 (encloses Forms R, R. 1, R. 2, R. 3).—**Housing Act, 1935.** Encloses forms R., R. 1, R. 2, and R. 3 requesting local authorities to furnish certain information as to the rents charged for houses belonging to them and for houses subject to control under the Rent Restrictions Acts.

Circular 1,560. Price 1d. net. By post, 1½d. (Encloses S.R. and O. of 1936, No. 665.) Price 3d. net. By post, 3½d. **Housing Act, 1935.** Transmits to Housing Authorities a copy of the Order fixing the appointed day under Sections 3, 4, 8 and 68 of the Housing Act, 1935, for certain districts.

Circular 1562.—Vagrant Children. Forwards to Councils and Joint Vagrancy Committees copies of a Circular issued by the Home Office concerning the problem of dealing with vagrant children of school age.

Memo. T. & C.P. 10.—Town and Country Planning. Memorandum on the Restriction of Ribbon Development Act, 1935.

Cmd. 5238.—Public Health Bill. Explanatory memorandum by the Minister of Health.

Report. Price 8s. net.—**Housing Act, 1935.** Report on the Overcrowding Survey in England and Wales, 1936.

THE Eleventh World's Dairy Congress is to be held in Berlin on August 22nd to 28th, 1937. Information of the Congress can be obtained from the Secretary, British Dairy Farmers' Association, 28, Russell Square, W.C.1.

Book Reviews

The Subnormal Mind. By CYRIL BURT, M.A., D.Sc. (OXON.), Professor of Psychology, University of London. London: Humphrey Milford, Oxford University Press. pp. 368. Price 10s. 6d. net.

The chapters that make up this volume consist of the third series of lectures given under the terms of Mr. Charles Heath Clark's bequest to the University of London. Certain portions have been slightly expanded and the whole has been revised for publication. The particular subjects discussed in the lectures comprise a group of connected problems in social and psychological medicine—the problems of the subnormal mind. In the invitation extended to him, Professor Burt was asked to deal with that particular branch in which his own work has chiefly lain, namely, the diagnosis and treatment of school children who are mentally subnormal, this being a sphere of work which has lately become of growing importance to teachers, medical officers, educational administrators, and all who are concerned for the future welfare of the community. In the lectures Professor Burt dealt most helpfully with this important matter, and in the volume considerable prominence is given to the mentally deficient and the dull or backward. It is unnecessary to claim for the book that it is admirably written or to recommend it to members of the health service whether or not they heard the lectures delivered.

Johannes de Mirfeld. By SIR PERCIVAL HORTON-SMITH HARTLEY, C.V.O., M.A., M.D., F.R.C.P., Consulting Physician to St. Bartholomew's Hospital, etc.; and HAROLD RICHARD ALDRIDGE, M.A., Assistant Keeper, Department of Manuscripts, British Museum. London: Cambridge University Press. 1936. pp. 191. Price 15s. net.

This work, dealing with the first writings of a medical nature known to be associated with an English hospital, will be welcomed by all interested in the historical side of medicine and more particularly by those connected with St. Bartholomew's Hospital. A great deal of careful research must have been involved. The first part of the book deals with the life of Johannes de Mirfeld; the second contains translations of sections of the *Breviarium Bartholomei*, a lengthy and purely medical work; while the medical chapter of the *Florarium Bartholomei* constitutes the third. Johannes de Mirfeld had no medical training, but there appears to be no doubt that he dwelt in the Priory of St. Bartholomew and was associated with the hospital sufficiently closely to lead him to compile a volume on medicine. Sir Percival Hartley and Mr. Aldridge have established that his writings contain nothing original but may be taken—and herein lie the chief interest and importance of the book—as giving a fairly accurate picture of medical knowledge and practice as they existed at the end of the fourteenth century. The sections translated in this volume have been well chosen and are worthy of attention, for however elementary much of what is presented may seem, they were the genuinely accepted medical doctrines on which practice in St. Bartholomew's and other hospitals was based some 500 years ago.

The Minor Medicine of General Practice. By L. V. SNOWMAN, M.A., M.B. (CAMB.), M.R.C.P. (LOND.), Physician, Eastern Dispensary; Assistant Pædiatrist, Jewish Maternity Hospital. London: John Bale, Sons & Danielsson, Ltd. 1936. pp. 104. Price 2s. 6d. net.

The statement is frequently made that the medical practitioner newly qualified, though well fitted to deal with the rarer and more important diseases, is likely to be at a loss when he encounters conditions more minor in nature. The object of the author of this booklet was to offer assistance in this latter connection, and he has suggested, therefore, as to what may be done about the common cold, headache, minor skin disorders, about diet and what he describes as the "minor fevers." The book should prove useful and that not only to the young practitioner.

Hints to Probationer Nurses in Mental Hospitals. By RICHARD EAGER, O.B.E., M.D. (ABERD.), Medical Superintendent, Devon Mental Hospital; Examiner in Mental Nursing to the General Nursing Council. London: H. K. Lewis & Co., Ltd. 1936. pp. 222. Price 8s. 6d. net.

When this book first appeared in a form described as a "pocket book," words of praise for it were found in this journal. There were others apparently who recognised its value also. Further editions were called for and, responding to the call, the author took the opportunity of revising and adding to the contents, until now—in its third edition—the volume is no longer a pocket book merely but a handbook. Ultimately no doubt it will become a text-book. In whatever form it appears, however, it will retain the features that made for excellence in the beginning and that earned commendation from reviewers and appreciation from readers.

EXPLOITATION OF THE DEAF.—From the number of advertisements with regard to aids to hearing it is very obvious that the market for such appliances and the profits to be made from their sale must be very large. That some of them may be of use may be the case, and that some may be worth the charge made for them is possible. To distinguish the useful from those that, in addition to being useless, may be harmful is no easy matter, and the National Institute for the Deaf, whose work for the protection of the unfortunate victims of deafness is so notable, have issued a special booklet on the subject. The title of this brochure is "Exploitation of the Deaf in the Sale of Aids to Hearing," and it is the second of the publications of the Institute specially designed for the information of the deaf. It may be obtained from the headquarters of the Institute, 105, Gower Street, London, W.C.1, price 3d.

Index to PUBLIC HEALTH.—The Index to Vol. XLIX of *Public Health* is now being prepared, and will be circulated to every member of the Society with the November issue of the journal. In former years it has only been sent in reply to individual requests, but it is hoped that with its general circulation members will retain their journals for binding, which can be done through the Executive Secretary.

PUBLIC HEALTH

THE JOURNAL OF

THE SOCIETY OF MEDICAL OFFICERS OF HEALTH

No. 2. Vol. L.

NOVEMBER, 1936

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

"Public Health" is the Official Organ of the Society of Medical Officers of Health and a suitable medium for the advertisement of official appointments vacant in the health service. Space is also available for a certain number of approved commercial advertisements. Application should be made to the Executive Secretary of the Society, at 1, Thornhaugh Street, Russell Square, London, W.C.1.

Contents

Editorial

	PAGE
The President's Address	31
The Organisation of Public Health Services	32
The Assessment of Fitness	32
The Clinical Features of Variola Minor	33
Prevention of Blindness	34
Rural Housing	35
A Film on Nutrition	35

Obituary

Sir G. S. Buchanan, C.B., M.D., F.R.C.P.	36
H. J. Fausset, M.D., M.C.H., L.M.	36

Special Articles

<i>Tuberculosis: Presidential Address.</i> By Ernest Ward, M.A., M.D., F.R.C.S.	37
<i>Centralisation of Radium Therapy over an Extensive Area.</i> By Ralston Paterson, M.D., F.R.C.S., D.M.R.E.	41
<i>The Organisation of Public Health Services in Wales.</i> By R. M. F. Picken, M.B., B.Sc., D.P.H.	49

Papers and Discussions in Brief or Abstract

<i>Radiology in Obstetrics</i>	52
<i>Facilities for Radiography in Tuberculosis</i>	54
<i>The Midwives Act, 1936, and its Operation</i>	55

Society of Medical Officers of Health

<i>Annual Report of the Council, 1935-36</i>	57
<i>Report of the Hon. Editor, 1935-36</i>	59
<i>Report of the Auditor</i>	59
<i>Balance Sheet and Revenue Account, 1935-36</i>	60
<i>Report of the Hon. Treasurer, 1935-36</i>	62
<i>Branch and Group Meetings</i>	62

Book Reviews

<i>A Synopsis of Hygiene</i>	66
<i>Alcohol in Hospital Practice</i>	66
<i>"Peeps" on the Nursing Trail</i>	66
<i>A First Course of Human Physiology</i>	66
<i>Be Fit as a Fiddle</i>	66

Editorial

The President's Address

This year the Society have as their President Dr. Ernest Ward, Tuberculosis Officer for many years for South Devon. His election marks the first time a "Departmental Officer" has held this office. We believe the choice is both wise and timely: wise because of Dr. Ward's long and able work for the Society generally and his own section in particular; and timely because the many departmental officers in the Society warranted a choice from their ranks.

Dr. Ward's Presidential Address, "Tuberculosis," is, as we would expect, lively and courageous. Rugged, too, in parts, where his native Yorkshire millstone grit peeps out, helped here and there with a dash of rich Devonshire cream. Knowing his adventurous career and his flair for affairs, we are not disappointed to find some wisdom also, especially in those parts dealing with milk, contacts, and secret remedies. It is good to find the whole address has a bias towards prevention. There are always two major difficulties in regard to the prevention of tuberculosis: to see the problem whole and to get the public to believe what wise doctors tell them. While the faults are not all on the side of the public authorities, if their representatives believed proved facts about milk, then farmers would be dealt with like other persons who do not sell "safe" articles of food.

We like especially that part of the address dealing with contacts. Get hold of the adult contacts, for some of them will be adult positive cases spreading uncontrolled infection. We shall eliminate tuberculosis the sooner if we use our major endeavours to find, isolate, educate, and treat the adult positive case. Dr. Ward's remarks regarding major and minor surgical treatment of individuals repay careful reading. For pulmonary tuberculosis our methods of diagnosis have improved. The new surgical methods of treatment are tried and with success on individuals, but it still remains a fact—and this fact emphasises the importance of prevention—that of definite pulmonary adult cases coming on to a tuberculosis register in any one of recent years, some 60 per cent. will die from tuberculosis within five years.

Dr. Ward has included an original sociological survey in his address on an attempt to check, through the public health service, claims by patients who at one time believed themselves cured or materially relieved by a patent remedy. It is not, of course, a watertight statistical enquiry, but the facts which have been elicited, not without a great deal of work, will, we are sure, be of great interest to all who read them.

The Organisation of Public Health Services

There are those who accept unquestioned the social institutions of our times, not reasonably nor with known motive, but because others do, and perhaps they know. There are those, like Professor Picken, who assess things in the light of reason and offer guidance to the majority. His paper which appears in this issue of PUBLIC HEALTH (p.49) reveals this insight and shows the trend of future government. He points out that it has long been thought that the sparsely populated rural counties of Wales could not, owing to financial difficulty, provide adequate health services, and statistical indices confirm this opinion. Had the suggested remedy, a Welsh Board of Health, been appointed with executive function acting through joint committees the assembled picture might well have been in better perspective.

Revision of boundaries of local authorities anticipated on the operation of the Local Government Act, 1929, has been too trivial to make any radical improvement in the areas of local government. Many instances of wasteful refusal to co-operate are still very evident in even a superficial study of the problem, and further reform is hoped for and urged. That the recent Local Government Acts should be regarded as an introduction not a consummation is earnestly desired by many in company with Professor Picken. The suggestion for re-examination of areas in Wales is not so radical as to imperil existing practice and by directing attention to the subject makes one apprehensive that possibly all is not arranged for the best in parts of this country.

The Council of the Society in their memorandum on local government areas* expressed the firm opinion that the ideal area of administration so far as the fundamental public health services are concerned is one including a population of 75,000 to 100,000 and governed by an authority possessing the powers and responsibilities of a county borough. Many of the smaller counties could be administered by the county council, or some equivalent body, as a county borough with full county borough powers; the dissolution of rural and urban

districts would by unification of administration leave the only form of control which has by experience been found to be satisfactory. The larger counties might with advantage be divided and by judicious amalgamation with neighbouring towns result in two or three self-contained economic areas for purposes of local government. The smaller county boroughs, many of great antiquity, could by this means retain their traditional name, offer ideal units for local health services and as far as possible minimise the number of local government areas in England and Wales. The necessity for such adjustments between counties and county boroughs is well recognised, yet the desire of a county borough to extend its boundaries is almost invariably a matter of dispute between the two councils.

It is not to the credit of anyone that all boroughs and districts are governed by at least two authorities for the purpose of public health, but it is regrettably the outcome of legislation passed at different times to meet immediate needs. The county districts in the embryonic days of health development served an indispensable function, but now the time is here and the statutory authority available for their integration with more suitable bodies. That the projected homologous units must combine for the provision of certain institutional services such as sanatoria or mental hospitals is realised, yet these circumstances should not be allowed to militate against the theme of reform. The authoritative opinion of the country is with Professor Picken in his endeavour to create a system of complete and all-embracing units of local administration with equivalent powers and responsibilities.

The Assessment of Fitness

What is fitness and how may it be assessed? The term as ordinarily used implies an ability to carry out the tasks of life, mental and muscular, with the ease of accomplishment displayed by the ordinary person. The terms "fit" and "unfit" are used loosely because of the difficulties of assessment, due largely to the absence of generally recognised standards of fitness. Fitness should be distinguished from a state of health. Poor health may cause loss of fitness but a low degree of fitness is not necessarily accompanied by poor health. One may in some measure be dependent upon the other but the mere absence of signs of organic disease of any of the systems does not prove fitness. It has also to be remembered that there is a potential fitness which may not become actual because of the failure of the person to make proper use of the bodily functions. Fitness, in fact, while it depends on good nutrition, must be maintained by practice.

Fitness cannot be adequately assessed by the

methods of the ordinary clinical examination. It is measurable, however, by the degree of anatomical development, the amount of functional ability and the relation between these two sets of measurements, for normal functional ability is not always consequent upon normal anatomical proportions. It is found by trial that different individuals yield different ranges of anatomical and physiological measurements and there, therefore, arises the problem of finding how much of the range above and below the average should be regarded as being within the limits of normality. The late Professor G. Dreyer attempted to solve the difficulty by grading the general population into three classes corresponding to their occupations, realising as he did that habit and occupation influence fitness, and by taking a 15 per cent. or more deviation below the normal as a sign of the presence of a health-depressing factor.

In recent years, a considerable amount of work has been done by school medical officers in this connection and Dr. H. E. Magee, of the Ministry of Health, has taken a stimulating interest in the work because of its association with his own work on nutrition. One of the most recent publications that has come under our notice is included in the Report of the School Medical Officer for Manchester for 1935, and is contributed by two of the Staff, Dr. J. G. Woolham and Dr. L. W. Sparrow. This is a record of the fitness assessment of schoolboys from four different types of schools, a public school, a secondary school, an elementary school and a day open air school, and is based on the results of measurements and tests, including Air Force tests, which are plotted out on a special graph so as to show the grades of fitness into which the boys fall. There are some striking differences to be noted between the ranges over the scale of the assessment of the different types of boys. Besides the breathing tests and the anatomical measurements, from which were calculated the Dreyer and Flack-Woolham indices, tests of muscular power and endurance were also carried out with a spring dynamometer, and in addition hæmoglobin percentages were measured by the Rieker-Dare Hæmoglobinometer. The authors are convinced that only by the application of a number of tests is it possible to reach any adequate assessment of the fitness of an individual child.

The question arises, how far such methods may be applied more widely in the examination of school children. Much more experimental work will, of course, require to be carried out before such extension could be justified, but it is interesting to note that the anatomical and physiological tests referred to in this article are being utilised in Manchester along with results of clinical examination for the selection of children for a day

open-air school and for their subsequent examination.

The Clinical Features of Variola Minor

A recent report* by Dr. J. Pickford Marsden examined the characteristics of some 13,686 cases of variola minor, which had been under his observation in the London smallpox hospitals between 1928 and 1934. It has rarely been the good fortune, as Sir Frederick Menzies points out in a foreword, of any individual to have under his personal care such a large number of cases, and it is clear that Dr. Marsden's critical review of the patients in this series, recorded as they are on a uniform basis, constitutes a document of much public health value.

The author adopted the classification introduced by Ricketts, in which of six groups recognised, the last comprises cases of discrete smallpox with not more than 100 pocks on the face, although he suggested that the addition of one of the terms "natural" or "modified" is now a necessity; he found that 87 per cent. of the cases in his series fell into the sixth group. The author maintains that the end-results of the action of any of the factors which produce modification are indistinguishable in the individual patient, and that, for example, variola major in a vaccinated subject may be indistinguishable from variola minor; such distinction is to be made only by epidemiological study of the course of the outbreak.

In the series, 34 patients died (0.25 per cent. of those treated), although smallpox was considered to be merely a remote contributory factor in the deaths of 15 of those patients who succumbed to intercurrent disease.

The protean nature of the initial symptoms of smallpox is illustrated by a long list of provisional diagnoses which had led to the previous admission of certain patients to general hospitals, although it was found that the commonest pre-eruptive diagnosis was influenza. The duration of the pre-eruptive period is considered important because of suggestions which had been made elsewhere, that herein lies a major point of clinical distinction between variola minor and major; Dr. Marsden's figures, however, lend no support to the suggestion of a lengthening of the pre-eruptive period, and in more than one-half of the cases considered the outcrop occurred on either the third or the fourth day of illness. Such eruption was generally vesicular on the third day from the appearance of

*A Critical Review of the Clinical Features of 13,686 cases of Smallpox (Variola Minor) by J. Pickford Marsden, M.A., M.D., D.P.H., Deputy Medical Superintendent, River Hospitals (London County Council). P. S. King & Son, Ltd., 14, Great Smith Street, London, S.W.1. Price 6d.

* PUBLIC HEALTH, October, 1932, p. 28.

the first papules: the vesicular stage was short-lived, often extremely so, only exceptionally was it noticed to exceed twenty-four hours, and under such conditions it was not difficult for this stage entirely to evade detection. By the fourth day of efflorescence, speaking generally, pustulation was apparent; the rash attained its height on the fifth or sixth day; and early crusting was established on the sixth or seventh day of the life of the lesion.

The outcrop, as in variola major, presented a contrast as to age and state of evolution between lesions on the upper and on the lower parts of the body, particularly between those on the face, often the site of the first lesions to appear, and those on the legs, almost constantly the last part of the body to be affected by the focal rash.

Ricketts' teaching on the matter of the distribution of the rash, as was to be expected, proved invaluable as a basis for diagnosis for the features of the distribution of the focal eruption in the cases under consideration were the features of the focal rash of smallpox as described by him; wide variation was encountered in the severity and in the extent of the modification of the components of the rashes, yet the general pattern of arrangement was the same in all.

The review includes an examination of the vaccinal condition of the cases and Dr. Marsden remarks that the immunity from vaccinia and from a second attack of smallpox, which is a result of an attack of variola major, is known to be almost permanent; the absolute protection from variola major to be acquired through vaccination is, in many cases, of a very temporary nature. Whether the strength of the immunity derived from an attack of variola minor is, as appears likely, intermediate between these two cannot at present be determined for lack of evidence, which may, however, be forthcoming at some future occasion.

It has been asserted by some that, in the case of variola minor, the protection afforded by vaccinia is "not so definite as in ordinary smallpox." Experience gained from the cases under review has not substantiated this. Among the total of 13,686 patients, only seven showed evidence of vaccination performed within the previous ten years; and, furthermore, no member of the staff of the smallpox hospitals contracted the disease. Moreover, no support was forthcoming for the assertion that it is possible to vaccinate successfully some sufferers from variola minor in convalescence, an event which should cast the gravest doubt on the accuracy of the original diagnosis.

The report concludes with the opinion that in the light of this knowledge concerning the comparatively rapid development of immunity against vaccinia after the onset of smallpox, the use of vaccination as a diagnostic measure to confirm

an opinion already formed on general clinical grounds was found in practice to be of very considerable value and reliability. In a similar category of usefulness may be placed the vaccinia-variola flocculation test carried out by experienced workers on the technique elaborated by Craigie and Tulloch (1931); but, as far as the present series of cases is concerned, no other laboratory method of diagnosis succeeded in establishing itself on a similar footing.

Prevention of Blindness

The Report on the Prevention of Blindness, prepared by the Standing Committee on the Prevention of Blindness of the Union of Counties Associations for the Blind,* should be read by all who are concerned with the administration of the Blind Persons Act. It may be regarded as a sequel to the reports issued in 1932 and 1933 dealing with the certification of blindness and with hereditary blindness respectively. The aim of the committee has been to prepare a report which presents a comprehensive review of existing knowledge and practice in relation to the prevention of blindness from the medical, administrative and social points of view. This they have succeeded in doing, and it should be known that a member of the Society, the late Dr. G. W. N. Joseph, took a leading part in the preparation of the report.

The report covers a very wide field. The first chapter includes an historical survey of work undertaken for the prevention of blindness for the last sixty years, points out the difficulty of obtaining reliable statistics from the existing records, and makes recommendations for improved methods of record keeping and for the compilation of statistics that will assist research. The second chapter treats of the eye in health and disease, and is designed to give, in easily comprehensible terms, a brief description of the several parts of the visual apparatus, the diseases of and injuries to which may lead to loss of sight. The third chapter contains a detailed description of such measures as exist to safeguard the eyesight from infancy to old age, special emphasis being laid upon the precautions which should be taken to prevent the occurrence of ophthalmia neonatorum, and the hospital facilities which to-day exist for the treatment of the disease if prevention fails. The facilities provided by local authorities for the ascertainment and treatment of eye disease in infants and young children are reviewed, and attention is drawn to the lack of organised medical supervision after the school leaving age. The

*Price 2s. 6d. post free, from the Secretary, Prevention of Blindness Committee, 66, Victoria Street, London, S.W.1.

fourth chapter is devoted to a study of occupational disease and accidents which occur in industrial processes. It includes a description of the processes in which accidents to the eyes are most liable to occur, and indicates the measures which should be taken to prevent them and the facilities for their prompt treatment if they should occur. Finally, in chapter V, there is a complete list of the recommendations contained in the report, an arrangement that further tends to increase the usefulness of a very valuable and interesting document.

Rural Housing*

With a thoroughness worthy of all praise, Dr. James M. Mackintosh (County Medical Officer, Northamptonshire) has prepared a special report to his Council embodying the results of his personal investigation of the housing conditions in the rural districts and villages of Northamptonshire. With assistance, the work occupied the whole of the winter of 1935-36, and extended over 29,200 houses distributed in 254 villages. Distinction is made between the 71 "close" villages where there is no bad property and the other 183 "open" villages with a population of 82,000. The "close" village, it may be explained, is one where tenancy is limited to employees on an estate so that "outsiders" are obliged to seek accommodation in an "open" village elsewhere, where very different conditions obtain, in fact, 5,175 houses in this group have been marked as unfit. That the proportion should be so large is more readily understood when one reads Dr. Mackintosh's historical survey of the housing problem. From the beginning of last century provision of housing accommodation in rural districts began to fail to keep pace with the demand. The fear of poor persons settling in, and becoming chargeable to, the parish led to the establishment of "close" villages and the demolition of "unwanted" cottages. Enclosure of commons and engrossment of farms drove the small man off the land into the "open" village where he and his family were at the mercy of any landlord who had four walls and a roof to offer them. Then followed the period of overcrowding (1890-1918) when, quoting from contemporary annual reports, these conditions were casually referred to but no effective steps were taken to mitigate them. These accumulated arrears now present a gigantic problem to be tackled by the local authorities who have had heroic measures of housing reform thrust upon them.

The thorny question of what constitutes an unfit house, is discussed in ample terms and with a

* Report on Rural Housing to the Northamptonshire County Council dated June, 1936, by James M. Mackintosh, C.M.O.H. pp. 125 quarto, with Index.

wealth of illustrative examples, for Dr. Mackintosh is well aware of the dilemma set by the country cottage which is at once "the delight of the artist and the despair of the sanitary inspector." Equally helpful are his specimen arguments with "the devil's advocate" in pleading for the retention of old decayed dwellings as "a cheap home for an aged couple" or "a temporary dwelling for a newly married couple." He has a fitting answer for each of these plausible pleas as well as for the piece-meal cross-examination that tries to whittle down the cumulative result of multiple defects by showing that each item is remediable in itself—as if that were all! On the other hand he is not an out and out advocate for the indiscriminate use of Section 19, which he rightly says may be used as a cloak for bad reconditioning and so has a tendency to perpetuate the evils that ought to be remedied. The application of the Housing (Rural Workers) Act, 1926, is perhaps rather scantily dealt with, but taken in conjunction with subsequent cognate Acts the report clearly indicates to what good use the procedure there set out may be put in order to provide sound, country cottages letting at a rent proportionate to the income of the rural worker. The vigorous action of the Devon County Council in this matter is quoted as an example that may well be followed elsewhere.

Not the least valuable part of the report is the outline of policy for the future with its series of suggestions for design, comfort and convenience and care of the property afterwards. Here Dr. Mackintosh has summed up and put into practical form the results of wide experience and careful consideration of this very difficult problem, to which he adds the personal factor of sound judgment. For this reason, the report deserves to rank as a text-book on rural housing, for it makes a direct appeal to a much wider circle of readers than that indicated by its dedication to the Chairman and Members of the County Council.

A Film on Nutrition

Two members of the Society, Drs. G. C. M. M'Gonigle of Stockton and Vynne Borland of Bethnal Green, make creditable screen debuts in a film on the subject of nutrition which has been shown recently to interested London audiences, and which is to be available for showing throughout the country. That our members were in distinguished company can be gathered from the names of others who appear in the film—Mr. Julian Huxley (who gives an excellent running commentary), Sir F. Gowland Hopkins, Sir John Boyd Orr, Mr. Herbert Morrison, M.P., L.C.C., and Lord Astor, chairman of the League of Nations Committee on this subject.

The film is unobtrusively sponsored by the

Gas Light and Coke Company, whose name appears only in an introductory note, and reflects great credit on its producers as a fair and unbiased documentation of present knowledge regarding the national nutrition. The statistical part of the film is based on the figures estimated in Sir John Orr's *Food, Health and Income*, the instruction given as to the balancing of diets is well done and the moral, with which few would disagree, is the desirability of a policy which will make it possible for the poorest housewife to give her family an adequate supply of fresh vegetable and dairy produce, *i.e.*, of the "protective" foods.

Obituary

SIR GEORGE SEATON BUCHANAN, C.B., M.D., F.R.C.P.

The name of Sir George Buchanan, whose death on October 11th has been widely mourned, will be chiefly and honourably associated with the development during the last twenty-five years of international co-operation in matters of hygiene and epidemiology, and its growth into an effective and invaluable system. His international work and his earlier contributions to public health knowledge at home may be ascribed by some to hereditary influence, for he was the eminent son of an eminent father, the Sir George Buchanan who was principal medical officer of the Local Government Board from 1880-92 and who held office as President of our Society from 1875-77. Another great man in public health, Sir Shirley Murphy, was his uncle.

George Seaton Buchanan was born in 1869, graduated M.B., London, with a gold medal in forensic medicine in 1891, and became M.D. in 1893. After service as assistant medical officer in the M.A.B. smallpox hospital ships he was appointed, in 1895, a medical inspector of the Local Government Board, in which post he continued for the next five years, gaining experience in many branches of public health activity. His appointment under the Board began a career in the departmental service during which he rose to become a senior medical officer of the Ministry of Health, whence he retired only in 1934 upon reaching the age-limit. He was knighted in 1922 and elected F.R.C.P. in 1925, and received many other distinctions from learned societies.

It was Buchanan's earlier departmental work on foods which led up to his interest in international sanitary arrangements and to his appointment as British Government delegate to the International Health Office in Paris in 1914. His investigations into the Clacton typhoid conveyed by oysters (1898) and the Lancashire epidemic of arsenical poisoning

from beer (1900) aroused much attention and he was promoted chief inspector of foods. While in this position he brought about, with the co-operation of port sanitary authorities, a system for inspecting imported foods, and was largely concerned with the Brussels Convention, the forerunner of the International Sanitary Convention of 1926, for preventing the spread of various infections. During the war he served with the honorary rank of Lieut.-Colonel on the Army Sanitary Committee and on various advisory committees.

The war over, he became a senior medical officer in the newly-established Ministry of Health, in charge of the medical intelligence section. He returned to his connection with the International Health Office and became a foundation-member of the health organisation of the League of Nations, of which he later became vice-president. Thenceforward he was in great demand as a member of international commissions on health matters. Sir George, in the 1934 Milroy Lectures which he delivered to the Royal College of Physicians, himself gave convincing exposition of the advantages gained by co-operation between various countries in public health matters and of the very efficient machinery by which these were attained. No one had in fact been more instrumental in building up the international organisations or had devoted more hard work to their achievements.

This Society itself came into a happy contact with one of Sir George Buchanan's later activities. In 1934 he became Master of the Society of Apothecaries, and the only reception at which he presided at Apothecaries' Hall, owing to the breakdown in his health which occurred soon after, was that to the Society of Medical Officers of Health on Friday, November 23rd, 1934. All who were fortunate enough to receive the hospitality of the Society of Apothecaries during that delightful evening will remember the charming welcome which Sir George accorded them and the evident pleasure which the occasion gave him.

HERBERT JOHN FAUSSET, M.D., M.CH., DUB.,
L.M., ROT.

In the death, on October 10th, of Dr. H. J. Fausset, formerly M.O.H. of Tamworth M.B. and R.D., the Society has lost one of its oldest members, for his name appears on the List for the session 1885-6 and he was apparently elected even before then. He was 90 years of age. Dr. Fausset was a graduate of Trinity College, Dublin, where he qualified M.B., M.Ch., in 1868. He later settled at Tamworth, Staffs, and was part-time Medical Officer of Health for Tamworth Borough and Rural District for 50 years until his retirement in 1926.

Tuberculosis

By ERNEST WARD, M.A., M.D., CANTAB., F.R.C.S., ENG., L.R.C.P.

Tuberculosis Officer, Devon County Council.

Presidential Address to the Society of Medical Officers of Health, October 30th, 1936.

The title of this presidential address was chosen because tuberculosis is the only public health subject of which your President can pretend to possess any real knowledge, and the title will also enable him to include any and every reflection arising from 23 years' experience of the prevention and treatment of tuberculosis. Moreover, it may permit an attempt to answer the charge that, whereas movement in one direction or another is always taking place in the public health service generally, tuberculosis work alone remains static. It is my impression that we are not more static than other branches of the service, but I am ready to admit that we are far too static. The schemes of 1887 or 1897 still provide the models for to-day, and it is high time to review our achievements in the light of experience and to make such changes as may be indicated.

In a sense, it is an advantage that we are a departmental service, for we can always blame our administrative chief, the Medical Officer of Health, for any lack of success; but he in turn depends upon us for ideas, so with us must truly rest the blame or praise for the somewhat tardy triumphs of the tuberculosis campaign, and it is unfair to quote individual instances where Tuberculosis Officers may have been hampered or discouraged by undue centralisation or excessive supervision.

Prevention of Infection from Cattle

The smaller preventive problem is the prevention of tuberculosis of bovine origin; 2,000 to 2,500 persons die annually from this form of tuberculosis and perhaps double that number are crippled or made seriously ill. The solution is easy but there are serious difficulties in the way. Pending the detuberculisisation of our dairy herds this form of disease can be prevented by pasteurisation of the milk before delivery, or, where that is impossible, boiling the milk before use. Incidentally, these steps would also prevent abortus infection and the numerous epidemics (100 since 1903) traceable to milk. We are hampered by the well-meant efforts of the Board of Agriculture to increase the consumption of milk and the public is bemused by the words "clean" and "pure," whereas what we all desire is *safe* milk. A statement made authoritatively that tuberculosis is diminishing because more milk is now consumed has not been helpful. We should all of us con-

stantly and consistently advocate *safe* milk; the alleged disadvantages of sterilised milk, fathered I suspect by agricultural interests, should not create serious opposition. There is no real conflict of interests; once we are sure the milk is safe most of us would do our best to increase its consumption.

The Prevention of Tuberculosis of Human Origin

This presents far greater, if not insuperable, difficulties. A statistical investigation by the London County Council disclosed that some 15 per cent. of cases of tuberculosis had been in contact with a known source of infection; somewhat similar figures from Dr. Peter Edwards give 25 per cent. It might be urged that as high a percentage of the exposed as the unexposed derived their infection from unknown sources, an unfair deduction no doubt, yet it may justly be concluded that only some 10 per cent. of our patients are infected from a known source and 90 per cent. from *unknown sources*. It is difficult completely to prevent smallpox and diphtheria even with the aid of preventive inoculation, and in those diseases the great majority of cases are infected from known sources. The instances are not strictly parallel, for the incubation period is so different, and the number of immunes among the population at risk is less in the case of the acute diseases, but some comparison is reasonable. Now it is possible to increase our knowledge of sources of tuberculous infection in various ways. If it is not already too late, and I do not think it is, we might enlist the aid of the General Practitioner and ask him to draw our attention to a larger number of coughing or debilitated individuals in order that we might exclude, by radiography, an infective tuberculosis.

Another line of approach is through the investigation of contacts. Since the adoption of the dispensary system attention has mainly been concentrated on the children of the affected household. They are the most accessible, they provide the easiest figures and we have been obsessed too much with the idea that tuberculosis begins in childhood and that, therefore, the more meticulously we search the children and the more elaborate becomes our technique in that regard, the more possible victims we shall save by appropriate treatment. I do not think that such efforts

necessarily prevent the development of tuberculosis even in those children some ten to twenty years later, and they have certainly no influence whatever on the more certain prevention of disease by the discovery of sources of infection. Children need not be neglected; those to whom attention is drawn by parents, teachers or school medical officers can be investigated and dealt with at preventoriums or by other suitable measures, but the attention of all Tuberculosis Officers should be concentrated on the adults and adolescents of tuberculous households. The chief means of investigation of these should be by radiography; it is hard enough to secure this, and radiography plus a complete examination presents almost insurmountable difficulties. Some 40 per cent. of the adult and adolescent contacts will, I believe, submit to radiography, but only 10 per cent. to the fuller investigation. Too much pressure to undergo investigation will make it more difficult to maintain observation both upon the household concerned and upon other households in the vicinity. In this, as so often, best is the enemy of good.

If a contact complains of nothing and the skiagram is negative he may be declared, for the moment, free from tuberculosis. It does not, of course, follow that that person will always be free from tuberculosis, and this brings us to the knotty problem of re-examination. It is quite impossible to radiograph the adult contact population every three months, every six months, or even annually, but it would be a great advance to secure the radiographic examination of the majority of adult contacts on one occasion, then to await a further examination until for some reason, however trivial, ill-health is suspected. It must be remembered that the sources of infection so disclosed are only discovered after infection has been already spread by them. Such steps as are here advocated are admittedly imperfect, they would not suddenly eliminate tuberculosis, but they would be a much more definite advance in that direction than has yet been attempted, and if such measures were consistently and universally followed the results would, I believe, be noteworthy. I am dwelling on prevention because it appears to me that prevention is infinitely more important than treatment and will be found easier to attain. Comparatively little can be done by attempting to prevent the development of disease in possibly infected *individuals*, much may be done by controlling sources of infection.

The ideal preventive measure which we all would welcome is preventive inoculation, but is this possible? Treatment and prevention by tuberculin injections in one form or another has been intermittently advocated and practised

for fifty years, and we still await reasonable proof of its efficiency. A short-lived immunity has been obtained in cattle, but it is both uncertain and short-lived, and patients apparently cured by tuberculin may still die of tuberculosis. Many years ago, I was in the offices of a county council, and the County Medical Officer told me that of five dispensaries in his administrative area, two employed tuberculin regularly, two never used it and one used it occasionally. As a matter of interest the County Medical Officer then and there looked up the mortality returns for those areas; over a three-year period the two dispensaries regularly using tuberculin had the highest death rate, the one employing it occasionally came next, and the two that abjured tuberculin had the lowest rate. The difference was not large enough to publish but it may be truthfully said that in that county the use of tuberculin had not lowered the death rate.

The form of immunity to which most of us owe our lives is not acquired but congenital. Most of those with experience of tuberculosis would agree that some 75 per cent. of the population have a high resistance to the disease, 20 per cent. possess a weaker resistance, and 5 per cent. are more or less vulnerable. It is from this last 5 per cent. that our sanatoria and hospitals are mainly filled, though a certain number of the 20 per cent. may also suffer. What is the difference between these groups which makes possible a healthy and, maybe, happy life on the one hand and death or illness on the other?

A practical answer to that question would be the greatest public health advance yet achieved, and do not let us accept too readily a belief that it is impossible. The disparity is probably due to some chemical difference between the groups, the presence in the immune of minute quantities of some substance. A store may be present at birth in the immune, but it is more likely that they possess the power to manufacture it and that this power may be enhanced by the various outside influences which are known to assist the cure of tuberculosis, and diminished by conditions favourable to the development of the disease. The chemistry of immunity has not gone very far, but last May I had the privilege of conversation with a worker in that field, Dr. Downie, who was attempting to immunise mice against pneumonia by employing partial antigens. He found that some mice could be immunised and some not. In those not immunised the antigen was still present in the blood, in the immunised it had disappeared; there was a congenital difference in the ability to utilise antigen. This, you will say, does not take us far. Agreed, but it is research on similar lines that may ultimately give us the power both

to influence profoundly susceptibility to infection and to treat successfully an infection already present.

Treatment

In spite of the improvements in our methods and the widespread adoption of artificial pneumothorax no corresponding acceleration in the steadily declining death rate from tuberculosis can be noticed. Concerning surgical tuberculosis our attack is more vigorous and more complete. The pendulum has swung from operative to conservative treatment, and now back to operations. Perhaps it is my upbringing, but conservative treatment has for me the greater appeal, and from what I see of results the method of operating on cases of apparently healed surgical tuberculosis in order to secure bony ankylosis and thus prevent a possible relapse seems to be quite unjustified; it creates more cripples alone than it prevents. In the treatment of pulmonary disease we continue to place patients under the best possible conditions of life by routine sanatorium treatment, but sanatoria are becoming more comfortable and attractive, the day is passing when those chilly and windswept institutions could only be tolerated by comparatively hardy young adults. Gold treatment has been in some respects an advance and rapidly-spreading disease may be checked, but the bugbear of this treatment is relapse. Nearly all my really ill patients who appeared to benefit have relapsed within a year. It is in conjunction with other forms of treatment, such as pneumothorax, that gold appears most helpful. Pneumothorax does seem to be a genuine advance. I would say it improves our results from 10 to 15 per cent., and some would give it a higher place, but I am left wondering if the impression is accurate because of the steady, as opposed to the expected accelerated, decline in the mortality since pneumothorax became generally employed. In statistical studies suitable controls are difficult to secure. It seems at any rate certain that the employment of accessory methods such as phrenic evulsion and thoracoplasty do improve our results to some extent and that the wider an operator's experience the better results he is likely to obtain. Phrenic evulsion awakens some apprehensions; no harm may result and even benefit may be noted, but what will happen in 20 years' time if the patient survives? In this country, I have not encountered the gastric complications recorded in America. The theory of the benefit of pneumothorax treatment—that it affords rest to the lung—seems incomplete. Bacteriologists inform me that the tubercle bacillus is definitely aerobic and wilts if deprived of oxygen; pneumothorax cuts short

the blood supply and does so deprive the bacillus, and it is that asphyxiating effect that benefits our patients. Rest of a diseased joint also diminishes the blood supply and may act similarly. We should not necessarily aim at complete pulmonary collapse either by pneumothorax or thoracoplasty, but that amount of relaxation which seems best suited for the individual patient.

A word should be said about the hunt for "early cases" that can be cured by early treatment. Tuberculosis is an insidious disease, far too often it spreads extensively without causing symptoms—indeed, there may be no wasting, no pyrexia, no noticeable cough: when symptoms first appear, the disease is already far advanced. The majority of my hospital cases belong to this group. An early case may exceptionally be discovered because the disease is causing symptoms, but most such that I see are found by the radiography of contacts. Very definite early cases sometimes clear up completely without treatment; this should be borne in mind when attempting to assess the value of our remedies. The chemistry of immunity may help some day, but any unprejudiced observer cannot help being impressed with the futility of much of our treatment in definite cases of tuberculosis. That is one of the reasons why patients so often turn to quack remedies.

Quack Remedies

It may be permissible to refer to these, although some may think the reference passes beyond the tuberculosis field, because I have been the organiser of a somewhat unique investigation into the claims made on behalf of a patent "cure" for tuberculosis. In this I have been assisted in a remarkable way by the co-operation, not only of tuberculosis workers but of Medical Officers of Health over the entire country. Of all the hundreds of letters written to various areas one Medical Officer of Health alone refused co-operation, and for the sake of the general amity his name will not be disclosed. Perhaps a second letter would have succeeded, but there was no time and an adequate number of cases was being investigated without his help. To-night provides an opportunity to narrate the results obtained, which, indeed, my coadjutors have the right to expect.

The passage of the bill to control the advertisement of proprietary remedies would have been a great benefit to the poor because it is upon the savings of the poor that the fortunes of the proprietors of these remedies are built. A waitress of 42 had accumulated small savings after many years of work; her brother became tuberculous and was, when I saw him, hopelessly ill. In the wish to save him his sister applied for a patent remedy. Within a month or two of that date the

patient was dead. I discussed the treatment with his sister and she said: "My savings have gone, I know, but I do not mind. My brother was everything to me and he believed he would be cured by that remedy; it made him happier and even if he could never have been cured I am still satisfied."

A poor girl, an orphan, trying to live on 6s. a week disablement benefit and receiving help from Public Assistance sources, church funds and various charitable agencies was persuaded to undergo quack treatment. In one month she had paid out £5, and in another twelve months £20 more. I asked whence came the money. "I am a good Churchwoman," she replied, "and always wanted a good funeral, not a parish funeral. I had put this on one side, little by little, so as to have a decent funeral. Now it has gone."

A tuberculous man, hopelessly ill, heard of a "cure." He could not afford it, but raised £12 by surrendering his life insurance policy. Within three months of the exhaustion of this sum he was dead.

The profession, and the public, owe a deep debt of gratitude to Captain George Elliston, M.P. for Blackburn, for his work with the Patent Medicines Bill. It failed, but that was no fault of his.

When a press announcement of the Bill first appeared, the proprietor of a patent "cure" circularised his patients asking them to write a letter of protest to Captain Elliston; 1,350 wrote, and in their letters claimed to be cured or materially relieved by the remedy. The letters were sent to me, they did not come from all who had been treated but from those who believed themselves cured or materially relieved. It was possible to check those claims through the public health service, and so, for the first time in history, there was the possibility of testing with some accuracy the claims of a patent remedy. We often read testimonials for various remedies, it is rarely possible to check them and no one troubles to attempt it, but in this case it has been done. The enquiry has taken nearly two years, and I have stopped at 864.

(1) 57 cases, say 6 per cent., have been lost trace of and nothing can be said of their present condition.

(2) 200, 23 per cent., have never been notified as tuberculous. A number of these really belong to the next class.

(3) 62 cases, 7 per cent., investigated and found not tuberculous. Quite half of the unnotified patients should be classed in this group. This figure is supported by the twelve unnotified cases that have been specially investigated and six found to be suffering from tuberculosis, six not. Two other cases so investigated could not be traced at all. In one of them no one of that name had ever

lived at the address given, and the doctor suggested that the case was fictitious. There may be others belonging to that category.

(4) 122, 14 per cent., were dead, the majority having died within a year of declaring themselves cured or materially relieved.

(5) 87, 10 per cent., belong to much the same group. They are patients known to be very ill and unlikely to live long.

(6) Then come 156, 19 per cent., ill and unable to work.

(7) Then 157, 19 per cent., in fair health and at work.

(8) Lastly 23, 2 per cent., are classed as recovered.

In my questionnaire, the enquiry was made whether the patient had appeared to benefit from the treatment, and possible benefit was alleged in 23 cases, definite benefit in none. In several instances harm was alleged but these have not been included. It will be seen that the patients fall into three groups:—

(a) Those that are introspective and anxious about their health but who are not, and never have been tuberculous.

(b) The "strawclutchers," ill and not benefited by standard treatment, turning hopefully to a patent remedy after reading the literature, and believing themselves to be benefited, as is so usual when any new treatment is tried.

(c) Those who are tuberculous having the usual treatment, but taking the cure in addition, and the disease following a normal course.

I have watched several patients treating themselves with a patent remedy. I have never noticed any improvement attributable to the remedy nor have I ever seen any physical harm result. If a well-to-do person wishes for it, he can afford to indulge his whim, and it is no business of mine. Race horses, alcohol, or other dissipations might provide worse ways of spending his money. What I am anxious for is the interests of the poor, and this Captain Elliston's Bill would have promoted.

I have avoided cumbering these pages with statistics and have almost resisted the temptation to quote illustrative cases, but hope enough has been said to show that the tuberculosis problem is complex and many-sided, and that tuberculosis work is not, and should never become, static.

THE ROGERS PRIZE.—The Society of Apothecaries of London, administrators of the Rogers Prize (Joseph Rogers) in connection with Treatment of the Sick Poor have announced that the Trustees and Adjudicators, namely the President of the Royal College of Physicians and the Master of the Society of Apothecaries, after consideration of the forty-four Essays submitted, have awarded the Prize for 1936 to Dr. Llywelyn Roberts, Public Health Department, 40, Prince Street, Bristol.

Centralisation of Radium Therapy over an Extensive Area

By RALSTON PATERSON, M.D., F.R.C.S., D.M.R.E., MANCHESTER.
Director, Christie Hospital and Holt Radium Institute, Manchester.

One of the problems confronting the medical organisation of to-day is that of securing the best and most efficient use of radium and of deep X-ray therapy in the treatment of malignant disease. To achieve this some special organisation is required which entails centralisation of this work.

The relative scarcity of radium, and its extremely high cost make it imperative that it be kept constantly employed. This can be best achieved where relatively large amounts of radium are held and operated from one Centre. Indeed, the earlier development of effective technique in radio-therapy was greatly hindered in Great Britain by the wide dissemination of the available supplies in numerous small amounts. When confronted with the problem of distributing the large amounts of radium made available by the Radium Trust Purchases, the National Radium Commission made adequate centralisation one of their main objects and by that single step alone a great advance was automatically made.

The achievement of centralisation is attended by very distinct problems, and its success depends on their satisfactory solution. This article presents an outline of one system by which many of the difficulties which arise in practice have been met, and in which a measure of effective centralisation has been achieved over an extensive area. First, however, certain general principles must be reviewed.

The Central Unit

Any centralised service must of necessity be formed round some central unit; it is advisable, therefore, first to consider the essential features of this central unit, if it is to supply organised and effective service. They would seem to include the following:—

(a) *The possession of large quantities of radium.*—This need is obvious, and has already been commented upon. The advantage, however, is not only that patients need not wait for treatment until radium is available, but that with an adequate number of patients, even a large quantity can be kept constantly occupied by organising admissions in relation to the available radium. Moreover, all types of containers can be stocked, thus covering techniques needed for rarer types or manifestations of malignancy, without having such containers lying idle for long periods. Although beam therapy is not yet universal, in any central unit of adequate size at least one radium bomb should be

available, not only for the benefit of those cases in which beam therapy already appears suitable, but also for investigative work which is still necessary to assess its value.

(b) *A unified organisation.*—Only where this exists is it possible to employ systematic techniques, the results of which can be accurately assessed. The case histories of such a unit contain comparative data of different types of treatment. An efficient "follow up" service covering the entire group of patients is, moreover, easy to organise for such a unit.

(c) *Adequate modern X-ray therapy plant.*—Equally important with radium supplies is the presence of sufficient up-to-date X-ray therapy units, at present especially of the high voltage types. The arrangements for therapy at the centre must be sufficiently flexible that with future developments new or modified plant can be installed.

(d) *A specialist radio-therapeutic staff.*—One cannot emphasise too strongly the advantages of exclusive specialisation in radio-therapy in order to obtain the most effective treatment. Apart from the wide experience of malignancy gained only a uniform technique can give comparable results when the value of different methods are reviewed. There is room, too in a specialised unit for members to study rarer forms of malignancy, or types hitherto regarded as unsuitable for radiation therapy, and to elaborate new methods.

(e) *A department of physics.*—During the last five years, the developments of radiation therapy have shown that a department under a physicist trained in the problems of radiation physics, and acquainted with the associated clinical problems, is an essential ancillary service in any therapy centre.

(f) *Consultants.*—Closely connected with the group of radiation therapists there should be a group of consultants in other specialities both for consultant opinion and for collaborative work.

(g) *Research Associations.*—Although the above paragraphs give a skeleton of the chief essentials of an effective clinical service, further developments of treatment will depend on research. It would, therefore, be of enormous advantage if the centre could support both clinical research into therapy problems, and also basic research in physics and biology.

The basic importance of centralisation lies in

the specialisation of the personnel, medical and lay, and in the adequacy of the resources to which they have access, and not in mere localisation to any particular buildings. Throughout any scheme the treatment must be completely and entirely under the control of the staff of the radio therapeutic institution or department, and the whole of the resources must be available to every patient.

The Size of Area Served

In assessing the optimum size of area over which a central unit can operate, one must remember first that malignant disease forms only a small proportion of the total sickness in a community, and of that small proportion the cases treatable by radiation therapy are only part. A large population area must, therefore, be tapped to use fully the facilities of the central unit.

A survey of population figures in various areas served by Manchester suggests that the minimum population which will carry a single specialist, with limited but sufficient equipment, is about 500,000. The provision of a separate organisation for areas with a population of 250,000 or less (except when very isolated), is essentially futile and leads to poor work. To achieve the full advantages of centralisation with a central unit of two or three medical officers and a physicist, the unit would have to serve exclusively a population of about 1,500,000 to 2,000,000.

It follows that, outside London, and its environs, a central unit must spread its services over a large area, geographically, in order to obtain a sufficiently large population. But the creation of a central unit answers only half the problem. It is equally important to ensure that all the appropriate cases will in fact benefit from the services offered by the central unit. This problem is less serious in the immediate vicinity of the unit, but increases very rapidly with distance. Any established central unit will automatically draw a fair proportion of cases from near by and casual patients from afar. Yet the unit does not on this basis serve the area, in that it is not fully supplying the radio-therapeutic needs of the whole community.

The difference between the completeness with which the needs of the local population are met, and the imperfection of the service to more distant areas, is the crux of the whole problem. This is vividly brought out in Table I, which contrasts the "civic" area immediately round the Manchester central unit, and a "hinterland" area, as represented by the south-east quarter of Lancashire.

In 1931, before any of the schemes to be described were under way, the patients per 100,000 total population of the civic area were

more than double those per 100,000 of the hinterland area, although in the latter there was no alternative treatment centre of sufficient size to account for the difference. As there is little difference in the type of population one can only presume that there were many cases which might have been treated, but were not reached. In contrast, by 1935, in both areas numbers had increased, in the civic area by only a small fraction, in the hinterland by more than double to a point above that of the civic area in 1931.

TABLE I.

Year.	No. of Patients referred from Civic Area (Population 1,039,740).	No. referred per 100,000 Population.	No. of Patients referred from Hinterland Area (Population 1,663,860.)	No. referred per 100,000 Population.
1931	465	44	362	21
1932	434	41	365	21
1933	474	45	462	27
1934	496	47	736	44
1935	572	55	794	48

N.B.—1. Civic Area, includes the cities of Manchester and Salford.
2. Hinterland Area, is the South-East quarter of Lancashire (excluding Civic Area) bounded by the line Cheshire border, Warrington (exclusive), Preston (inclusive), Burnley (exclusive), Yorkshire border.

There are three rather obvious reasons for the more distant areas not being reached. First, there is the expense for patients in coming to a clinic 20 to 50 miles away. The second, ignorance of the existence of a specialised unit—patients suffering from malignant disease tend rather to pass from their own practitioners in the country to the local hospitals, where effective treatment is ordinarily less possible; the central unit must, therefore, reach patients through their own hospitals. The third main difficulty is faced by the central unit and is that of finance. The bed accommodation and equipment of the central unit would be considerable if it were to meet centrally all possible requirements. There is also the overhead of running the unit itself—salaries of medical nursing, technical and secretarial staff, and the supply of what is still most expensive therapeutic equipment. It would obviously be unfair to burden the community in the vicinity of the unit only with the expenses of catering for a population in a 60-mile radius.

A Scheme of Functional Centralisation

An entirely centralised unit may be described as "geographic centralisation," in that all the work

—consultation, treatment and follow up—is done at the centre. Geographic centralisation, however, may appear to exist without embracing the essentials of true centralisation where, although all the patients do in fact gravitate to one dominant central hospital, yet they are dealt with in separate units, with separate medical staff and techniques, without co-ordination of organisation or methods of treatment. Such a situation is still not uncommon and has all the faults of marked decentralisation.

On the other hand, it would appear possible to combine all the essentials of centralisation with a mechanism for reaching every needy patient in the area served, without necessarily insisting on seeing and housing the patients in one unit. This "functional centralisation" can be organised with a minimum loss of efficiency. The ideal would be a complete centralisation, but the difficulties which have been indicated make it impracticable. Below, a scheme of "functional centralisation" is outlined in detail.

The Manchester Scheme

Manchester, Salford, and the industrial region including and adjacent to South-East Lancashire, constitutes a unit of territory such as has been described, within which the Christie Hospital and Holt Radium Institute now provides a radiation therapy centre fulfilling most of the conditions of effective centralisation. It should, therefore, be of value to anyone concerned with the provision of adequate radium services to similar areas to consider the steps by which this state of affairs has been reached. Before dealing with the scheme of "Radium Services" to the outlying portion of the area, it will be useful to consider the development of the central unit itself very briefly.

Manchester was one of the first places in England to realise the importance of pooling radium so as to have adequate quantities available for all types of work, and the foundation of the "Manchester and District Radium Institute" resulted in 1915. Although housed in the Manchester Royal Infirmary, it was an independent body and, therefore, enlisted the co-operation of most of the other local voluntary hospitals in an appeal and in the administration of a fund for the purchase of radium jointly. This radium was to be held available for application to all their cases likely to benefit from treatment by radium. These hospitals were, therefore, the foundation members of the Institute.

As the unit developed it became obvious that it would be advantageous to obtain specialised attention on the part of the medical men responsible for the treatment and a medical director was appointed. This specialisation led gradually to the centralisation not only of radium, but of all per-

sonnel and general administration, although the patients were still warded in their own hospitals. About this time, too, several other hospitals became official Members of the Institute, and many hospitals, some far afield, realising the advantages of specialised attention and equipment, started referring their cancer patients to the Institute. In 1921, a small central nucleus of beds was provided by the purchase (as a gift) of a small nursing home, with eight hospital beds and four private beds. This was separate from but adjacent to the Manchester Royal Infirmary.

In 1929, the importance of radium therapy and the shortage of radium in the country were recognised, and the National Radium Trust (and Commission) was established to purchase and allocate radium for the nation. The first allocation was to the university towns as the main teaching centres. The situation in Manchester was recognised in the constitution of the Manchester Centre of the Commission as, jointly, the University, the Institute and the Royal Infirmary. This rendered available for the work of the centre both a sufficient quantity of radium and specific beds for radium cases in the Manchester Royal Infirmary.

Very shortly afterwards a large addition of beds in the central unit resulted from the removal of the Institute from its old limited quarters to commodious premises as part of an amalgamation with the Christie Cancer Hospital. This constituted the final step in the evolution of the central unit. Not only did beds become available, but by its incorporation into a special cancer hospital the Institute obtained access to many general services previously only obtainable indirectly, viz., sufficient out-patient accommodation, radiological diagnostic facilities and pathological services. More important, however, are the scope left for the development of X-ray therapy, and the active contact with a progressive surgical staff in the central unit itself.

At this stage, therefore, the central unit (The Christie Hospital and Holt Radium Institute) became an organisation with the following characteristics:—

- (1) Whole-time specialist radio-therapeutic staff.
- (2) Physicists and physics Department.
- (3) Organised "records," and "follow-up" system.
- (4) Four grammes of radium (including National Radium).
- (5) X-ray therapy plant.
- (6) Considerable (but limited) hospital accommodation.
- (7) The ordinary ancillary services of a hospital.
- (8) Efficient surgical and other consultant collaboration.
- (9) The "goodwill" of the local hospitals.

As a unit it was not, however, essentially different from similar institutions elsewhere, except perhaps in size, nor from an organised radiation therapy department of a dominant general hospital serving an exclusive area. In addition to serving the local territory, such a unit draws a casual clientele from the surrounding hinterland. The second stage of development of the unit was that by which a Radium Service Scheme was gradually evolved by which its specialist services became more genuinely available in the aforesaid hinterland, thus widening the area centralised and tapping a greater number of patients in such a way that its resources were placed at their service in spite of distance.

Radium Services Agreements

The scheme is operated through a series of comparatively formal agreements for the rendering of "radium therapy services" by the Institute to various individual voluntary hospitals and public health bodies. No attempt has been made to develop any *pro forma* agreement of universal applicability, but the particular problems involved in each case have been discussed informally at first, and an appropriate scheme incorporated into the formal Agreement. The various schemes, however, fall into two main groups, namely, those with other voluntary hospitals, and those with public health authorities or public assistance hospitals.

Voluntary Hospitals

We are here not considering the local hospitals which originally constituted the Institute itself, but the main general hospitals of the adjacent towns at distances of from 10 to 50 miles. Such units tend to show, both on the lay and medical sides, a strong vein of local patriotism and of possessiveness towards their patients. Moreover, they are, in general, well staffed and well equipped medically, and enjoy the support and confidence of the local public. Any Agreement, must, therefore, give them a scheme which they feel to be their own, not Manchester's, and which in a sense provides them with what, as far as the patients see it, is their own radium therapy department. Moreover, unlike public assistance bodies, there is often pressure on bed accommodation and either very limited or no facilities for ambulance transport of patients. The patients, therefore, would have to depend on ordinary public transport—buses, trains, trams, etc., for visits to the central unit.

For these reasons, the basic nucleus of all the services to voluntary hospitals is always the "Radium Clinic," held in the hospital itself at regular intervals, dependent on the number of patients. This Clinic is conducted by a member of the staff of the Institute, who, while in the hospital, acts exactly as if he were one of their own con-

sultants. All new patients are seen in the first instance in this clinic, and all post-treatment follow-up visits are to this clinic. The visiting therapist is available for personal discussion with members of the surgical staff, for particularly interesting or important cases, and the hospital is responsible for all ancillary examinations—X-ray, pathology, etc. All records are, however, kept on the Institute's forms, and retained in Manchester, which is, therefore, responsible for all office mechanism needed to ensure the patient's attendance for treatment, and further follow-up, and for culling the records required for any day's clinic. One incidental advantage of the centralisation of complete records is that all the new cases of the day can be discussed with the Director or other members of the staff particularly interested in special work, before the final decision regarding treatment is made.

In the general conduct of these clinics, the visiting medical officer acts as a colleague of the local surgical staff, and it has proved to be of extreme importance to see that all surgical procedures take place locally, although cases for purely radium treatment are centralised. These procedures include, for instance, the carrying out of colostomy, or gastrostomy as measures preliminary to radiation treatment, or the carrying out of block dissection as a second stage in a mouth carcinoma treatment, and so on. It has also been found advisable for treatments requiring joint surgery of access and radium, *e.g.*, a cystotomy for a bladder implantation—to be done locally also. Where possible, such collaborative treatments—which are only a fraction of the total cases—are done on the clinic days, but where this cannot be arranged the friendly contacts made with the local surgeons fully justify the occasional special visit, and the theoretically undesirable decentralisation.

This clinic side therefore presents no real bar to the maintenance of complete efficiency. There is no real objection to multiplicity in the number of clinics held, provided that the hospital served is large enough to provide a sufficient number of patients to justify the visit. The loss of medical time in travelling to and fro has been alleged to represent inefficiency, but this is a purely economic factor and is really the means to a greater efficiency of service in preventing the loss of patients otherwise consequent on forced geographic centralisation. Monthly intervals between clinics have also been criticised, but the safeguard there is that cases seen just after a clinic day, or urgent cases can by special arrangement be seen at any of the Institute's daily clinics in Manchester, and thereafter dealt with at once.

Actual study over several years of the growth in numbers of new patients coming to these clinics

shows only too vividly how the existence of such a clinic brings treatment to patients who would not otherwise have been reached. To illustrate this, an analysis of the growth of some of the earlier schemes is given in Table II.

TABLE II.

Agreement.	No. of Patients year before Agreement.	No. of Patients in 1933.	No. of Patients in 1934.	No. of Patients in 1935.
Voluntary Hospitals :				
A	38	84	95	128
B	17	—	49	136
D	18	40	85	88
Public Health Authorities :				
City of Manchester ...	35	64	97	101
Lancashire County Council ...	3	18	32	50

Treatment

The second question is that of the actual treatments. The ideal is undoubtedly centralisation, and, for hospitals serving populations of under 200,000, it has been adhered to as rigidly as possible, as the number of cases from any one centre is relatively small. Moreover, the small hospitals are often short of beds, and welcome the possibility of having the treatments carried out elsewhere.

A few patients express a strong desire to be treated in the local hospital, either because they are subscribers in some form or other, and wish to get treatment for which they feel they have paid, or because of the expense involved in their visitors travelling to Manchester. In practice, it is usually possible to meet objections in large measure. Actually, most cases are indifferent to these considerations so long as they feel they are getting the treatment which is most likely to be effective.

For the main hospital of a town about 150,000 or over (representing in the town plus its local area a population of over 200,000) the situation is different. First, to take this town's cases would be an added strain on the limited beds of the Central Institute. Secondly, local patriotism is rather more marked as the hospital is in a town of fair size, is well equipped, and provides complete services in other specialities. Thirdly, the number of cases is sufficient to allow theatre staff and nurses to gain familiarity with the problems of the more common treatments. At the same time, difficult cases or cases requiring complicated treatment, can still be centralised—a most useful safeguard.

For these reasons, "Treatment Visits" have

also been arranged for in a limited number of the larger hospitals, which hospitalise their own patients. In implantation treatments requiring the operating room and an anaesthetist, a special operating day is set aside, either one week after the monthly clinic or, where the clinic is held fortnightly on the afternoon of the clinic visit—that is, seven or fourteen days after the patient's first attendance. These treatments are all carried out by the visiting therapist himself. Cases requiring treatment by surface applicators are also hospitalised in their own hospitals, but are sent to the Institute immediately after admission for one whole working day to have the mould made and mounted. Treatments in collaboration with surgical procedures are carried out, if possible, at the regular visits, but a special journey is made when necessary.

A third variant exists—the hospital with its own radium, which, although unwilling to pool with the common stock, nevertheless still desires the advantage of a specialist consultation and control. The mechanism here is essentially the same as in the case of the radium clinic plus treatment visit, but the local radium only is employed. This method can be made to work, but is not ideal, as although usually quantitatively sufficient, the local radium, however well distributed, does not allow of much latitude, and is either employed in some "best we can do" method, or augmented from the Institute stock while itself idle.

The only other question is that of deep therapy (X-ray). Arrangements for this depend on the local situation. From the small hospitals without equipment cases are centralised and treated with the remainder. Where local equipment exists, the whole of the work may be done locally, as with the surgical work, or, if the radiologist desires it, cases for intensive deep therapy may be centralised but the remainder treated locally.

Table II overleaf, is an analysis of the actual current Agreements with various voluntary hospitals.

Public Health Authorities

The other group of Agreements are those between the Institute and certain public health authorities, not only regarding radium work in hospitals at a distance, but also for the hospitals under the control of the public health committees of the cities of Manchester and Salford. Such hospitals have, in general, certain differences in organisation from the voluntary hospitals. First, they usually have no active out-patient service, the patients being in-patients, either referred by the relieving officer, transferred from voluntary hospitals or admitted in some other way. Secondly, they appear to command, relatively easily, adequate

TABLE III.
ANALYSIS OF VOLUNTARY HOSPITAL AGREEMENTS.

Agreement.	Size of Hospital.	Approximate Population of Local Area.	Population of Town.	No. of Clinic Visits per month.	No. of Treatment Visits per month.	New Patients 1935.
Complete service :						
A	290 beds	200,000	148,000	2	2	128
B	306 "	240,000	177,000	2 ^a	2	136
Hospitals with Radium Clinic only :						
C	170 "	190,000	140,000	1 ^b	Treatment Central Unit	71
D	180 "	160,000	85,000	1		88
E	200 "	170,000	83,000	1		—
Hospitals with own Radium :						
F	211 "	150,000	41,000	1	1	51
G	109 "	80,000	19,000	1	1	25

^a Being altered to weekly visit shortly. ^b Being altered to twice monthly visit shortly.

ambulance transport and accommodation. Thirdly, probably due to the filtering out by the voluntary hospitals, they tend to have a much smaller percentage of cancer cases, relative to the number of beds, and of these a large fraction are already very advanced and beyond treatment. There is seldom, moreover, that curious individualistic outlook towards patients, and of patients towards the hospital so characteristic of the voluntary hospital. Once "official" mechanism has been developed for the disposal of "the cancer case," there is none of the veiled, though unconscious, obstruction to centralisation. Thus, it has invariably been found possible and desirable to concentrate the consultation work in the central hospital, and face the expense of the ambulance transport. The consultation and follow-up work, therefore, becomes part and parcel of the routine morning clinic of the Institute. This arrangement has been made in all the Agreements to date with public authorities. It gives access, too, at the Institute to the radiological and laboratory facilities which do not exist in many of the smaller public health units.

In regard to treatments, the ideal would equally be centralisation, and most treatments have, in fact, been given at the centre. A patient coming from a short distance in the first instance returns to his referring hospital after consultation. This admittedly means a second journey, but the advantage is that the examination is complete, the patient is actually on the appropriate waiting list for admission and is sent for as part of the general admission scheme by which radium is kept fully occupied without undue bed wastage. When the case comes from a long distance (50 to 100 miles), in order to avoid the undue expense of two journeys, arrangements are made for immediate

admission as follows:—When the case is first notified, a brief history is sent, the patient is entered on a provisional treatment list, sent for as beds become available, and actually seen for the first time on the day of admission.

Only the treatment itself need be carried out centrally, and the patient can always be returned to the referring hospital for convalescent nursing during the reaction phase.

The total accommodation in the Centre, however, is still less than the total number of cases requiring hospitalisation. The large municipal hospitals have in relation to such a limited type of work an inexhaustible supply of beds. Full use of these facilities in only the large units (the city hospitals) which are well-equipped and have first-class nursing staffs, removes the strain on the Centre without decentralisation to numerous small units.

For this reason, a treatment visit for implantation work is made monthly or fortnightly, as in the large voluntary hospitals and patients for treatment by radium applicators are hospitalised and sent to the central unit for the moulds to be made. As in the former instance, cases for particularly difficult treatment can be admitted to the Centre for their actual treatment, but returned for convalescent nursing. The same lines have recently been adopted for X-ray work, the patients being hospitalised in the municipal unit, but brought over by ambulance for X-ray exposures. This mechanism is possibly costly in transport, but functions quite well, and puts at the disposal of such hospitals the advantages of a proper deep therapy unit without the expense of a separate installation, which the total number of cases is far too small to keep occupied.

These treatment visits constitute the only departure from complete geographic centralisation

in the operation of the Public Authority Agreements, but no radical departure from effective functional centralisation occurs, in that all the work is carried out by specialist staff and the number of patients grouped together is sufficient to give medical and nursing staff experience in this type of work.

The actual Agreements have been made with several different types of authority. The first were those made by the City of Manchester and the City of Salford for treatments in three large municipal hospitals of well over 1,000 beds each. In this group alone has the principle of treatment visits been admitted, as a necessary consequence of the bed shortage in the Centre.

Another type of Agreement is that with a county area, of which the Lancashire County Council is a useful prototype. Under this Agreement, patients may be seen from over twelve different public assistance hospitals. At present, these patients are all centralised for treatment but if the total number of cases from the Lancashire County Council hospitals grew to be an impossible burden on the accommodation at the Radium Institute, it could be arranged to transfer all these cases from each of the small units to the one large unit under the County. They would then constitute an adequate number of patients to provide the experience necessary for proper nursing during treatment and could be handled by treatment visit analogous to that made in the city hospitals.

The remaining Agreements are made either with individual town or county borough municipal hospitals, or with other county authorities.

These, then, the Voluntary Hospital Agreements and the Public Health Authority Agreements, constitute the "Radium Services Scheme." The following table analysing the work for the year 1935 may serve as a useful index of the balance of work over the whole scheme.

TABLE IV.
ANALYSIS OF NEW PATIENTS SEEN IN RELATION TO
SOURCE OF REFERENCE—YEAR 1935.

1. <i>The Centre.</i>		
(a) Referred cases from Surgical O.P.		
Depts. of Voluntary Hospitals		
legally constituting the Institute :		
Manchester Royal Infirmary ...	225	
Other Voluntary Hospitals ...	209	
	—	434
(b) Referred from other Hospital O.P.		
Depts.	107	
Referred direct to the Clinic ...	766	
	—	873
2. <i>Under Agreements.</i>		
Voluntary Hospital Agreements ...	530	
Public Health Authority Agree-		
ments	238	
	—	768
Total ...		2,075

Staff

One aspect of the whole situation has to be kept in mind. While an effort has been made to develop as efficient a mechanism as possible from the medical point of view, this involves some increased expenditure on staff over that required for a geographically centralised service. The expense, however, is probably infinitely less than that of building up individual complete organisations. The extra demand for medical staff (after all the most costly item) is not serious, involving little more than is required to cover the travelling time. Once the radium clinics and treatment visits have been effectively organised, cases are dealt with as expeditiously as for the same amount of work in the central unit. The increase in lay, particularly clerical, staff, and in incidental expense, such as telephone calls, must, however, be appreciably greater if the machinery is to run smoothly. It is difficult to assess just what is the extra staffing required, but the following table, read in conjunction with Table IV, may be of some value as an index.

TABLE V.
CLINICAL STAFF OF INSTITUTE.

(i.e., *Excluding Surgical and Administrative Staffs.*)

<i>Medical.</i>		
Of over four years specialist experience ...	3	
Under two years—therefore still partly		
under training	3	6
<i>Technical.</i>		
Physicists	3	
Radium, Radon, and Radium Mould		
technicians	5	8
<i>Clerical.</i>		
Records and follow-up	8	
Statistical	2	10

Outside Use and Transport of Radium

One criticism of the scheme of treatment visits might be that there is wastage of radium time and an increased risk of loss. This is partly true, but it is easily kept within satisfactory limits. Whenever radium is taken out of the Institute for treatments, precise arrangements exist for its carriage to and fro, not merely for safety, but to avoid loss of time by the radium being ostensibly in transport while it might be usefully employed. Transport outwards is arranged for either late in the afternoon of the day before or early in the morning, of the treatment day, thus involving no real loss of time. The visiting therapist may himself transport small amounts, but this opens up personal exposure problems of some importance. If an appreciable amount is to be transported, the responsibility for transport in both directions has, therefore, been put upon the receiving hospital, and is effected

by ambulance or special bearer. A strict system of receipts governs each change of hands in the despatch of radium. This mechanism is integral with that governing movement of radium within the Centre itself. After use, large amounts of radium may be returned—by ambulance or bearer, or smaller amounts overnight in a registered postal packet. The standing order is that the radium from each patient *must* be sent back immediately after removal, and there must be no accumulation of radium so as to send large amounts in one journey. In the case of applicators the whole mould must be returned *intact*. All the Agreements drawn up to date stipulate special arrangements for the insurance of radium in transit and in outside hospitals.

Financial Arrangements

The question of finance must bear some relationship to the financial strength of the central organisation, and to the source of this financial support, *i.e.*, whether local or having a widespread appeal. An already financially strong unit may feel justified in extending in some such way as the above as part of its public service. A weaker organisation cannot extend indefinitely without some support from the units served. In the scheme outlined, a distinction was early drawn between the two classes of Agreement, those with Voluntary Hospitals and those with Public Authorities.

It was felt that one voluntary hospital, such as the Institute, cannot charge another for the care of the sick poor. The Institute, however, is justified in making full use of services already provided by the other voluntary hospital for the care of its own patients in so far as these can be utilised, and in charging for the actual services carried out in that hospital. The charge, therefore, covers approximately the actual cost of the medical services given, travelling expenses, and the hire value of the radium used, but not the maintenance of the patient while in the care of the Institute, or the Institute's record work.

Hospitals under local government authorities, however, are justifiably asked to pay the full value of the services given which, therefore, includes the estimated value of all the lay and medical services they receive, whether the work is done inside or outside, and of the maintenance of their patients while in the Institute. The charge is, of course, merely the cost to the Institute of the services provided. It would cost the authority incomparably more to provide itself separately with such a service.

Actual payment is arranged for either as a fixed annual payment, regardless of the number of patients for that year, or as a fixed payment per

patient treated plus a maintenance charge per week for hospitalisation.

The Future of Centralisation

It is realised that a scheme of the type here outlined, whilst a definite improvement on the previous position, is merely a step towards the ideal in which all treatment would be geographically centralised. This would, of course, entail the complete pooling of radium in the given area, and the provision of sufficient wards in one unit for all treatment work. The provision of outside "Radium Clinics" is not only immediately expedient but, indeed, desirable. Such clinics are analogous to those which have been established for tuberculosis, based on the existence of central sanatoria. The combination of the network of radium clinics with an extensively equipped treatment centre constitutes a perfectly centralised service, making the most effective possible use of the staff and all resources without failure to reach patients in outlying areas.

As described, the scheme deals mainly with radium therapy, distinct from X-ray therapy. The writer's object was to adhere strictly to the description of the actual scheme in existence. Most of the X-ray work required in conjunction with treatment by radium has been provided from the central unit's X-ray services, but the general question of radio-therapy has not really been dealt with. In due course, a similar centralisation of X-ray therapy may be found to be desirable. The problems arising then would inevitably present somewhat different features, and might necessarily fit into an analogous scheme.

[*Note.*—Space unfortunately does not permit of publishing here specimens of the agreements, described in Mr. Paterson's article, between the Holt Radium Institute and Voluntary Hospitals or Local Authorities.

These can, however, be obtained from the author at the Christie Hospital and Holt Radium Institute, Wilmslow Road, Withington, Manchester.

—ED., PUBLIC HEALTH.

PROFESSOR W. W. JAMESON has been invited by the Health Section of the League of Nations to visit certain of the schools of hygiene in Europe in company with Professor Pittaluga and Dr. Stampar. The visit is preparatory to a meeting of the directors of schools of public health which it is anticipated will be held during the spring of 1937. Professor Jameson expects to be absent from the London School of Hygiene and Tropical Medicine during the month of November and part of December.

LIEUT.-COL. GERALD LEIGHTON, O.B.E., M.D., D.S.C., F.R.S.E., will deliver the Benjamin Ward Richardson Lecture at the Royal Sanitary Institute, 90, Buckingham Palace Road, London, S.W.1, on Tuesday, November 10th, 1936, at 5.30 p.m., on "The Supervision of the Nation's Food Supply."

The Organisation of Public Health Services in Wales*

By RALPH M. F. PICKEN, M.B., CH.B., B.SC., D.P.H.

Mansell Talbot Professor of Preventive Medicine, University of Wales.

[In the earlier sections of this paper, which are not reproduced here, Prof. Picken outlined the evolution of local government in England and Wales and the parallel development of the poor law and poor relief, the creation of sanitary authorities and a central government department and the objects of the Local Government Act, 1929.]

Power of Joint Action

As a result of the Local Government Act, 1929, it was made perfectly clear in Parliament and by numerous circulars and memoranda of the Ministry that the authorities were expected to take a large view of their new responsibilities. Medical treatment in institutions was to cease, as far as possible, to be a part of poor relief. Medical need, not poverty, was to be the criterion of admission. The council and voluntary hospitals were to be complementary, not competitive. As we have seen, institutions transferred to county borough councils could continue to serve the county or part of it and *vice versa*. The power to manage hospitals under the Public Health Acts affords ample freedom for one authority to contract with another for the purpose. The Local Government Act of 1933 enabled county and county borough councils to set up joint committees for hospital management. The Act of 1929 placed a duty on county councils to review the arrangements for the hospital treatment of infectious diseases in their area, whether made by themselves or by the district councils and to submit schemes to the Minister for their improvement, negotiating, if necessary, with county borough councils for the joint use of hospitals.

The Welsh Consultative Council on Medical and Allied Services

In order to explain why I have dealt in some detail with this question of combination, let us turn for a moment to the problems of public health which have been exercising the minds of those interested in state medicine during the past fifteen years. When the Ministry of Health was constituted in 1919, certain consultative committees were appointed to consider and make recommendations as to public health measures. In each of the countries, England, Wales and Scotland, one of the committees dealt with medical and allied services. The Welsh Committee reported in 1920 and 1921. They dwelt on the inadequacy and the inco-ordination of medical services in Wales. They were "profoundly impressed by the complexity, the ineffectiveness, and, in many cases, the unsuitability of the present system of local govern-

ment in matters pertaining to the health of the community." They pointed out that, Glamorgan and Monmouth being excluded, the eleven mainly agricultural counties were small in population and rateable value. Incidentally, it may be mentioned that, in 1931, the average population of these eleven counties was only 84,781, being far lower than that of all but a few of the English counties. Only four of them had more than 100,000 inhabitants. They spend, on the average, more than the English counties per head of the population on modern public health work, and yet they find it hard to provide a really efficient service. They are so affected by agricultural derating and the withdrawal of percentage grants, that any substantial development would involve heavy increases in their rates. On the other hand, their public health need is great. The death-rate from tuberculosis is high in several of these counties, especially among young adults. The mortality of newly-born infants, and of mothers in child-birth and the still-birth rate are more serious than in corresponding areas in England. Generally speaking, in some of these counties every statistical index of physical well-being is unsatisfactory. The need for a betterment of the health and physique of their people is urgent, especially in view of the declining birth-rate, the consequent ageing of the population and its present or prospective decline. The Consultative Committee concluded that the first requisite was a national supervising authority, the second a reduction in the number of separate local authorities and the third an effective scheme for correlating the preventive and curative services. In their opinion, which I heartily endorse, "all forms of administration inevitably suffer if the unit of administration is unduly small in population and assessable value." "The necessity exists," they said, "for the establishment of some national health authority, one of whose functions should be not merely to complete the survey thus rapidly undertaken by the Council, but also to take executive action, with full statutory administrative powers, to improve on a national scale the very unsatisfactory conditions which now exist." In this latter connection they were speaking of the lack of proper hospital accommodation. Elsewhere, they show that a comprehensive scheme of

* Paper read at the Welsh School of Social Service, Llandrindod, August 11th, 1936.

medical services should be based on hospital centres and that these cannot satisfactorily be arranged within the confines of any one local authority. They, therefore, proposed that there should be a national institute of health attached to the Welsh National School of Medicine also acting as one of five central institutes for regional areas, the others being at Bangor, Wrexham, Swansea and Newport. At each of these there would be hospitals and laboratories round which the regional services would revolve. Closely linked to, and partly dependent on, them it was suggested that there should be local health institutes including clinic centres with some beds, hostels for nurses and accommodation where the local medical profession could work in teams. It is easy to see how such a system could not be fitted into the existing framework of local government. Accordingly their specific recommendation on the administrative side involved the creation of a Welsh National Council of Health with executive functions, acting through regional and local health committees formed, as far as possible, of members of the existing local health authorities or by combinations of them.

The Welsh report did not stand alone. The same ideas as to the required type of organisation permeated the report of the English Consultative Council, although it was less specific as to the governmental changes necessary to give it effect. In 1926, a Royal Commission on National Health Insurance advised the Minister that insurance committees should be abolished and their place taken by committees of the appropriate local authorities. This suggestion, it will be seen, would immediately bring the authorities into the field of general practitioner treatment, which, if it were to be extended and correlated with the other health services, as the Commission recommended, would raise acutely the question of the capacity of the present authorities to make such a scheme effective.

Failure to Recast County Districts or Create Effective Units

The reports of the Consultative Councils were evidently before their time. Attention has been diverted from them by the changes which the Local Government Act of 1929 brought about, the main features of which I have already touched upon. One of the duties imposed upon county councils by this Act was to review the boundaries of their county districts with the object of reducing their number and increasing their efficiency. The response, both in England and Wales, has been quite trivial from our point of view. It would not be putting it too strongly to say that the Act has completely failed in this respect, if it was ever intended to make a radical improvement in the areas of local government. But the point I wish to

emphasise is that it handed over to the counties new institutional and medical functions which the Welsh Consultative Council considered that they had not the population or resources to perform effectually. Some, though not very good, provision was made for such joint action by counties and county boroughs as might make advance possible, but little or no use has been made of it. We can see, for instance, county borough councils, which are the natural centres of surrounding county areas, forced to consider self-contained hospital schemes by the refusal of the county council to co-operate; and contiguous small counties contemplating separate schemes and ignoring one another, although the only hope of efficiency lies in common provision. This confusion is being stabilised and some means of straightening it out is urgently required. The Act of 1929 should be regarded as an introduction not a consummation of reform in public health administration.

Proposals of the B.M.A. and Scottish Committee

Meanwhile, the order of ideas underlying the fifteen-year-old reports of the Consultative Councils is receiving expression repeatedly in new quarters. In 1930, the British Medical Association issued *Proposals for a General Medical Service for the Nation* which contemplate, among other things, extension of medical benefit to include specialist services, the provision of medical treatment for dependents, the close association of general practitioners with hospitals and the formation of local medical centres for the co-operative activities of practitioners. In July of this year a strong Committee on Scottish Health Services, appointed by the Secretary of State for Scotland, issued a report in which the extension of medical benefit to dependents, the use of council clinics for the assistance of general practitioners, the consideration of hospitals over regional areas as one service controlled by statutory regional committees and the abolition of hospital and domiciliary medical care under the Poor Law were advocated. The Scottish Health Department never ceases to urge local authorities to think of hospitals in terms of five regions for the whole country centred on five large towns. In this view, they have the support of the voluntary hospital managers who are prepared to accept their position as part of the public health organisation and sink part of their individuality and freedom in the common pool. Incidentally, attention may be drawn to the fact that there has never been any medical officer of health in a rural area of Scotland except the county medical officer, and that district administration in the sense in which we know it has been completely abolished.

Suggestions for Wales

Is it not time that we in Wales revived our drooping interest in these topics? My own opinion, for what it is worth, is that the Consultative Committee's proposals were too ambitious, too revolutionary. The peril of organisations which are too large is revealed by the recent development of certain cumbrous administrative machines. On the other hand, I think the Council's estimate of the hospital needs of the several areas of Wales was too modest. No doubt its members were impressed with the outstanding success of the Welsh National Memorial Association in the treatment of cases of tuberculosis from all parts of Wales. Here we have an organisation which shows that Wales is workable as an executive unit, and which has built up a service better, of its kind, than that in almost every other part of the United Kingdom. But it might not be necessary to go so far as the Council suggested, and even if it were it would be wiser to take the journey in steps. We ought to remember that we have a Welsh Board of Health and that a little specific strengthening of its powers might go a long way if they were used. I suggest that a re-examination of the public health problem in Wales should be made by an equally authoritative body and that in the meantime the following programme is worthy of discussion:—

1. Integration of the environmental services of the districts with the preventive-curative services of the county councils—in fact, the creation of a system of complete and all-embracing units of local administration comparable to county boroughs by the abolition of all independent county districts below a certain size, due regard being taken of the interests of their officers. County councils and those district councils which are big enough should be given all the powers and responsibilities which county borough councils now enjoy.*

2. Recognition that areas with a population of less than a certain number, say 75,000 to 100,000, are incapable of providing with real efficiency any of the modern medical services.

3. Hospital services and the prospective developments in medical provision to be regarded as regional problems.

4. The Welsh Board of Health to be given the duty of mapping out Wales for these purposes, of taking the initiative and to be empowered to compel joint action whenever compulsion is necessary.

As the result of a good deal of experience in the health service, I am convinced that we cannot move towards the kind of public health organisation which Wales, at least, needs unless the present

* See PUBLIC HEALTH, October, 1932, p. 28.

framework of local government is modified. The so-called large authorities are not large enough, and they are too isolated from one another. Confusion must result from the fact that, while contiguous county councils and county borough councils are required to consult the voluntary hospitals which serve both their populations, each is perfectly free to act without reference to the other or to any other authority of the same character, although their interests and problems may be closely interrelated.

THE CENTRAL COUNCIL FOR HEALTH EDUCATION.—The Ninth Annual Conference on Health Education, organised by the Central Council, is to be held on November 19th and 20th next, at the London School of Hygiene and Tropical Medicine, Keppel Street, London, W.C.1. The programme is as follows:—

THURSDAY, NOVEMBER 19TH.

Morning Session—11 a.m. to 1 p.m.

President: The Right Hon. The Lord Horder, K.C.V.O., M.D., F.R.C.P.

1. Address by the President.

2. J. H. Harley Williams, M.D., D.P.H., Barrister-at-Law, Medical Commissioner, National Association for the Prevention of Tuberculosis, will read a paper on: "Creative Health Propaganda."

3. T. Drummond Shiels, M.B., CH.B., Medical Secretary, British Social Hygiene Council, will read a paper on: "Aims and Methods in Health Education."

4. General discussion.

Afternoon Session.

2.30 p.m. Opening remarks by: James Fenton, M.D., M.R.C.P., D.P.H., Chairman of the Central Council for Health Education, on: "The Year's Work."

3 p.m. Chairman, S. H. Payne, President of the National Association of Insurance Committees.

1. Opening remarks by the Chairman.

2. Continuation of the discussion opened at the morning session.

3. Edwin Potts, O.B.E., B.LITT., will read a paper on: "The Duties and Responsibilities of Insurance Committees."

4. General discussion.

8 p.m. Reception of delegates at the London School of Hygiene and Tropical Medicine.

FRIDAY, NOVEMBER 20TH.

10 a.m. Annual General Meeting of the Central Council.

Morning Session—11 a.m. to 1 p.m.

Chairman (to be arranged).

1. Address by the Chairman.

2. Address by Claude Lillingston, M.D., League of Red Cross Societies.

3. General discussion.

Afternoon Session.

2.30 p.m. Chairman: John Macmillan, M.B., D.P.H. Joint Conference of Affiliated Societies.

4 p.m. Programme of health educational films.

(7.30 p.m. Annual Dinner of the Society of Medical Officers of Health.)

Papers and Discussions in Brief or Abstract

RADIOLOGY IN OBSTETRICS

During the National Conference on Maternity and Child Welfare at Liverpool, the M. & C.W. Group of the Society held a meeting on July 4th at which the employment of radiology in obstetrics was discussed. The opening papers were read by Mr. R. E. Roberts, B.Sc., M.D., D.P.H., D.M.R.E., L.V., Lecturer in Radiology at Liverpool University, and Mr. F. J. Burke, M.D., Deputy Medical Superintendent of Mill Road Infirmary, Liverpool. The following is a summary of their papers, which were illustrated by lantern slides, and of the discussion which followed:—

DR. R. E. ROBERTS.

The simplest way to deal with the subject of the help offered by ante-natal radiology in the elucidation of obstetric problems will be to enumerate the questions which may be put to the radiologist by the obstetrician, to endeavour to answer them, and to discuss the reliance that may be placed on these answers.

Is the Patient Pregnant?—In my experience, radiology has proved to be reliable in the diagnosis of pregnancy after the sixteenth week—sometimes earlier—provided that the radiographs are of good quality.

What is the Position and Presentation?—If radiographs be taken in two planes at right angles a complete orientation of the fetus is possible in every case. Radiology gives information as to the position and presentation and regarding multiple pregnancy or foetal abnormalities which is more complete and reliable than that obtainable by any other diagnostic means.

What is the Period of Gestation?—In assessing the period of gestation in cases where this is in doubt radiology can be relied on in many cases to give information which is considerably more exact than that which is obtainable by clinical means. For various reasons, we have to take as our standard the size of the skull, and from this we can judge the period of gestation to within one week. So far the method has been employed only as to vertex presentations, but it should prove applicable to others.

Is there any Disproportion between the Size of the Foetal Skull and that of the Maternal Pelvis?—In the matter of disproportion radiology, in skilful hands, gives precise information as to the size of the foetal skull and the measurements of the maternal pelvis; without, however, a fuller knowledge of the uterine forces and of the degree of possible skull-moulding in labour the application of these cephalometric and pelvimetric data is normally outside the province of the radiologist.

Is the Foetus Dead?—In the diagnosis of intrauterine death the radiological evidence is reliable if positive, i.e., by observation of shrinkage of the brain substance, "Spalding's sign" (overlapping of the cranial bones); if this condition be suspected a firm negative opinion can only be given if repeated X-ray examinations are made.

Is the Pregnancy Extrauterine?—This difficult question is readily answered if any of the foetal parts are shown to

extend beyond the shadow of the uterus. The X-ray diagnosis is reliable if direct radiography be followed where necessary by the use of contrast media.

Is the Placenta Prævia?—In the diagnosis of placenta prævia two methods of employing contrast media are described, viz., (a) radiography after the injection of uroselectan into the amniotic sac. This method is open to the objection that the injection is almost certain to induce labour and that in the radiographs the exact site of the filling defect due to the placenta is not always readily detected; (b) radiography after the injection of an opaque solution into the bladder, and demonstration of an increased gap between the foetus and the bladder in placenta prævia.

This method is only reliable in the later months of pregnancy in cases of central placenta prævia where a central clot is excluded.

Both these methods are in their infancy; insufficient data are available for a firm opinion as to their reliability.

DR. F. J. BURKE.

This paper describes work done to estimate the practical value of diagnosis by X-rays of placenta prævia.

There is a pressing need for improvement in our methods of diagnosis and treatment of this condition. Placenta prævia is at a minimum responsible for 5 per cent. of all maternal deaths, and carries with it a still higher foetal mortality. There are no returns to show how often placenta prævia causes foetal death, but it is usually held that the foetal mortality in placenta prævia is 40 to 60 per cent.

It is clear that placenta prævia is a grave complication of pregnancy. There is an inevitable element of danger to both the mother and the child if the placenta is implanted on the lower uterine segment. The child cannot be born until its blood supply is partly or completely cut off, the mother cannot be delivered until the placenta is partly or completely detached. Added to these dangers, diagnosis and treatment is often speculative. The only way of establishing beyond doubt the presence of placenta prævia is by actual palpation of the placenta through the partly dilated cervix. When the cervix is dilated the presence and the variety of placenta prævia can be easily diagnosed, but when the cervix is closed only manual dilatation of the cervix will provide the information. It is in the latter type of case that amniography has been suggested as an aid to diagnosis. The method which appears to have given the most satisfactory result is that employed by Menees, Miller and Holly in 1930. By means of a needle inserted through the abdominal wall they injected a solution of strontium iodide into the amniotic sac. Later, when the strontium iodide had thoroughly mixed with the liquor amnii, X-ray photographs were taken and it was found that the liquor amnii had become radiopaque and the outline of the amnion clearly defined. This procedure they called amniography. They claimed that if the placenta was viewed in profile it was represented as a filling defect projected from the wall of the uterus into the amniotic cavity. Twenty-one cases were treated in this way, and in the majority they succeeded in demonstrating the position of the placenta. Kerr and Mackay in the main were able to confirm the observations of

Menees, Miller and Holly. In ten of their cases uroselectan B. was used as the contrast medium; they found that 20 c.c. gave a suitable shadow and in no case were untoward effects noted.

At Mill Road Infirmary amniography was performed in 23 cases using a similar technique. An ordinary serum needle was inserted into the uterus through the abdominal wall and after a small quantity of liquor amnii had been withdrawn 20 c.c. of uroselectan B. were injected. To assist the mixing of uroselectan and the liquor amnii the patient then adopted the genu-facial position and this position was maintained for five minutes. After an interval of fifteen to twenty minutes the radiographic examination was made. In all cases postero-anterior and lateral views were taken; antero-posterior views were rarely of any value.

In a series of 23 cases, several contrast media were employed with varying results, but in ten cases in which uroselectan B. was used as the contrast medium the position of the placenta was accurately diagnosed nine times. Strontium iodide gave excellent radiographic results, but it was used only in a small number of cases because of the possible danger of foetal injury. Uroselectan appeared to have no toxic effects on the mother or child. In 35 cases in which uroselectan was injected into the uterus there was only one instance in which death of the foetus occurred which could not be explained by natural causes; post-mortem examination in this case revealed no evidence of trauma or toxic damage.

In a small number of cases an endeavour was made to determine the manner of disposal of the contrast medium. Comparatively little is known concerning the absorption of substances from liquor amnii, a subject which is of some importance in considering the aetiology of hydramnios. Rivett injected a solution of indigo carmine into the pregnant uterus, but failed to detect the dye in the maternal urine. Also he injected large doses of insulin and found that this did not influence the amount of sugar in the maternal blood. In several of my cases the maternal urine was examined after uroselectan had been injected into the uterus, and it has proved conclusively that active absorption takes place from the liquor amnii. Urine was collected at intervals after 20 c.c. of uroselectan had been injected into the uterus, and it was found to contain estimable quantities of the uroselectan. At the 36th hour after injection the urine contained only a trace.

Apart from any bearing which these results might have on the aetiology of hydramnios, they bring out two points which are of importance in amniography:—(1) that there is only a short time during which uroselectan exerts its effect on foetal tissue; (2) that the maternal kidneys are responsible for the disposal of uroselectan. Hence it is probably wise to refrain from employing amniography in the presence of severe renal damage in the mother. There is another important point which must be kept in mind, namely, that the injection of uroselectan causes induction of labour. This appears to constitute the main disadvantage of uroselectan as a contrast medium, although this is not an unmixed evil, as in late pregnancy it may be useful in bringing to a close a difficult case. If amniography is indicated in early pregnancy strontium iodide may be used, as Menees, Miller and Holly maintain that this

compound does not induce labour. Uroselectan invariably induces labour unless there is gross hydramnios, and I have been so impressed by the consistency of this effect that I have employed uroselectan solely for the purpose of inducing labour in the treatment of post maturity and disproportion.

Finally, the clinical aspect of amniography must be discussed. The radiographs that have been shown illustrate that placenta prævia can be diagnosed in this way. It is not, however, possible to obtain satisfactory results in all cases, e.g., where there is obesity of the patient or hydramnios. Further, the placenta cannot be seen unless it is viewed in profile. The greatest care is therefore necessary in conducting the X-ray examination. Lastly and of most importance, if liquor amnii is scanty in amount uterine puncture may be unsuccessful. Allowing for these difficulties, amniography can be of considerable value as an aid to the diagnosis of placenta prævia.

In what type of case is amniography likely to prove useful? There is clearly no indication for an investigation of this nature in all cases of ante-partum hæmorrhage: yet it is true that a marginal placenta prævia which may prove fatal may at an early stage be indistinguishable from a mild accidental hæmorrhage. Are we then to advise amniography in all cases of ante-partum hæmorrhage, no matter how scanty any additional evidence in support of the diagnosis of placenta prævia? At the present this does not seem practicable nor profitable. The indications for amniography may perhaps be defined in this manner—if in a doubtful case of placenta prævia, the history of a case, the physical signs, and other important considerations, such as the age of the patient, parity, desire for a live child, etc., are sufficient to indicate Cæsarean section, then amniography should be performed. But if it is decided that delivery shall be *per vias naturales* in any case, then there is little or nothing to be gained by subjecting the patient to the examination. The main value of amniography appears to be as a deciding factor for or against delivery by Cæsarean section, and in this capacity there seems to be a place for it in ante-natal investigation.

DISCUSSION.

Dr. E. H. T. Nash (M.O.H., Heston and Isleworth) spoke of the great advance in radiography illustrated by these two papers. He thought that in time administrative officers should be required to make provision for radiography as directed, and he enquired as to the cost of such provision.

Amongst other questions put to the opening speakers Dr. Margaret McCash (A.M.O., Burnley), asked about confirmation of radiological diagnosis.

Dr. Roberts, replying to Dr. Nash's question, put the cost at £1,500. Referring to extrauterine pregnancy, he recommended the injection of lipiodol into the uterus only when one was prepared to go on to delivery as it would bring about premature labour.

Dr. Burke said that uroselectan caused premature labour and might be used for its induction; it should therefore be used only after the 35th week. Strontium iodide might be used earlier: only one in 80 cases miscarried. Confirmation of the X-ray diagnosis could be made in some cases by Cæsarean section or by inserting the hand into the uterus after delivery. He had never seen

complications arising from the insertion of the needle into the placenta.

Dr. Agnes Nicoll (A.M.O., Willesden) proposed a hearty vote of thanks for two such interesting papers. The subjects dealt with belonged to the class of new discoveries and solved problems hitherto believed to be insoluble.

FACILITIES FOR RADIOGRAPHY IN TUBERCULOSIS

Memorandum submitted to the Council by the Tuberculosis Group.

For several years after the inception of tuberculosis schemes the diagnosis of pulmonary tuberculosis was dependent upon clinical methods; history taking, physical examination, sputum examination, temperature records, and comparative weights. Short of finding bacilli in the sputum, or of a *post-mortem* examination, it was impossible in many cases to confirm the diagnosis that had been made. In consequence, not only were such conditions as bronchitis and bronchiectasis frequently diagnosed as tuberculosis but in the endeavour to get patients under treatment at an early stage of the disease there was a tendency to give them the benefit of the doubt and to regard them as suffering from tuberculosis. There is no doubt that in the past many sanatoria contained a large proportion of such cases and there is good reason to believe that a number of non-tuberculous patients are still treated in sanatoria as tuberculous.

Two illustrative cases may be quoted:—

A farm worker of 38 seen by a Tuberculosis Officer had complained of some shortness of breath for three months and had been confined to bed for two weeks with cough, malaise and a slight pyrexia. On auscultation of the chest rather fine crepitations were heard over both lungs. A skiagram showed no evidence of tuberculosis and bronchitis of the small tubes became the probable diagnosis. On the succeeding day the same Officer visited a farmer of 42 with much the same history except that the patient was not pyrexial or confined to bed, the physical signs discovered were almost identical yet in his case a skiagram revealed extensive bilateral tuberculosis. In both patients the sputum examination was negative. Without X-rays it would have been difficult to differentiate the cause of disability in these two patients.

Chest radiography is to-day essential for the completion of a diagnosis, the casting of a prognosis, and the planning and control of treatment, yet the facilities provided vary widely in different districts and in some of them the existent facilities are only partially utilised. A film should be taken of every case notified or sent to a dispensary for diagnosis, and radiography is also an essential aid to the examination of the most important class of contact—the young adult.

Any skiagram should be a good one, a poor picture is worse than useless. The present minimum requirements are an apparatus capable of giving a good chest film at a focal distance of not less than 4 feet in not more than one-tenth second.

The following table shows the number of new cases and contacts examined and the number of X-ray examinations in England from 1927 to 1934:—

	New Cases and Contacts Examined for the first time.	X-ray Examinations.
1927	134,071	26,075
1928	139,430	31,689
1929	139,719	36,757
1930	139,762	43,882
1931	144,032	55,294
1932	143,531	63,823
1933	140,848	76,688
1934	138,623	84,195

(An increase of over 200 per cent. in 7 years.)

The next table gives the ratio of X-ray examinations made in connection with the Dispensary Service to 100 deaths from tuberculosis which occurred during the year in each class of area:—

	Counties.	County Boroughs.	London.	England (all areas).
1931	135	216	134	168
1932	169	265	151	205
1933	197	305	166	237
1934	243	382	212	295

The average number of X-ray examinations made in connection with Dispensary work was in 1934 about 300 per 100 deaths from tuberculosis. There are 152 Tuberculosis Authorities in England; in 28 of these (18 per cent.) more than 500 examinations are made per 100 deaths, in 64 (42 per cent.) the ratio is less than 100.

In the metropolitan boroughs the 1929 figures for the number of X-ray examinations per 100 new cases and contacts examined varied from 0.6 to 74; in 1933 the variation ranged from 2 to 84; in that year also the number of skiagrams for 100 new cases—omitting contacts—ranged from 3 to 183.

Reasons for Discrepancies.

Various causative factors are concerned in the discrepancies that have been described.

1. The Local Authority may not appreciate the necessity for such provision.

2. Although the number is diminishing there are still a few senior and experienced Tuberculosis Officers not yet convinced of the value of radiography as a routine procedure.

3. In other instances lack of training and experience of the Tuberculosis Officer prevents him realising the assistance he might obtain from radiography. Such officers may have insufficient opportunities for post-graduate work and contact with their colleagues.

4. The area administered may be too small to provide adequate facilities or the population too scattered, or the transport too poor for the utilisation of the facilities provided.

Remedies.

1. It is important first to impress the chief administrative officer who has the ear of the local authority that X-ray facilities are essential.

2. Local authorities should arrange for their officers to attend post-graduate refresher courses such as are provided by the Joint Tuberculosis Council, and all clinical Tuberculosis Officers should be encouraged to join Medical Societies, the British Medical Association, the Tuberculosis Association, and the Society of

Medical Officers of Health where they will meet colleagues in a friendly atmosphere.

3. Where possible there should be a central dispensary with an X-ray plant conforming to up-to-date technical standards, but small areas may be combined with others for X-ray purposes, and it is often possible to make suitable arrangements with general hospitals in the district concerned.

4. All Tuberculosis Officers should be able and prepared to read their own skiagrams, but the radiographic work may be done either by the Tuberculosis Officer himself or a well trained radiographer.

We ask the Society to bring this subject to the notice of its members and assist us to secure the extension and improvements of X-ray facilities.

THE MIDWIVES ACT, 1936, AND ITS OPERATION

The conference convened by the Royal Sanitary Institute to consider the new Midwives Act and its operation was held at the Central Hall, Westminster, on Thursday, October 22nd.

The Minister of Health (Sir Kingsley Wood), in an opening address, referred to some points of importance in his recent memorandum on the Act. He emphasised the urgency of formulation of proposals by local supervising authorities by January 30th next, and the importance of early consultation with voluntary organisations which employed midwives and with local organisations representing doctors and midwives practising in the area; county councils would also have to consult with welfare authorities. He expressed the hope that the new service would be organised as an integral part of the public health services, and that it would have the co-operation of the medical profession in general.

After Dr. James Fenton and Sir Comyns Berkeley had moved and seconded a vote of thanks to the Minister, which was heartily accorded, Dr. John Buchan (M.O.H., Bradford) read a paper, which is summarised below, to open the discussion.

DR. JOHN BUCHAN.

The Midwives Act, 1936, differs from other Acts of its series, in that it provides not only for better training of midwives and regulation of their practice but also for the employment of midwives by, or on behalf of, local supervising authorities, who will regard the Act as a means of improving the conditions of maternal and infant health. The Act will be a difficult one to administer in many areas, and its success will depend on the co-operation secured with welfare and hospital authorities and on the help of all the bodies concerned.

The primary duty imposed upon local supervising authorities is to secure that the number of certified midwives available is adequate for the needs of the area, a term which has varying meanings according to the view taken of the midwife's duties. These cannot be less than those required by the C.M.B. rules, Section E, which represent only a common maximum to be reasonably expected from all midwives. When rules "E" are revised they will probably add considerably to

the range of midwives' duties under the new conditions of employment.

Local Authorities, in formulating their proposals under the Act, will be wise to base their schemes, not only on the services carried out by the midwife in the past, but also on the work she ought to undertake so as to become an active co-ordinating factor for all the agencies in a scheme of maternal welfare.

The number of midwives required in an area will depend on the amount of work an individual midwife may be expected to do in a given time. The Ministry's memorandum of September 18th suggested a standard of attendance on 70 cases as a midwife and 30 cases as a maternity nurse during one year, in populous districts. The post-natal period of attendance is now 14 days, and as the C.M.B. have held recently that a midwife must attend daily throughout the period, at least 16 post-natal attendances are necessary. The ante-natal work required will soon be increased, and a midwife will have not merely to send her patients for ante-natal examination but to attend personally with the patient so as to receive all necessary instructions; this will involve at least 6 attendances. Thus ante- and post-natal attendances will total at least 22, *i.e.*, apart from the labour itself, the midwife will put in not less than 20 hours' work on each case. An average attendance at the actual labour might be 10 hours, making a total of 30 hours per case, whether as midwife or as maternity nurse. On the Ministry's standard, therefore, she would have to put in 3,000 hours per annum or about 60 hours a week, which cannot be considered as making for the efficiency of the service.

Even in populous districts, it hardly seems safe, therefore, to assume that more than 80 cases per annum can be undertaken by one midwife in one year, this representing a 48-hour week. In rural districts the number will be possibly less than 50 cases.

Local supervising authorities will take into consideration the number of cases attended by doctors and those which will go to institutions. The former point has little bearing, because in all doctors' cases the midwife will attend as maternity nurse with duties hardly less onerous than if she were acting alone. The work of maternity hospitals, however, does reduce the requirements in respect of domiciliary midwives, but a local authority will not in future regard it as sufficient that an expectant mother should simply go to an out-door department of a hospital, book for her admission there, and attend the ante-natal department as convenient for herself. Experience teaches us the dangers of miscalculations in the time of the expected confinement, of failure to maintain regular ante-natal attendances and of unexpected complications. Maternity hospitals ought to call upon the domiciliary midwife for help and co-operation before and after confinement: this should be arranged when the case is booked. A hospital case might be regarded as requiring about one-fifth of the attendance given by domiciliary midwives upon cases dealt with entirely at home.

The institution of a public domiciliary service of midwives may reduce the numbers of hospital cases in some areas, but we have not yet reached the peak demand for maternity accommodation in hospitals, for reasons of

inadequate housing or inability to make satisfactory arrangements at home. The maternity hospital has rendered an important social service, but its main function is to render medical and nursing service in cases where difficulty is threatened. It has to be regarded as an essential part of the maternal welfare scheme which should be co-ordinated with all the other agencies, and this will best be done by making use of the public service of midwives.

The needs for domiciliary attendance will in future be met by one or other of three types of midwives: (a) those employed directly by the authority; (b) those employed by welfare councils or voluntary associations under agreement with the authority; and (c) those in private practice. The last type will largely, but never entirely, disappear, that is, if the public midwives prove acceptable to the community. Private midwives' practice will mostly be done as maternity nursing and in industrial areas is hardly likely to exceed 5 per cent. of the domiciliary cases.

Upon the judicious selection of suitable persons as public midwives the whole success of the scheme depends. Most authorities will prefer them to have the training of general nurse as well as midwifery training and experience. The supply of such women is definitely limited despite the fact that there are 54,000 midwives on the Roll. Many of those in practice to-day are unable to conform to the standard which will be expected under the new conditions of employment. Of the 15,000 practising, about 6,000 already occupy positions in the hospitals and the midwifery service but it is calculated that another 5,000 are required in addition, and it is unlikely that these can be got from the remaining 9,000. In the initial stages local supervising authorities will have to make the best of the material available, until the supply of well-trained and experienced women becomes sufficient for the needs of the service, and this will not be secured if the conditions of practice are not made attractive. Two classes of midwife, therefore, are likely to exist in the service of local authorities for some time—the general-trained midwife, fully qualified and experienced, who will ultimately form the whole staff, and the practising midwife, not general-trained, who has been taken over because of the dearth of suitable officers in the first class. All will agree that the terms of appointment of practising midwives who fulfil the conditions of the first class should be not less advantageous than those of health visitors, including a salary scale of at least £200 rising to £250 per annum.

In arranging the work of midwives under the Act, in all but the smallest areas the midwives will have to be grouped in districts so that one midwife of a group may act in emergency for another. The number of midwives in each group should be sufficient for attendance on all the births of its district, and it is suggested that no midwife in a group should be permitted to book more than two cases expected in any one week or six cases expected in any one month. When she is fully booked, she would refer any further cases to other members of her group. Such an arrangement will afford to the mothers a certain choice of midwife. A number of general relief midwives will also be required.

No difficulty need arise in the fixing of fees payable

under section 3 of the Act if this is done as the Ministry suggest in their circular. Although increased service will be given under the new scheme at increased cost, the local authority, in making a scale of recovery of fees, will be limited by the fees previously charged in the area and by the ability of the patients to pay. The scheme is not likely to be self-supporting by patients' contributions in any area. Indeed, the recognition of this fact and of its consequences has led to the Act being passed.

DR. T. N. V. POTTS (C.M.O.H., West Riding, Yorks) drew attention to some special aspects affecting county councils in relation to urban and rural districts. He had in mind his own county where there were approximately 23,000 births a year, and where there were about 190 nursing associations, of which 125 were affiliated to a county nursing association and the remainder independent. There were also 22 welfare authorities in the county area, so that obviously the task of consultation of all these bodies by the county council before January 30th next will be no light task. His personal opinion was that the county council should so far as possible enter into arrangements with the welfare authorities for the latter to administer the midwives' service in their areas. Lastly, he urged that the primary consideration in formulating schemes should be the personal wishes of the patients concerned.

LADY WILLIAMS (Hon. Secretary, Joint Council of Midwifery) paid tribute to Dr. John Buchan's work in connection with the report on which the Midwives Act was based. She said that, although no widespread public health activity should be left entirely to voluntary effort there was a case for the preservation of voluntary effort as a part of a state or municipal service.

THE NORTH-WESTERN BRANCH AND THE ROYAL SANITARY INSTITUTE.—A Sessional Meeting of the R.S.I. will be held in the Town Hall, Blackburn, on Friday, November 13th, 1936, in conjunction with the North-Western Branch of the Society, when there will be discussions on "The Control of Food and Its Preparation," to be opened by Dr. V. T. Thierens, Medical Officer of Health, Blackburn, and on "Certain Provisions in the New Public Health Bill," to be opened by C. S. Robinson, Town Clerk, Blackburn. In connection with the meeting, visits will be made to a housing site and refuse disposal plant, the Salesbury Sewage Disposal Works, and an "attested" dairy farm. The Chair will be taken at 5 p.m. by Dr. George F. Buchan, Vice-President of the Institute.

A DENTAL session is being arranged by the British Dental Association (Public Dental Officers' Group) to take place on the morning of Tuesday, November 17th, at the Agricultural Hall, Islington, as part of the Public Health Congress held in that week. Sir Norman Bennett, M.B., L.D.S., will read a paper on "Dental Disease and National Health," and Mr. Frank J. Pearce, President of the Association, will take the chair. The Session has been arranged with a view to promoting the efficiency and raising the status of the Dental Service, and has been approved by the Board of Education.

THE National Association of Local Government Officers has made a donation of £525 to the King George V Memorial Fund.

Reports of the Council, Hon. Editor and Hon. Treasurer for the Session 1935-1936

For submission to the Annual General Meeting of the Society, November 20th, 1936.

ANNUAL REPORT OF THE COUNCIL, SESSION 1935-36.

Membership of the Society.—During the past session 164 candidates have been elected as Fellows or Associates of the Society, this being the largest number of recruits obtained in any one year since 1921-22; 83 resignations have been accepted from members on their retirement from active practice or for other reasons; but it has been found possible to retain in the register on the basis of fully-paid life membership (now provided for in Article 12) five members who have subscribed to the Society for 25 years or more and who would otherwise have been lost by resignation. Two of the above-mentioned resignations occurred through action taken under Article 11 by reason of disloyalty to the salaries policy of the Society and the British Medical Association.

The Society has to mourn the loss by death since October 1st, 1935, of Dr. G. W. N. Joseph (Warrington C.B.), a representative of the North-Western Branch on the Council since 1920, also Hon. Secretary (1916-31), President (1931-32) and Hon. Treasurer (since 1932) of that Branch; Surg.-Capt. O. W. Andrews, R.N. (ret.) (West Gloucestershire United Districts), Drs. Robert Clark (Rutherglen Burgh), W. M. Clendinnen (Cannock U.D.), A. E. Cope (Public Vaccinator, Westminster), Archibald Ferguson (Stepney Met. B.), Sir William Hamer (formerly M.O.H., London C.C.), President of the Metropolitan Branch 1921-23, Drs. C. S. van R. Harwood (Honduras, formerly A.M.O.H., Bury), H. H. I. Hitchon (Heywood), President of the North-Western Branch, 1918-14, and Hon. Treasurer of the Branch for more than 20 years, J. T. Knight (Carlton U.D.), T. L. Lack (Forehoe U.D.), J. K. Lund (Hale U.D.), C. B. Meller (Cowbridge R.D.), C. J. Perrott (Kingswood U.D.), A. J. S. Pinchin (Cons. T.O., Hampstead Met. B.), S. I. Pritchett (formerly Rochester M.B. and Port), J. S. Purdy (Sydney, N.S.W.), Mabyn Read (formerly Worcester C.B.), T. M. Tibbetts (Quarry Bank U.D.), James Wood (Chadderton U.D.), R. T. Turner (Nantwich R.D.) and Mr. A. W. Noel Pillers, F.R.C.V.S. (Chief V.O., City of Liverpool).

The net gain in the membership of the Society during the session 1935-36 has therefore been 60 members, making the total strength 1,850 on October 1st, 1936. Since the average annual loss by deaths and resignations is not far short of 100 members, it is evident that recruitment must be maintained at a high figure if the Society's strength is to be increased to its greatest potential. The returns to a questionnaire sent out by the Executive Secretary in January last indicated that there are still several hundred medical and dental officers of local authorities who are eligible for membership of the Society but who have refrained from applying for election. At the risk of repetition, we would urge upon the Branches, Groups and individual members the importance of seeing that these non-members are brought "within the fold." With regard to assistant

medical officers, the Society's constitution is now thoroughly democratic, and any member can play such a part in its activities as he is able. Our influence with Government departments, with other professional bodies and with local authorities must be largely dependent upon the proportion of the public health service which our membership covers and we cannot rest content until we reach our highest potential strength.

Meetings held during the Session.—Dr. W. G. Savage delivered his Presidential Address at a well-attended meeting on October 18th, 1935, taking as his subject "Our Future." The President arranged for the other general meetings of the session a programme designed to cater for the particular interests of various groups in the Society. The subject of the December meeting was "Psychology in Relation to Public Health," the discussion being opened by Dr. Henry Wilson of the Institute of Medical Psychology and Dr. S. W. Savage (Deputy M.O.H. Buckinghamshire) and several school medical officers taking part. In February, Dr. W. M. Ash (C.M.O.H., Derbyshire) presented a paper on "Prevention of River Pollution," which, although it did not have the audience it deserved, has no doubt, by its publication in the April issue of PUBLIC HEALTH, been of great value to many members. The March discussion on "Nutritional Factors in the Prevention of Disease" opened by Professor S. J. Cowell, Professor of Dietetics, University of London, and Dr. G. C. M. McGonigle, M.O.H., Stockton-on-Tees, and President of the Maternity and Child Welfare Group, was attended by a large audience, many of whom contributed; and in May there was another crowded meeting for an interesting and well-organised discussion on "Post-Graduate Teaching in Public Health," opened by Professors W. W. Jameson, of the London School of Hygiene, University of London, and R. M. F. Picken, of the Welsh National School of Medicine. Several other distinguished public health teachers and junior members who had recently acquired their D.P.H. joined in this discussion, and the meeting expressed the wish that the Council should consider the points raised and the desirability of making representations to the General Medical Council.

The aggregate attendances at the meetings of the session were the best for some years past, and it is hoped that the institution of a Programme Sub-Committee this year to make early arrangements for the meetings of the ensuing session will ensure the maintenance of interest amongst members in these general meetings.

The Annual Dinner and Sir George Newman.—The presence of Sir George Newman as guest of honour at the Annual Dinner, held on November 22nd, was mainly responsible for the record gathering of more than 250 members and guests who came to pay him tribute following his retirement from the chief medical posts at the Ministry of Health and Board of Education. Sir George made a moving farewell to the public health

service. Sir Kingsley Wood, the Minister of Health, honoured the Society by his presence and spoke of points in the Ministry's programme where he hoped for the Society's co-operation.

The President, 1936-37.—We feel that it is fitting at this point to describe the election of Dr. Ernest Ward as President for 1936-37 as an outstanding event of the year under review. Dr. Ward's qualifications for the highest office in the Society and his past services to the Society are already well-known and have been referred to in the journal. We trust that the especial significance of his election, in so far as he is the first non-M.O.H. member to hold this office, will cement the sense of unity amongst all grades of public health medical officers which the Society has for long aimed to achieve; and that members will show their support of this aim by attending in force at the Annual Dinner to be held on Friday, November 20th.

Dr. Charles Porter and PUBLIC HEALTH.—The retirement of Dr. Charles Porter from the Editorship of PUBLIC HEALTH will already have been referred to at greater length by the time this report appears in print, but we feel that it is incumbent on us to reiterate on behalf of the Society the gratitude due to him for his distinguished conduct of the Society's journal over a period of ten eventful years (excluding his year as President, 1933-34). This office was one which called for much hard work and devotion to the Society's interests, and Dr. Porter has given of these abundantly besides contributing a natural "flair" for journalism. Gratitude is due also to Mr. A. H. James, Dr. Porter's editorial assistant, who is well known to many members.

Future of the Journal.—Your Council decided in regard to the future conduct of PUBLIC HEALTH to continue the policy of unification of duties by which the post of Executive Secretary was made a whole-time one in January, 1936, and various functions in connection with the business of the Society, which were formerly carried out by other agents, devolved upon the central office. The editorial work will now be carried out by the Executive Secretary subject to the control of the Journal Committee, who have assumed responsibility for the medical aspects.

Work of the Council and its Committees.—During the session there were held:—four ordinary and one special meeting of the Council (the latter to consider the draft new Section B Rules of the Central Midwives Board); six meetings of the General Purposes Committee; three meetings of the Accounts Sub-Committee and one of the Trustees; three meetings of the Journal Committee, and two of the Programme and Annual Dinner Sub-Committees. In addition, a special Committee appointed to consider the Public Health Consolidation Bill held one meeting, and representatives of the General Purposes Committee held a preliminary conference with representatives of the B.M.A. Public Health Committee regarding the need for a reinterpretation of the agreement on co-operation between the Society and the Association drawn up in 1923.

The proceedings of the Council have been fully reported in PUBLIC HEALTH but a résumé of communications made to Government Departments and other bodies may be of interest.

Representations to the Ministry of Health and other Official Bodies.—The past session has seen the passing of the Consolidating Public Health Act, and of the Midwives Act, and the issue of the new Milk (Special Designations) Order. The Council took steps to make representations to the Ministry in connection with all the above, and, in the case of the Public Health Act, certain amendments were accepted by the drafting committee. With regard to the Midwives Act, it is appropriate to mention at the same time that the Council were consulted by the Central Midwives Board on the draft new rules governing the training of midwives; in both these matters great assistance was received from the Maternity and Child Welfare Group.

We have also been in communication with the Board of Education in regard to provision of meals (including milk) for elementary school children, and to physical and mental development of school children ages 11+ to 16+ (a memorandum prepared by the School Medical Group was submitted); and with the Milk Marketing Board, regarding the desirability of providing milk at a reduced price for expectant and nursing mothers and children under school age.

The Society's thanks are due to Sir Francis Fremantle, M.P., and Capt. G. S. Elliston, M.P., for their willing services in putting forward the Society's point of view on public health matters before Parliament.

Communications with Associations and Voluntary Societies.—In the course of the session we have been in communication with a large number of professional and voluntary associations connected with local government or the public health, notably the British Medical Association, Association of Municipal Corporations, Royal Sanitary Institute, British Dental Association, Central Council for Health Education, National Veterinary Medical Association, Association of County Medical Officers of Health, Joint Council of Midwifery, Sanitary Inspectors Association, Women Public Health Officers' Association, College of Nursing, National Association of Fishery Boards, Association of Port Sanitary Authorities, National Smoke Abatement Society and Central Association for Mental Welfare. Representatives of the Society have continued to serve on many bodies.

Salaries of Public Health Medical Officers.—The British Medical Association, on behalf of the Society and of the public health service generally, has continued to urge upon local authorities the full application of the Askwith Memorandum in regard to salaries. We wish to express once more our appreciation of the value of co-operation between the Association and the Society in this direction. The replies to a questionnaire sent out by the Executive Secretary on staffing and salaries in public health departments showed that at the beginning of 1936 the great majority of local authorities have now implemented the salaries agreement. Another fact which emerged and which is of close concern to non-M.O.H. members was that the number of departmental posts which offer the senior M.O. grade of salary (£750-937 or more) is now known to be over 270 and there are other instances where adjustment to this grade should be and probably will be made in due course. It is the aim of the Society to urge the increase of this type of post, in order to widen the prospects of

promotion for members who cannot look forward to, or who have no inclination for, becoming M.O.'s H.

Thanks are once more due to *The British Medical Journal*, *The Lancet* and *The Medical Officer* for their generous co-operation in forwarding the salaries campaign.

Salaries of Dental Officers.—At a preliminary conference between representatives of the British Dental Association, the B.M.A. and the Society, it was agreed that the attainment of a recognised scale of salaries for public health dental officers was desirable, and it was left to the B.D.A. to formulate a memorandum which, after subsequent consultation with the B.M.A. and the Society, could be submitted to the Board of Education and associations of local authorities.

The Branches and Groups.—The Branches and Groups of the Society have continued to arrange regular meetings for their members and several of the papers presented have been printed in PUBLIC HEALTH. The Council have continued to consult the Branches and Groups on important matters which do not, however, require urgent action. During the past session, they have been asked to forward observations in connection with memoranda on "Post-graduate Facilities for Departmental Medical Officers," by Dr. Agnes Nicoll, and on "Methods of Appointment of Medical Officers of Health," by Professors W. W. Jameson and R. M. F. Picken. The Council will again consider these memoranda in the light of the observations received.

Congratulations are due to two Groups in particular, the Maternity and Child Welfare and the Dental Officers', for the increases achieved in their membership; 385 members of the Society are now attached to the former Group and the latter has increased its membership from 109 to 154 during the session. Both of these Groups have formed Sub-Groups in various Branch areas so that their interests are catered for in various parts of the country as well as London and the Home Counties.

Especially thanks are due to the Branch and Group Officers, notably their honorary secretaries, for their efforts on behalf of the Society.

Dr. Savage's Presidency.—We offer sincere thanks and congratulations on behalf of the Society to Dr. W. G. Savage on the completion of his year as President. Dr. Savage has devoted himself whole-heartedly to the by no means light Presidential duties, and his scientific eminence has given an unusual distinction to his tenure of office. He has been an admirable chairman of the Council and general meetings and his speeches on public occasions have added to the Society's prestige.

Other Officers and Retiring Members of the Council.—Grateful thanks are due, as for many years past, to Dr. G. F. Buchan for his work as Honorary Treasurer, to Dr. James Fenton, chairman of the General Purposes Committee, and to Dr. F. T. H. Wood, who deputised during part of the session for Dr. Fenton and has latterly undertaken the chairmanship of the Journal Committee.

The annual interchange of representatives on the Council involves the retirement of Dr. T. W. Naylor Barlow, after 32 years of service, Drs. W. M. Frazer, H. J. Milligan, Agnes Nicoll, T. N. V. Potts and A. A.

Turner; during the session Dr. Ethel Cassie and Mr. Grantley Smith, L.S.A., L.D.S., also retired owing to pressure of other work. We recommend that the thanks of the Society be accorded to these representatives for their services on the Council.

The Consultant and Executive Secretaries.—We desire to record our appreciation of the services of the Consultant Secretary both in his capacity as a Member of Parliament and as our adviser on other matters, and of the Executive Secretary in carrying out his duties in connection with all interests of the Society.

REPORT OF THE HONORARY EDITOR OF "PUBLIC HEALTH" FOR THE SESSION 1935-36

As this is the last report I shall make as Editor, I desire to take the opportunity of thanking the Council for the honour they did me originally in electing me Honorary Editor of the Society's journal on January 15th, 1926, and continuing to elect me year by year. It is not inappropriate that the last year of my Editorship should have been a record one so far, at any rate, as the number of pages was concerned. Throughout the period, for financial reasons, a very strong endeavour was made to keep the pages down to a certain number, and it is remarkable how much of success attended these efforts. It is remarkable also how much of success there was in securing improvements in connection with the lay-out and make-up of the journal. Most of these in all probability were overlooked by readers. They, however, affected such matters as the character and size of the type used; spacing; headings; and arrangement of contents so that, as far as possible, no paper contributed should begin other than at the top of a page. These and other changes and improvements gave prominence to contributions and added to their attractiveness and to the comfort of those studying the various papers. In carrying out improvements the printers (Messrs. H. R. Grubb, Limited, of Croydon) showed the greatest readiness to meet and help me, and it is proper that now I should express my gratitude to them. The actual statistics of the past session show that the total number of pages for the volume was 482, as compared with 428 for 1934-35 and 408 in 1933-34 and in 1932-33.

My final words I use to express special thanks to Mr. A. H. James for all the wonderful assistance he gave me throughout the years of my Editorship, and to those colleagues in the service who lightened my labours by making contribution to the editorial and other pages of the journal.

(Signed) CHARLES PORTER.

October 19th, 1936.

REPORT OF THE AUDITOR.

I have to report that I have closed the audit of the Society's accounts for the year ended September 30th, 1936.

A high order of efficiency has been maintained by your clerical staff throughout the year.

The results of the very able management of your Executive Secretary have enabled me to advise a further

(Continued on page 62.)

Society of Medical Officers of Health. BALANCE SHEET

At 30th September, 1936 (with comparative figures of previous year).

1935.				1936.			
£	s.	d.		£	s.	d.	
LIABILITIES.				ASSETS.			
CAPITAL ACCOUNT—				*INVESTMENTS AT COST—			
4000	0	0	Mr. Berridge's Bequest ...	4000	0	0	£4099 17s. 5d. India 3% ...
150	0	0	Dr. J. T. Neech's Gift ...	150	0	0	Consolidated Stock ...
451	10	0	Furniture and Library ...	451	10	0	£514 16s. 0d. Metropolitan ...
4601	10	0		4601	10	0	2½% Consolidated Stock ...
RESERVE ACCOUNT—				500 0 0 £320 16s. 7d. 2½% Consols...			
25	0	0	Provision for doubtful debts...	25	0	0	150 0 0 £150 3½% War Loan...
1000	0	0	On account of depreciation in Investments ...	1000	0	0	500 0 0 West Ham B.C., 3% Stock ...
1400	0	0	Lease redemption (Provision for re-housing) ...	1400	0	0	509 9 6 £500 Birmingham 3% Stock...
2425	0	0		2425	0	0	483 3 6 £500 Manchester 3% Stock...
177	0	0	Sundry Creditors ...	177	0	0	Local Loans : Paignton U.D.C. 3% ...
REVENUE ACCOUNT—				6400 0 0 £500 Local Loans 3% Stock...			
431	7	7	Balance from last statement ...	431	7	7	
332	5	3	Add Excess of Income over Expenditure ...	332	5	3	
763	12	10		763	12	10	
250	0	0	Less Transfer to Reserve (Provision for re-housing) ...	250	0	0	
513	12	10		513	12	10	
7717	2	10		7717	2	10	
8003	4	5		8003	4	5	

*Note.—The market price last year and at the present time :—

1935.			1936.		
£	s.	d.	£	s.	d.
3239	0	0	3608	0	0
504	14	0	521	5	0
264	4	4	275	2	6
155	5	0	162	6	9
—	—	—	500	0	0
—	—	—	488	2	6
—	—	—	491	5	0
—	—	—	490	12	6
4163	3	4	6536	14	3

I hereby certify that I have audited the several accounts of which the foregoing is the Balance Sheet, and have verified the Capital Investments and cash balances set forth above.

Dated this 15th day of October, 1936.

60

REVENUE ACCOUNT

Year ended 30th September, 1936 (with comparative figures of previous year).

[illegible]

addition of £600 to the reserve fund which is being steadily built up to meet the coming heavy expenditure which may be necessitated on the expiry of your present lease. I note, with satisfaction, that your Treasurer has been keenly attentive to your interests and has promptly invested all surplus monies not immediately required for working expenses.

I have once again to express my satisfaction with the courtesy and promptitude with which all queries have been elucidated by your executive.

(Signed) J. T. HARRIS.

Rayleigh Drive,
Leigh-on-Sea, Essex.

October 15th, 1936.

REPORT OF THE HONORARY TREASURER.

I have pleasure in submitting my report for the year ended September 30th, 1936.

Revenue Account.—It is satisfactory to record this year again an excess of income over expenditure amounting to £429 18s. 0d. This increased balance arises mainly on account of increased income from rent in respect of the letting of the maisonette, and from advertisements and subscriptions to the Journal. The income from subscriptions to the Society is £23 0s. 11d. less than last year but during last year considerable arrears were collected. On the expenditure side there has been an increased expenditure in respect of stationery and clerical assistance due to the reorganisation of the Society's administration on a whole-time basis. There is, however, a reduction of £69 2s. 0d. on the expenditure on premises mainly due to the fact that the fuel and lighting expenditure has been reduced by the letting of the maisonette above mentioned. When the scheme of administration and rehousing approved by the Council of the Society has been completed there is good reason to anticipate that further savings will be effected.

I would again take this opportunity of urging upon every member of the Society the importance of getting his colleagues to become members as the total membership strength of the Society is not yet in accord with the total number of medical officers in the Public Health Service.

Balance Sheet.—The Balance Sheet discloses that the financial position of the Society is sound. The total amount which has been invested is £6,877 7s. 9d. and the present value of investments is shown as £6,029 15s. 7d. Apart from these investments the Balance Sheet shows liabilities amounting to £425 16s. 8d., made up of:—

	£	s.	d.
Furniture and Library	451	10	0
Provision for Doubtful Debts	25	0	0
Uninvested lease redemption	272	12	3
Sundry Creditors	33	8	7
Accrued Credit Balances from the Revenue Accounts	343	5	10
	£1,125	16	8

This sum of £1,125 16s. 8d. is represented in the Society's assets by:—

	£	s.	d.
Sundry Debtors	192	10	2
Telephone	1	0	0
Furniture and Library	165	0	0
Purchase of Unexpired Lease	366	11	8
Cash in Hand	400	14	10
	£1,125	16	8

It will therefore be observed that the total assets of the Society are the market value of the investments, £6,029 15s. 7d. and £1,125 16s. 8d., less £33 8s. 7d. owing to sundry creditors, making a total of £7,122 3s. 8d.

I desire to record my great appreciation of the assistance given me by the Executive Secretary, Mr. Elliston and of the willing and able manner in which he has responded to the many calls I have made upon him.

(Signed) GEORGE F. BUCHAN,
October 21st, 1936. Hon. Treasurer.

The Branches and Groups
NORTH-WESTERN BRANCH.

President: (1935-36) Dr. W. M. Frazer; (1936-37) Dr. S. T. Beggs (M.O.H., Middleton).

Hon. Secretary: Dr. J. E. Spence, Town Hall, Eccles, Lancs.

Joint meeting with N.W. Dental Sub-Group, September 11th, 1936.

A special meeting of the Branch was held in Parker's Restaurant, 18, St. Mary's Gate, Manchester, on Friday, September 11th, 1936, when 37 members and guests were present, the President occupying the chair. Apologies were received from six members. The minutes of the last meeting were confirmed and signed.

The President referred to the great loss which the Branch had sustained by the death of Dr. G. W. N. Joseph, who had given generous and whole-hearted service to the Branch as President, Treasurer, Secretary and Council Representative for over 20 years. It was resolved on the proposition of the President, seconded by Dr. R. Veitch Clark, "That this meeting desires to record its profound regret at the loss sustained by the death of Dr. G. W. N. Joseph and record their sincere appreciation of the generous and whole-hearted service which he rendered to the Branch as President during the session 1931-32, as Hon. Secretary 1916-31, as Hon. Treasurer 1932-36 and as Council Representative 1916-1936."

Reference was also made to the death of Dr. H. H. I. Hitchon who was President of the Branch 1913-1914 and Hon. Treasurer 1909-1931, and it was resolved on the proposition of the President, seconded by Dr. Spence, "That this meeting desires to record its deep regret at the loss sustained by the death of Dr. H. H. I. Hitchon and to record their sincere appreciation of his services to the Branch as President and Hon. Treasurer for over 20 years."

The consideration of Dr. Agnes Nicoll's memorandum

and that on appointments to the Public Health Service were deferred until the next meeting.

As a Sessional meeting of the Royal Sanitary Institute had been provisionally arranged to be held at Blackburn on November 18th, it was resolved to alter the date of the proposed Branch meeting to Friday, November 6th, and to co-operate with the Royal Sanitary Institute at their meeting at Blackburn.

On the proposition of Dr. R. Veitch Clark, seconded by Dr. F. A. Sharpe, Dr. F. T. H. Wood, Medical Officer of Health, of Bootle, was unanimously elected Honorary Treasurer of the Branch.

It was proposed by the President and seconded by Dr. J. T. Chalmers Keddie that Dr. J. B. Wilkinson, late Medical Officer of Health for Oldham, be recommended to the Council for election as an Honorary Life Member of the Society.

The President then extended to the newly formed North-Western Sub-Group of the Dental Officers' Group a hearty welcome and wished the new Sub-Group success and prosperity. He then called upon Mr. H. Broughton, L.D.S., to open a discussion on "Orthodontic Treatment of School Children," which will be summarised in a later issue.

The opening meeting of the new session, 1936-37, was held at the Public Health Laboratories, York Place, Manchester, on Friday, October 9th, 1936, the President, Dr. W. M. Frazer, occupying the chair. Twenty-three members were present and apologies were received from eleven members. The minutes of the last meeting were confirmed.

The Hon. Secretary intimated that Dr. J. J. Butterworth had retired from the office of County Medical Officer for Lancashire and on the proposition of Dr. F. T. H. Wood, O.B.E., seconded by Dr. J. Bennett, it was unanimously resolved that the Council be recommended to elect Dr. J. J. Butterworth a fully paid Life Fellow of the Society under Article 12. It was also unanimously resolved to recommend the election of Dr. S. L. Melville, late Medical Officer of Health of Middlewich, as a fully paid Life Fellow of the Society.

The President then referred to the great interest Dr. R. Veitch Clark had taken in the affairs of the branch and his services to the Society as Council Representative and President of the Society during the session 1934-35 and expressed the pleasure it gave him to present to Dr. R. Veitch Clark from the North-Western Branch a framed copy of his portrait to be hung in the house of the Society. Dr. Veitch Clark briefly expressed his thanks for the gift and his appreciation of the spirit in which it was given.

The memorandum on "Facilities desirable in order to improve and maintain the efficiency of Medical Personnel in a Public Health Department," by Dr. A. H. Nicoll, was then discussed and it was unanimously resolved that the Council be informed that general approval is given to the memorandum by the Branch.

The memorandum on "The Appointment of Medical Officers," prepared by Professors Jameson and Picken, was then discussed. The Hon. Secretary submitted letters thereon by Dr. F. A. Sharpe and Dr. M. R. C. Grahame, who were unable to be present, and after

considerable discussion it was resolved that the Council be informed that the Branch expressed their general agreement with the memorandum.

The President then inducted the President-Elect, Dr. S. T. Beggs, Medical Officer of Health of Middleton, into the chair and invested him with the Presidential badge, and Dr. Beggs thanked the Branch for the honour they had conferred upon him.

Dr. R. Veitch Clark then moved that the Branch tender to the Retiring President, Dr. W. M. Frazer, their sincere thanks for the work he had done for the Branch during his year of office and the way in which he had done it. He had shown freedom from bias in the discussions and had seized on the main points of the discussions and successfully retained them on proper lines. The proposition was seconded by Dr. H. G. Trayer and carried unanimously. In reply, Dr. Frazer thanked the members for their appreciation of his services and the support they had accorded him.

Dr. S. T. Beggs then delivered his Presidential address on "The Diagnosis of Health," which it is hoped will be published in PUBLIC HEALTH.

In proposing a vote of thanks to the President for his address, Dr. F. T. H. Wood regretted that such an interesting, stimulating and provocative address was not open to discussion as, while there were many points with which he was in entire agreement, there were many with which he could not entirely agree. Much of it would require careful consideration and he looked forward to seeing it in print in order to have an opportunity of studying it carefully. In seconding the proposition, which was carried with acclamation, Dr. G. Jessel expressed his appreciation of the breadth of view and vision revealed by the address and felt that it would provide food for meditation.

On the proposition of Dr. F. T. H. Wood, seconded by Dr. W. St. Clair McClure, it was unanimously resolved that Dr. F. A. Sharpe, Medical Officer of Health of Preston, be elected as Council Representative in place of the late Dr. G. W. N. Joseph.

SOUTHERN BRANCH.

President: Dr. A. E. Druitt (A.M.O., Hampshire C.C.).

Hon. Secretary: Dr. E. Croft-Watts, Lothian House, Fareham, Hants.

A meeting of the above was held at the County Health Department, Winchester, on October 2nd, 1936. Eleven members were present and one visitor. The new President, Dr. A. E. Druitt, was installed by the outgoing President, Dr. Williamson.

A communication from Mr. Elliston was read asking for the observations of the Branch on memoranda submitted by Dr. Agnes Nicoll (on facilities for post-graduate study by departmental medical officers) and by Professors W. W. Jameson and R. M. F. Picken (on methods of appointment of M.O's H.).

After some discussion it was agreed that the Branch was in favour of facilities for post-graduate study by departmental medical officers.

With regard to the methods of appointment of M.O's H., the Branch approved of the memorandum generally but was of the opinion that canvassing should be discouraged as far as possible.

The new Secretary, Dr. Croft-Watts, presented the 1936-37 programme which was approved.

Dr. Druitt then gave his Presidential Address on "Health," showing the very large part diet played in the preservation of health and advocating a meat-free diet, which proved most interesting. It was agreed that the address be sent to PUBLIC HEALTH for insertion.

On the proposition of Dr. Williamson a very hearty vote of thanks to Dr. Druitt for his address was carried unanimously.

The Treasurer's Report was submitted and passed.

Dr. Wilshaw proposed a very hearty vote of thanks to the outgoing President, Dr. Williamson, for all the work he had done for the Southern Branch and his keen interest in it, this was seconded by Dr. Kelf and carried unanimously.

Dr. Williamson replied.

There being no further business the meeting then terminated.

MIDLAND BRANCH.

President: Dr. A. Massey (M.O.H., Coventry).

Hon. Secretary: Dr. R. H. H. Jolly, Health Offices, Town Hall, Wolverhampton.

The first meeting of the session was held at the Medical Institute, 154, Great Charles Street, Birmingham, on Thursday, October 1st, 1936, at 3.30 p.m.

Thirty members were present and apologies for absence were received from the retiring President (Dr. P. G. Horsburgh) and five members.

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

In the absence of the President, the chair was taken by Dr. J. A. M. Clark. Dr. Clark referred to the recent death of Dr. W. M. Clendinnen, of Cannock, one of the senior members of the Branch, and its Hon. Auditor. Those present expressed their sympathy by standing in silence. A letter was read from Dr. Clendinnen's daughter thanking the Branch for their expression of sympathy. It was reported that the Midland Branch had been represented at the funeral by Dr. Clark, Dr. Carruthers and the Hon. Secretary.

Dr. Clark then introduced the new President, Dr. A. Massey, of Coventry, and offered him the best wishes of the Branch on his election. Dr. Massey expressed his gratification to the members of the Branch and next proposed a very cordial vote of thanks to the retiring President, Dr. Horsburgh, on a successful year of office.

The new President then gave his Presidential Address on "The Doctor as Administrator." A hearty vote of thanks to the President for his original and thoughtful remarks was proposed by Dr. Snell, seconded by Dr. Wyndham Parker, and carried unanimously. Dr. Massey briefly replied.

The Branch Council recommended the appointment of Dr. Gibbons Ward as Hon. Auditor in place of the late Dr. Clendinnen. This was approved.

The Hon. Secretary announced that arrangements had been made to hold a Special Meeting of the Branch on October 15th to discuss details of the Domiciliary Service of Midwives to be provided by Local Supervising Authorities under the Midwives Act, 1936.

The meeting then adjourned.

A Special Meeting was held at the Medical Institute, 154, Great Charles Street, Birmingham, on Thursday, October 15th, 1936, at 3.30 p.m. The President (Dr. A. Massey) and twenty-three members were present.

The only item on the agenda was "To discuss details of the Domiciliary Service of Midwives to be provided by the Local Supervising Authorities under the Midwives Act, 1936." The opening speaker, Dr. Newsholme, gave a detailed account of the proposals which his Committee were submitting for a Municipal Midwifery Service for Birmingham. Dr. Ethel Cassie gave a demonstration of a fitted metal midwife's bag which it was proposed to supply to all municipal midwives in the area.

Dr. Hamilton Wood, who dealt with some of the difficulties he had encountered in formulating a scheme for the County of Warwickshire, and Dr. Massey briefly outlined the proposals he was submitting to his Committee at Coventry, and then declared the meeting open for a general discussion, in which a large number of those present took part.

Dr. Newsholme having replied to the numerous questions which had been put to him, the meeting adjourned at 5.30 p.m. It was generally agreed that the object of this Special Meeting had been entirely fulfilled and that the interchange of views and ideas had been most helpful.

METROPOLITAN BRANCH.

President: Dr. A. J. Shinnie, (M.O.H., City of Westminster).

Hon. Secretary: Dr. Vynne Borland, Public Health Department, Patriot Square, Bethnal Green, E.2.

Visits to Glaxo Laboratories, Greenford.

Two parties of members of the Branch paid interesting and pleasant visits to the Bacteriological and Physiological and Chemical Research Laboratories at Greenford on October 2nd and 16th, 1936. Mr. H. Jephcott, M.Sc., F.I.C., managing director, welcomed the parties; Mr. R. F. Hunwicke, B.Sc., F.I.C., senior bacteriologist, gave a brief talk on "Dissolved Vaccines with special reference to Whooping Cough," and Mr. A. L. Bacharach, M.A., F.I.C., spoke on "Vitamin Standardisation." The thanks of the visitors were fittingly expressed by General Henderson, whose resignation from the Branch is much regretted, and Dr. Macmillan, the latter making special reference to the work being done with G.L. whooping cough vaccine as a new agent for prophylaxis and treatment.

HOME COUNTIES BRANCH.

President: Dr. R. P. Garrow (M.O.H., Hornsey).

Hon. Secretary: Dr. C. Herington, Valence House Becontree Avenue, Dagenham.

A meeting was held on October 2nd, 1936, there being present 19 members. Apologies for non-attendance were received from eight members.

Dr. A. W. Forrest, the retiring President, installed Dr. R. P. Garrow. Dr. Garrow thanked the Branch for electing him and referred to the successful year which had just concluded under the Presidency of Dr. Forrest.

Drs. Lorraine, Mayberry and Renwick were re-elected

representatives of the Branch on the T.B. Group and Drs. Brocklehurst and Johns were nominated as the representatives of the Branch on the Kent Branch Council of the British Medical Association.

The Treasurer submitted the balance sheet which showed a favourable balance in the current account. It was agreed that a portion be invested and the matter was left in the hands of the President and Treasurer.

The memorandum prepared by Dr. Agnes Nicoll was considered and it was resolved that the Branch approved of the recommendations contained therein but could not commit themselves with regard to some of the detailed recommendations.

Two nominations for life-membership were received and it was agreed that they be supported by the Branch provided that in one case the member complied with the Articles of the Constitution of the Society.

The question of nominating the President of the Society for the session 1937-38 was raised. It was felt that the matter should be deferred until after the installation of the President for the current year.

Certain administrative difficulties in connection with the occurrence of puerperal pyrexia in maternity homes were discussed at the suggestion of Dr. E. W. Caryl Thomas. Several members took part and it was felt that the matter was of such importance that it should be considered in fuller detail at a subsequent meeting.

WELSH BRANCH.

President: Dr. W. A. Murphy (Ogmore and Garw U.D.).

Hon. Secretary: Dr. D. J. Thomas, 59, Penrhys Road, Ystrad, Rhondda.

The first meeting of the session 1936-37 was held at the Institute of Preventive Medicine, Cardiff, on October 9th, 1936, when eighteen members were present, the retiring President, Dr. D. Rocyn-Jones, C.B.E., J.P., occupying the chair.

After the minutes of the last meeting had been read and signed, Dr. Rocyn-Jones extended the congratulations of the members of the Branch to Dr. J. Greenwood Wilson on his election to the Fellowship of the Royal College of Physicians and also the best wishes of the Branch to Dr. J. Howard-Jones on his coming election as a fully paid Life Fellow of the Society.

Letters regretting inability to attend the meeting were received from Drs. Lewys-Lloyd, J. W. Miller and D. E. Parry Pritchard.

The Hon. Secretary informed the meeting that a letter had been received from the Executive Secretary on the suggestion of the Journal Committee, requesting Branch Secretaries to forward the full texts, if available, of papers contributed and notes of discussions at Branch meetings and sought the co-operation of the members to meet the request of the Journal Committee.

The memorandum on the Appointment of Medical Officers of Health prepared by Profs. Jameson and Picken had previously been considered by the Branch Council and Dr. Rocyn-Jones conveyed their recommendation to the effect that the memorandum required further consideration after the reasons why the Association of Municipal Corporations had refused to agree to the formation of the Standing Central Advisory

Committee suggested in the Report of the Departmental Committee on the Qualifications, etc., of Local Government Officers had been ascertained; the recommendation of the Branch Council was accepted.

Dr. Rocyn-Jones, the retiring President, then installed Dr. W. A. Murphy, Medical Officer of Health, Ogmore and Garw Urban District, as President of the Branch for the Session 1936-37 and wished him a very successful year of office.

On assuming the chair, Dr. Murphy thanked the members for his election to the Presidential chair, and in proposing a vote of thanks to Dr. Rocyn-Jones paid tribute to the valuable service which had been rendered by him during the past session in spite of an unfortunate accident which had prevented him from attending the meetings in the early part of his year of office; Prof. Picken, in seconding this vote of thanks to Dr. Rocyn-Jones, expressed the joy of the members on finding that he had completely recovered from the accident and hoped that he would maintain his interest in the welfare of the Branch.

Dr. Murphy then delivered a Presidential Address on "Modern Methods of Infectious Disease Prevention," in which he recounted his experiences in and summarised the results, to date, of his campaign for the prevention of diphtheria in the Ogmore and Garw Urban District.

A hearty vote of thanks, proposed by Dr. Greenwood Wilson, seconded by Dr. T. Evans, and supported by Dr. T. D. Llewellyn, was accorded to the President for his address.

MATERNITY AND CHILD WELFARE GROUP.

President: Dr. Agnes Nicoll (A.M.O.H., Willesden).

Hon. Secretary: Mrs. Muriel Radford, M.B., 1, Manor Way, Potters Bar.

Hon. Asst. Secretary: Dr. Virginia Saunders-Jacobs (A.M.O.H., Woolwich).

A meeting of the Group was held at the house of the Society on Thursday, October 22nd, 1936, at 8.30 p.m. Sixty-four members and friends attended.

The meeting opened with the installation of Dr. Agnes Nicoll as President of the Group for the Session 1936-7 by the retiring President, Dr. G. C. M. M'Gonigle.

The minutes of the last meeting were confirmed and signed.

A very enjoyable lecture was then delivered by Dr. E. J. Boome, Principal Asst. M.O., L.C.C., on "Speech defects in young children." It is hoped to publish this lecture in full in a future number of the Journal. This was followed by a most interesting demonstration on "Relaxation Methods," by Miss N. A. Richardson, Senior Speech Therapist, L.C.C., with some children from the Exmouth Road School.

The subsequent discussion was opened by Dr. Nicoll, and continued by Drs. Maitland Radford, J. A. Scott, and Sutherland.

In moving a vote of thanks to the lecturer Dr. Elwin Nash said that it was a long time since such a crowded room at the Society had listened to a paper so full of insight and research. The vote was carried by acclamation and Dr. Boome replied.

Book Reviews

A Synopsis of Hygiene. By W. WILSON JAMESON, M.A., M.D. (ABERD.), F.R.C.P., D.P.H., Professor of Public Health, London University; and G. S. PARKINSON, D.S.O., M.R.C.S., L.R.C.P., D.P.H., Lieut.-Col. R.A.M.C. (ret.), Asst. Director of the Public Health Division, London School of Hygiene and Tropical Medicine. 5th edition. London: J. & A. Churchill, Ltd. 1936. pp. 623. Price 21s. net.

Our review of the third edition of "Jameson and Parkinson" said that "in this country there is nothing to equal it for conciseness, reliability and accuracy." The appearance of a fifth edition of a book which first appeared (as "Jameson and Marchant") only some fifteen years ago is convincing evidence of its merits and of the continued demand for it. Students of public health will find the new edition especially useful in so far as it has been brought right up to date and takes cognisance of the alarming volume of new legislation which was enacted during the last Parliamentary session—the consolidating Public Health and Housing Acts, the Midwives Act, the amended Milk (Special Designations) Order and two consolidating measures relating to the National Health Insurance and Old Age and Contributory Pensions. The authors are to be congratulated on their success in summarising this new legislation in time for the present publication and one notices, as another example of the care devoted to the new edition, that the projected changes in the C.M.B. rules for the training of midwives are mentioned. One of the best features of previous editions, which is repeated here, is the thoroughness of the references to the literature and advances in current practice under the various headings. Mention should be made of the valuable and practical section on "Personal Hygiene," contributed by Dr. G. P. Crowden, of the Department of Industrial Physiology at the London School of Hygiene. Lastly, one admires the skill of the authors in dealing with new material without increasing the size of their book. The Synopsis is a production worthy of the great teaching school which the authors serve.

Alcohol in Hospital Practice. By COURTENAY C. WEEKS, M.R.C.S., L.R.C.P. London: National Temperance League, 33, Bedford Place, W.C.1. 1936. pp. 35. Price 9d.

In a brochure bearing this title, Dr. Courtenay Weeks submits facts and figures showing the remarkable, almost spectacular, change which is proceeding with regard to the use of alcohol in the forms of wines and spirits in the treatment of disease, in every class of hospital. In addition, he gives reasons for this change and submits claims that the temperance hospital has been justified.

"Peeps" on the Nursing Trail. By DERRY DOWN. London: John Bale, Sons & Danielsson, Ltd. 1936. pp. 174. Price 3s. 6d. net.

This is a cheery, chatty little book that the author herself must have enjoyed writing. It contains chapters on nursing as a career and a number of others in which Derry Down tells of experiences in the various walks that opened up after she had completed her training

and set out to practise nursing. The appeal of the book probably will be strongest to members of the nursing profession but there is in it a great deal that others will read with pleasure. The entire proceeds, it may be mentioned, "will be devoted towards the fund for the Papworth Home for Nurses."

A First Course of Human Physiology. By G. NORMAN MEACHEN, M.D., B.S., M.R.C.P., late Lecturer in Physiology, Tottenham Polytechnic. London: University Tutorial Press, Ltd. 1936. pp. 280. Price 3s. 6d.

A very warm welcome will be found by those for whom it was intended, for the second edition of Dr. Meachen's clearly written and readily understood little book has been prepared. It is claimed that a complete revision has been carried out, and of this there is evidence in the fact that there is reference to the more recent work done in relation to vitamins, endocrine glands, etc. It is noted also that several changes in anatomical terminology, approved by the Anatomical Society of Great Britain and Ireland, have been incorporated. The book has been rendered increasingly valuable as a result of these additions.

Be "Fit as a Fiddle." By LIEUT.-COLONEL T. A. LOWER, D.S.O., M.C. London: St. Catherine Press. 1936. pp. 39. Price 1s. net.

"How to obtain beauty and grace without slimming; how to increase bodily strength and combat ailments; how to gain happiness and a joyous outlook on life—these things are all made possible to those who genuinely seek them." In this little booklet the author sets out to show how all these things are to be done. The instructions given are clear and simple, and the book itself is most attractively got up and very well and fully illustrated.

POISONS.—The Home Office desires to draw the attention of Doctors, Dentists and Veterinary Surgeons to the publication of an explanatory memorandum which has been issued for their assistance in ascertaining the requirements of the Poisons Law affecting them. The memorandum, which also deals with the control of poisons in hospitals, dispensaries and similar institutions, is entitled, "Poisons. No. 3 (Practitioners and Hospitals)" and can be purchased directly from H.M. Stationery Office, at the following addresses: Adastral House, Kingsway, London, W.C.2; 26, York Street, Manchester 1; 120, George Street, Edinburgh 2; 1, St. Andrew's Crescent, Cardiff; 80, Chichester Street, Belfast; or through any bookseller, price 8d. net or post free 4d.

SCHOOL HYGIENE.—A new type of towel container, recently introduced into this country from the U.S.A., should be of interest to school medical officers, as it does away with the risk of contagions conveyed on roller towels, and is more convenient than individual towels. It consists of a case containing a continuous strip of towelling; each user pulls out a clean strip and one towel-roll gives 100 to 135 wipes. It is obtainable from L. V. Hart & Co., 89, Kingsway, London, W.C.2.

PUBLIC HEALTH

THE JOURNAL OF

THE SOCIETY OF MEDICAL OFFICERS OF HEALTH

No. 3. Vol. L.

DECEMBER, 1936

Editorial

The Annual Dinner

The report of the Annual Dinner which appears on a later page in this issue hardly does justice in cold print to the success of the Society's big "social occasion" of the year. The number attending, about 230, was second only to the "record" of last year's farewell to Sir George Newman, and all sections within the Society—the "administrators and the experts"—were well represented, the Departmental Officers having rallied in force to support Dr. Ernest Ward. And amply did our President reward us with a delightfully witty reply to the Minister of Health's speech proposing the toast of the Society. Dr. F. T. H. Wood, too, struck exactly the right note in welcoming the guests, and the replies by Sir Cuthbert Wallace and Sir Comyns Berkeley were evidence that the evening had been enjoyed. It is doubtful whether the Annual Dinners of learned and other bodies always have the "prestige value" which is, perhaps, their main *raison d'être*, but this year's function of our Society was fully justified by the high level of the speeches and the pleasure which they afforded both to guests and members. *Dulce est desipere in loco.*

Quo Vadis?

To the business man stock-taking and the production of a balance-sheet are invaluable yearly checks on the progress and position of his business. To the Medical Officer of Health the preparation of the Annual Report performs the same useful office. But our profession, as a whole, is only compelled to take stock of itself and its aims when some crisis or the impact of a new idea forces us to approve or oppose some policy or plan—when we are forced to give, in effect, the benefit of our collective advice to the nation.

We are in just such a position at the present time. The nation is being asked to endorse a plan for improving the national physique, and, to judge from the published views of such leaders of our profession as Lord Dawson, Lord Horder and Sir Francis Fremantle, the occasion is rightly being to examine the position on the broadest lines. The cynic may note the coincidence of the failure

Contents

Editorial

	PAGE
The Annual Dinner	67
Quo Vadis?	67
The Ministry of Health, 1935-36	68
Slum Clearance and Health	69
Tuberculosis Reports from Lancashire and Cheshire	70
Bacteriology and Public Health Practice	70
The Last Thirty Years	71

Obituary

Willoughby Mason Willoughby, M.D., D.P.H.	72
Rashell T. Davison, M.D., M.R.C.S.	72
Frederick William Oldershaw, M.R.C.S., L.R.C.P., D.P.H.	72
Francis Joseph Sadler, M.D., D.P.H.	72

Special Articles

The Diagnosis of Health. By S. T. Beggs, M.D., D.P.H.	73
Hereditary Disease in Relation to Racial Fitness. By C. N. Armstrong, M.B., M.R.C.P., D.P.H.	77

Papers and Discussions in Brief or Abstract

Causation of Dental Caries	82
The New Midwives Service	86
Paisley Infectious Diseases Hospital	88

The Central Council for Health Education

Ninth Annual Conference	90
Committee on Health and Comfort Conditions in Housing	97

Society of Medical Officers of Health

The Annual Dinner	98
Council Meeting	100
Ordinary Meeting	104
Annual General Meeting	105
Branch and Group Meetings	106

Book Reviews

Laboratory Practice	110
Our Baby—for Mothers and Nurses	110
Happy Babies and Their Mothers	110
The Care of Children from One to Five Years	110
The Story of a Tooth	110

to secure recruits for the Army and the Government's awakened interest in physical fitness—just as the Boer War stimulated interest in the School Medical Service and the Great War in Child Welfare—and it may even have crossed his mind that flat feet or varicose veins may perhaps be more desirable possessions than a lump of hot steel in the belly, but clearly anything which may help the cause of preventive medicine should be welcomed, whatever motives may be behind it. The impetus given to sanitary progress in the past was none the less valuable and real because it often arose through the experience or fear of epidemics.

First, however, we must ask ourselves the somewhat startling question as to whether our efforts to improve the health and physique of the nation are effective, or whether, as Dr. C. N. Armstrong puts it on another page of this issue, "The social services and medical science are not as we think they are, constructive forces, but really destructive?" For example, it is at least an arguable proposition that the united efforts of the medical profession from the time of Galen to the time of Jenner did more harm than good, yet what doctor practising during those sixteen centuries would have accepted the proposition? If our profession deceived itself for sixteen centuries, may we not be doing so at the present moment?

It is the old dilemma of preventive medicine being dysgenic or eugenic. By interfering with natural selection are we reducing mortality and increasing morbidity, are we saving a larger and larger proportion of individuals from elimination and consequently breeding more and more from inferior stocks so that eventually the desirable citizens will be borne down by the dead weight of supporting the undesirables?

The answer is clear. The experiment has been made and facts have decided between *laissez faire* and intervention. Man has intervened and as a result the human race has improved and is improving, in physique, in intelligence, in freedom from disease and defect, as well as in its power of postponing death, in prosperity and even, perhaps, in happiness. As Dr. René Sand* has said, "Natural selection is not indispensable for the health of the race. By haphazard, brutal and expensive methods, in eliminating the tares it sacrifices at the same time part of the good grain. . . . For thousands of years smallpox destroyed a tenth of humanity, which was in no way immunised against this plague. The discovery of vaccination and its general application were sufficient to effect in a few decades that which selection had failed to accomplish in the course of many centuries."

* *Health and Human Progress*. Kegan Paul, 1935.

In putting his question, however, Dr. Armstrong had in mind the small group of diseases known to be hereditary and which in the past often killed those afflicted with them before they could procreate and from which modern knowledge has eliminated this source of selection. Clearly everything possible should be done to help individuals who are certain to produce unhealthy offspring from having such offspring, but the numbers involved are small and the probable effect on the community negligible; the problem is important to the individual but not so important to the state. It is right that the question should have been put: it is fortunate that a reassuring answer can be given.

The Ministry of Health, 1935-36

The recently issued 17th annual report of the Ministry of Health,* covering the year ended March 31st, 1936, deals as usual with all forms of local government activity in which the Ministry is concerned and such other matters as National Health Insurance, Contributory Pensions, etc., and thus contains a good deal that is not of direct interest to the public health service; the Chief Medical Officer's report will follow in due course. However, the Ministry's report is always interesting in that it shows the general picture of the doings of local authorities and the assistance afforded them by the central department. This year's report has been improved in arrangement; it is now in four main sections: General, Local Government, National Health Insurance, etc., and the Welsh Board of Health, and it includes a useful index.

The year under review was a busy one for the Ministry, for it saw the introduction of the important Bills which have now been added to the Statute Book. Housing grants amounted to about £14,000,000, block grants to about £39,500,000 and public assistance grants to about £4,000,000. Accounts are given of the extensive work carried out under such general public health headings as water supply, provision of baths, parks and recreation grounds.

The chapters on medical and welfare services record continuous progress in maternity and child welfare. Ante-natal clinics increased in number from 1,396 to 1,491, and welfare centres from 2,884 to 2,993. 273,423 expectant mothers representing 48 per cent. of the total births notified attended the former and 325,699 children under one year (59.9 per cent. of the total notified live births) attended the latter centres. The total number of attendances of children under five at welfare centres increased by nearly half a million over the previous year. There was also an increase in the number of visits paid by health

* Published by H.M. Stationery Office. Price, 5s. net

visitors to children under one year, but regret is expressed that there was no similar increase in regard to children between the ages of one and five.

The vital statistics have already attracted attention, *i.e.*, a maternal mortality of 3.93, the lowest since 1924; and two "lowest ever" figures infant mortality 57 and tuberculosis deaths at 718 per million. There was only one case of smallpox notified in 1935 and all the chief infections showed diminished incidence. Under venereal diseases, new cases of syphilis showed a decrease of 8.8 and 15.6 per cent. from those of 1934 and 1933 respectively; the proportion of new cases in which infection was of less than one year's standing was only 48 per cent.

Progress in housing and slum clearance is already well known, but it is interesting under "Town and County Planning" to learn that more than half of England and Wales is now the subject of schemes.

Slum Clearance and Health

Dr. R. Veitch Clark, in the introduction to his report on the health of Manchester in 1935, draws attention to the findings of an independent investigation conducted by three ladies into the personal reactions of 500 families who were removed from Hulme, as a result of the first slum clearance scheme undertaken by the city under the 1930 Act, and were rehoused on various corporation estates. Dr. Clark describes the findings of this investigation, which are published in the body of his report, as "from the point of view of daily human life, as conclusive a piece of evidence as could be desired in justification of the clearance of slums and the rehousing of dispossessed slum dwellers under modern conditions."

In support of this view, he quotes the following vital statistics which illustrate comparable rates in Manchester housing estates, clearance areas and the city as a whole.

	Popu- lation.	Birth Rates.	Infant Morta- lity Rates.	General Death Rates (All Ages).
Manchester Corpora- tion Housing Estates (1935) ...	92,714	15.5	61.2	7.04
Twelve Clearance Areas (Five Years' Average) ...	37,700	22.5	120.4	17.32
City (1935) ...	776,028	14.5	71.3	12.91

The death-rates quoted are crude rates, and Dr. Clark points out that the population in the new estates is on the whole younger than that of the city

generally; but, even when the age-correction factor is applied, there should remain a very considerable balance in favour of the housing estates. He adduces as further evidence the following figures relating to the gains in height and weight of school children between the ages of 5 and 11 years, given in the 1934 report of Dr. Henry Herd, School Medical Officer.

	Schoolson Northern Estate.	Wythen- shawe Schools.	City Schools.	Anthropo- metrical Committee.
	ins.	ins.	ins.	ins.
Boys	14.65	14.48	9.10	11.3
Girls	17.12	12.85	10.41	11.7
	lbs.	lbs.	lbs.	lbs.
Boys	39.52	30.42	29.18	25.9
Girls	40.44	33.09	29.68	26.4

The report of the investigators (Mrs. Gates, Mrs. Chorlton and Miss Fremantle) is a document which should be of value for similar enquiries in other areas. 408 families were visited in their new surroundings and were asked whether they would go back to live in Hulme again if they could, and if not why they preferred living in their new homes. 304 families replied against return mainly for reasons of amenities but also for those of health. (One old lady said that she had not expected to live amongst green trees until she was taken to the cemetery, and that she would not go back if she was offered the Town Hall clock.) Of the remaining 104 families visited, 22 were unanimous and 24 divided in desiring return, 40 were afraid that necessity would compel their return and 18 gave no information.

Those who have been especially concerned with the economic factor in slum clearance will note that nearly every family is living at some greater cost than before removal, allowing for rent rebates calculated on the Atwater-Clark family maintenance scale. Full figures are given in the report as to actual changes in rent and transport costs for the families concerned. The investigators suggest that a comparison of food prices in different parts of the city would be valuable. Amongst other suggestions an experiment with women property managers for one section at least is urged, these to make contact with a clearance area population before removal and to act as rent collectors and managers after the transfer.

The conclusion of the investigators is that a large proportion of the rehoused families are healthier

and happier for the change, and that the same could be said for all, were it not for financial anxiety.

Tuberculosis Reports from Lancashire and Cheshire

The Annual Report for 1935 on the Lancashire Tuberculosis Scheme, by Dr. Lissant Cox, Central Tuberculosis Officer, is again full of interest. He reports that the death rate from pulmonary tuberculosis is the same as in 1934 when it was the lowest recorded in the county, while that for non-pulmonary tuberculosis has reached a new low record, being 0.10 per 1,000 of the population. Alongside this fall in the death rate is also a gratifying fall in the number of new cases. This figure has again created a record, both in the case of pulmonary and non-pulmonary conditions. The death rate for the county was 0.57 per 1,000 as compared with 0.71 for the whole of England and Wales.

Probably most of our readers are now familiar with the Lancashire Scheme, the special feature of which is the combination of dispensary work with that of hospital and sanatorium. The county is divided into five large areas, each with an average population of 317,000 with a small sanatorium-hospital and three small dispensary areas connected with the three major institutions. This means that each Tuberculosis Officer has beds and there is no divorce between dispensary and sanatorium work—a system which has undoubted advantages.

A new feature of the report for the year under review is a chapter dealing with the after history for five years of the 2,734 new cases of tuberculosis which were reported in 1930, and in connection with this survey Dr. Cox emphasises the importance of prevention, points out that while new methods of diagnosis are helpful, the real sheet anchor of anti-tuberculosis work is the prevention of the disease, and stresses the necessity for isolating and treating the adult positive sputum case.

As in previous years members of the medical staff have contributed papers on various technical aspects of tuberculosis. The report under review includes papers on "Infra Red Radiation in the Treatment of Pulmonary Tuberculosis," by Dr. G. Barker Sharnock; "Standardisation of Sedimentation Tests," by Dr. F. C. S. Bradbury; a joint paper by Dr. A. B. Jamieson and Dr. H. J. Villiers on "Mantoux Tests," and a further one by Dr. Dobson on "The Culture of Tubercle Bacilli."

Dr. Cox reports an alteration in the age group of the greatest mortality among females, which has occurred in the age group 15 to 25 in 1935, to the age group 25 to 35; it is to be hoped that this is a happy augury for the future. He also draws

attention to the increasing use of surgical measures and includes some interesting photographs of patients who have undergone the major operation of thoracoplasty, showing the slight deformity that may result.

Another report on tuberculosis work to hand is that of the Cheshire Joint Sanatorium, by Dr. Peter Edwards. One of the many interesting features is an account of the extensive laboratory work undertaken, and included in this are details of a method of arriving at a new index for blood sedimentation rate by the Westergreen technique which Dr. Edwards considers gives a more reliable picture. Concentration and cultural methods of sputum examination are much favoured in this institution and figures are given showing the favourable results obtained.

An innovation during the year under review has been in the nature of a "cottage" scheme, similar to that carried out by the North Wales Sanatorium. A beginning has been made with one cottage which accommodates four patients, but it is hoped that eventually six cottages will be provided. Patients are accommodated in two bedded rooms, because it is felt that this is so often the condition in the patient's own home. Less space is devoted this year to the table showing after results, but the "follow-up" of past patients is successfully carried on and the actual number of patients lost sight of is remarkably small. The patients at the Cheshire Joint Sanatorium publish their own magazine "The Germ," of which we have received a copy. This is a very cheery little publication and reflects great credit on those responsible for it. We are not aware how many similar institutions in this country publish their own magazine, but we shall be very glad to receive copies of any others.

Bacteriology and Public Health Practice

The appearance of the second edition of Topley and Wilson's *Principles of Bacteriology and Immunology** is a notable point in the application of these sciences to public health. In the light of this indispensable *vade mecum*—though on second thoughts this is hardly a suitable term for a volume of 1643 pages—it is well to take stock of the progress of bacteriology in the past seven years. The addition of some three hundred pages and the rewriting of a number of sections indicate that marked advance has been made

**The Principles of Bacteriology and Immunology*. By W. W. C. Topley, M.A., M.D., M.Sc., F.R.C.P., F.R.S., Professor of Bacteriology and Immunology, University of London, and G. S. Wilson, M.D., F.R.C.P., D.P.H., Professor of Bacteriology as applied to Hygiene, University of London. London: Edward Arnold & Co., 1936, pp. 1643. Price 50s. net.

and in many directions. In its relation to epidemiology bacteriology is tending to pass from the position of handmaiden to one of more dominating and controlling influence, whilst the bacteriologist himself has to submit to a mathematical and statistical discipline.

The changes effected by these bacteriological advances may be exemplified by the demonstration of the three main types of *Corynebacterium diphtheriae*. The knowledge of these three types has radically altered the outlook of the Medical Officer of Health on the epidemiology of diphtheria and of the Isolation Hospital Superintendent on the management of hospitals. Cultural methods have so advanced that the failure to discover the *Corynebacterium* casts grave doubts upon the diagnosis and permits the early discharge of merely suspected cases. The control of ward outbreaks is now placed upon an exact and scientific basis. Failure to type the organisms present in inoculated persons will prevent the medical officer from having full knowledge and control of the work of the inoculation clinic. Thus all our observations in the pretyping era have to be radically revised or even rejected in the light of this recently acquired knowledge. No less important is the advance in the knowledge of the antigenic structure of the hæmolytic streptococci, to which the authors devote some ten pages. This knowledge places scarlet fever in the position of one clinical manifestation of varying importance in the manifold field of the streptococcal infections.

The importance of a knowledge of antigenic structure of bacteria has to be emphasised. A comparison of the tables relating to the O and H antigens of the *Salmonella* group in the first and second editions marks the progress in this complex subject which must, nevertheless, be mastered by the executive officer if he is to interpret intelligently the reports of the bacteriologist on material from infections of the enteric-diarrhoea-food poisoning group. The investigation of such cases is becoming a highly skilled and specialised procedure.

In no branch of bacteriology have greater advances been made than in the knowledge of the filtrable viruses. From having a dubious or problematical ætiology the position of a number of diseases has advanced to a high degree of probability or certitude of being caused by filter passers. Measles and psittacosis appear to fall into the latter, varicella, influenza and the common cold into the former categories. Diagnostic methods dependent upon immunity reactions give, in doubtful cases, more certain results than clinical acumen. It is upon such methods that the diagnosis of sporadic yellow fever or psittacosis must commonly be made, and an extended use

of them is being made in other diseases. The comparative study of animal poxes and other virus infections is casting new light on human diseases.

Topley and Wilson's *Principles* is not merely a handbook for the bacteriologist. Throughout the book the numerous sections on epidemiology and prophylaxis will be of the greatest interest and value to the medical officer who has anything to do with infection—and which of us has not this contact?

There are two minor criticisms. One is that a number of tables end at the year 1928. The other is that "in response to the requests of many" the book now appears in one volume instead of two. The single volume is far too heavy to be handled easily. It is, physically speaking, very heavy reading and the reviewer hopes that the next edition may revert to two volumes. But, in one volume or two, this book is indispensable.

The Last Thirty Years

Sir Arthur Newsholme's new book* is an inside account—history and personal experience combined—of the stages by which was fashioned the present efficient machinery of a public health administration which is continually expanding in scope. It is one which should be read by all new entrants to the public health service, or, indeed, by medical practitioners in general, for it affords them the background which is so necessary for a full understanding of the work upon which they have embarked; and it will be read with interest by those more senior members of the service, who have played their part in the construction of that machinery and subsequently in the supervision of its running, for its confirmation of the suspicions, which they have entertained from time to time, that the respective spheres of the technician and the administrator at Whitehall were not always defined clearly or to the best advantage. Sir Arthur Newsholme deals in a semi-autobiographical manner firstly with the work of the years 1908-1919, during which he was Principal Medical Officer of the Local Government Board, and, secondly, with the opportunities for further service abroad which were afforded him after his retirement. The stimulus administered by a perusal of this book is illustrated by the following extracts. . . . "Although, as passed through Parliament, sickness insurance was not a public health measure, it opened up great possibilities of preventive medicine, still almost unrealised; but they need

**The Last Thirty Years in Public Health*. By Sir Arthur Newsholme, K.C.B., M.D., F.R.C.P., Sometime Medical Officer to the Local Government Board. London: George Allen and Unwin, Ltd., 1936. pp. 410. Price 15s. net.

not remain so." . . . "It is difficult for the generation younger than my own to appreciate how far poverty—in the sense of privation of one or more of the necessities of well-being—has been regarded in the past fatalistically or even with complacency as being in the natural order of things.

A reviewer writing here cannot refrain from noting with appreciation Sir Arthur Newsholme's allusion to his connection with the Society of Medical Officers of Health, and to his editorship of PUBLIC HEALTH, and a quotation from a note which he had contributed to this journal while he was still Medical Officer of Health for Brighton can be applied as aptly to Sir Arthur as to his predecessors: "It is not without importance that those who have held the post of Principal Medical Officer of the Local Government Board should all have been able to make their contentions more impressive by the literary form in which they were set forth."

Obituary

WILLOUGHBY MASON WILLOUGHBY, M.D., CANTAB., D.P.H.

The passing on November 4th of Dr. W. M. Willoughby, since 1928 Medical Officer of Health for the City of London, has caused a real sense of loss to his colleagues in the Society and especially to those in the Metropolitan area, where his worth was known at its full value. He was a particularly good example of the liking and respect which can be inspired by character and by the possession of a philosophy without many of the more "showy" qualities. He was not often heard in public nor did he often contribute to scientific journals, but conversation with him was always a stimulating experience and his views were the outcome of careful and often original thought; he also possessed a sense of humour which was most appreciated by those who had the privilege of his friendship. He was indeed a man of rare type and quality, whom the public health service can ill afford to lose. The affection which was felt for him was shown by the number of callers during his last illness in St. Bartholomew's Hospital, where he himself had been a student after his time at Cambridge.

Dr. Willoughby was born in 1875, and his career in the public health service was associated throughout with the Corporation of London. He joined the staff of the Port Sanitary Authority in 1904, became M.O.H. of the Port of London in 1916, and M.O.H. of the City in 1928, in succession to Dr. W. J. Howarth.

Dr. Willoughby became a Fellow of the Society in 1913, and was President of the Metropolitan Branch for the session 1919-20.

Great sympathy will be felt for Mrs. Willoughby and her son, Dr. Hugh Willoughby, who is an Assistant M.O.H. of the Port of London; also for his elder brother, Dr. W. G. Willoughby, M.O.H., of Eastbourne.

At the memorial service held in St. Bartholomew-the-Less on November 10th, the following members of the Society were present: Drs. Charles Porter, C. F. White, A. G. G. Thompson, W. A. Daley, W. D. Betenson, E. H. T. Nash, A. J. Shinnie, H. A. Bulman, Lt.-Col. G. S. Parkinson, Captain G. S. Elliston, M.P. (Consultant Secretary) and the Executive Secretary.

RASHELL T. DAVISON, M.D., ABERD., M.R.C.S.

The death occurred recently of Dr. R. T. Davison, who was for many years part-time M.O.H. of the Malden and Coombe U.D. He qualified M.B. Aberd., M.R.C.S. Eng., in 1874, and was a Fellow of the Society from 1908 to 1919.

FREDERICK WILLIAM OLDERSHAW, M.R.C.S., L.R.C.P., D.P.H.

The death occurred on October 31st, in his 41st year, of Dr. F. W. Oldershaw, M.O.H. of Weymouth since 1931, and previously M.O.H. of Colne, Dep. M.O.H. of Swindon and Assistant S.M.O. in Nottinghamshire. Much sympathy will be felt for his widow and children and for his brother, Dr. H. Leslie Oldershaw (M.O.H., Hampstead).

FRANCIS JOSEPH SADLER, M.D., OXON., D.P.H.

Dr. F. J. Sadler, who died on November 9th at the age of 69, was formerly M.O.H. and S.M.O. of Barnsley. He qualified M.B., B.Ch. in 1894, and spent the whole of his professional life in Barnsley, as had his grandfather and father before him. He was a Fellow of the Society for many years.

A Chadwick Public Lecture on "Modern Views on Infection and Disinfection," will be delivered by Sir Weldon Dalrymple-Champneys, Bt., M.D., F.R.C.P. (M.O., Ministry of Health) at Manson House, 26, Portland Place, W.1, on Wednesday, December 9th, 8.15 p.m. Sir George W. Humphreys, K.B.E., M.INST.C.E. (Chadwick Trustee) will be in the chair.

THE first International Conference on Fever Therapy originally fixed for September, 1936, has been postponed and will now be held at the Columbia University, New York City, from March 30th to April 2nd, 1937. Further information may be obtained from the General Secretary, Dr. William Bierman, 471, Park Avenue, New York City, U.S.A.

The Diagnosis of Health*

By S. T. BEGGS, M.D., D.P.H.

Medical Officer of Health, Borough of Middleton.

As students of past years, we have been engaged during our training in the diagnosis of disease. The diagnosis of *health* very rarely, if ever, concerned us. Yet, as pioneers of preventive medicine, this question of health both from the personal and communal aspects is our concern.

The diagnosis of health is a subject which might be approached from various angles, but I will confine myself to that of training and the organisation for training.

Personal health implies the perfect functioning of the organs of the body and communal health the normal reaction of a herd of individuals to a good environment. Can the diagnosis of health be carried out to its scientific conclusion?

Take, for instance, the question of nutrition in the school child—what is the scientific meaning of "excellent," "normal," "sub-normal" and "bad" nutrition in the Board of Education's schedule and how many of us agree in our assessments?

In the examination of a case for life insurance, can we estimate with accuracy the degree to which a life deviates from the physiological standard? Can we measure the extent of lowered vitality in a community resulting, e.g., from an epidemic of influenza, measles or whooping cough? Can we estimate how far our physiological economy can be attuned to industrial environment, polluted atmosphere, housing conditions, modern food preparation and supply and so forth? Can we assess the deviation from physiological standards resulting from these and other environmental conditions?

If medical science is so far advanced to enable us to make these findings, does our present training fully equip us to this end? A medical student who devotes years of training to qualify in curative medicine alone is not going to give due attention to the preventive aspect. Training must necessarily deal with disease, but not, I contend, to the exclusion of health.

I submit that the training given to the two sides of medicine—the curative and the preventive—should be balanced and be taken in hand during the whole period of the student's course and be made equally important from the academic standpoint. The recommendations of the General Medical Council on the medical curriculum are a great advance in preventive training, but I do not think they go far enough, nor do they give the preventive aspect due weight.

*Presidential Address to the North-Western Branch, October 9th, 1936.

The first two years of professional study rightly include embryology, cytology, genetics, physiology and normal psychology, methods of clinical examinations with the instruments of precision, examination of body fluids, and the reaction of the body to infection. The study of these subjects is of great importance from the preventive aspect, especially physiology, and much depends on the end in view in the teaching and the attitude of the teaching staff.

In the third, fourth and fifth years we find dietetics, child welfare, infectious diseases, tuberculosis, industrial diseases, diseases of the skin, radiology, physio-therapy and vaccination included in the medical section. Under surgery we have diseases in infancy and childhood, orthopaedics, dental diseases, diseases of the eye and refraction, diseases of the ear, nose and throat, and venereal diseases. The section under midwifery, infant hygiene and diseases of women includes antenatal care, hygiene of infants and practical instruction in a maternity hospital. Pathology and bacteriology embrace immunology and immunisation.

As regards hygiene and public health, it is stated that instruction in these subjects should be given in the later stages of clinical studies. Why in the later stages? I suggest that these studies should be divided over the whole course, and hygiene included in the first and second years.

It is to be regretted that all this work on preventive training should be directed and restricted to the gaining of medical and surgical degrees.

I contend that the above parts of the curriculum should be scheduled under preventive medicine and a degree—not a diploma—be instituted for these studies. By this means, preventive medicine would be given equal standing to medicine and surgery without further loading the curriculum. The primary degrees in a university would, therefore, be Bachelor of Medicine, Bachelor of Surgery, Bachelor of Public Health (M.B., B.Ch., B.P.H.).

I cannot see how the proposition which I have enunciated can be complied with without awarding a degree in preventive medicine. The awarding of this degree in public health would tend to bring preventive medicine into its right sphere, and put it on an equality with curative medicine.

The primary degree in public health would have also a beneficial effect on the service in making it possible to enter the Public Health Service immediately after qualification in a probationary

capacity so that service, for the purpose of superannuation would date from this period. This is a very important point.

As in the case of other post-graduate degrees, it is proposed that there should be the higher degree of Doctor of Public Health (D.P.H.). This post-graduate course would be better taken while in the Public Health Service instead of, as at present, prior to entering the service with consequent loss of valuable years.

Compared with other professions, the medical profession has a just grievance in computing years of service, and this arrangement would tend to meliorate a grave disadvantage.

I propose that the Probationary Officers should be appointed and posted for training by the Ministry of Health and during this period their service would be mobile.

Let me now refer to the organisation of the Public Health Service required for this purpose. The service being a State service under the direction and control of the Ministry of Health, should be co-ordinated with all other health State services. It is important to note the divisions of public health as dealt with by the Ministry of Health. If it is considered essential to so administer public health on certain specific lines for the country as a whole, then there is equal reason to apply the same divisions to local areas.

It is contended that the National Health Insurance Medical Service should form part of the Public Health Service as, in fact, the Act was introduced as a preventive measure. This side of the National Health Medical Service in practice is a dead letter and the bottle of medicine is supreme.

The consequence has been that the relationship of the National Health Medical Service with public health is nil. This service is dealt with in the Chief Medical Officer's annual reports "On the State of Public Health," but so far as local public health is concerned, it is outside the purview.

It is of particular interest to note the reference made to prevention, and the support which it gained, at the session dealing with National Health Insurance at the Royal Sanitary Conference this year, when the President of the National Conference of Friendly Societies propounded the agencies necessary to promote prevention of disease as follows:—

(a) The individual by his efforts to provide a healthy environment in his home and so to live as to promote the health of himself and his family;

(b) The family doctor, by educating the individual and the family in the course of his curative and advisory work, in the home and in his consulting room;

(c) The schools, by the education of the children in matters of health and conduct;

(d) The public health authorities and public agencies, by educating the individual and the family by means of various measures of health propaganda; and

(e) The regular organised work of the public health and sanitary services.

I see in this a tendency for the closer co-ordination of the practitioner service with the Public Health Service and a greater desire of the enlightened public for prevention.

The investigation of disease in its early stages is one of the most valuable factors in prevention. I quote here from the report issued by the James Mackenzie Institute for Clinical Research:

"The observation and treatment of these ailments, a preponderating number of which are indeterminate and without known cause, constitute the chief employment of the general practitioners. Their prevention and, in many cases, their cure are likely to remain a matter of conjecture and blind groping until such time as increased knowledge has thrown a greater light upon the mechanism of the production of symptoms and upon the nature of the signs which presage disease before the tissues of the body have suffered damage.

Unquestionably, the only person who is in a position to investigate and study the common ailments of the people is the general practitioner, who alone has an opportunity of keeping numbers of patients under observation in health and in disease and in varying environmental conditions. Unfortunately, facilities for the encouragement of such lines of research are lacking throughout the country. St. Andrews, on the other hand, has the distinction of housing the only organisation in the country which is devoted to the recording and study by general practitioners of the early signs of disease. Sir James Mackenzie, when in 1919 he founded this Institute, stated that its principal aim and object was 'to investigate disease before the occurrence of any structural change in any organ of the body, in the hope of providing a diagnosis at a period earlier than is possible by the methods now in use, and in order to obtain a knowledge of the circumstances that favour the onset of disease.'

Here we have the real object of the National Health Insurance Medical Service which in its present state is *non est*.

The incidence of disease among panel patients begins as minor ailments and comprises:—

	Per cent.		Per cent.
Respiratory Ailments	26.0	Skin ...	4.0
Accidental ...	13.0	Genito-urinary ...	3.0
Influenzal ...	11.0	Bone and Joint ...	2.0
Inflammatory ...	9.5	Eye ...	2.0
Gastro-intestinal ...	7.5	Nervous System ...	0.5
Infectious ...	6.5	Endocrine ...	0.5
Rheumatic ...	6.0	Other defined ...	4.0
Circulatory...	4.5		

And the majority of these can be placed in the preventable category.

I suggest that a record of investigation of the state of health is required for each member on a doctor's panel and that a copy of these records should be in the possession of the Medical Officer

of Health for the area, also records required by the Commissioners should pass through the public health department in each area. By this means we would have (1) a valuable index for the prevention of disease, (2) greater knowledge of the health state of the community, and (3) co-ordination with the National Health Insurance Medical Service.

If such a scheme, at the present time, is considered impracticable by panel doctors, then I submit that the National Health Insurance Service must fail in its real purpose and requires amendment in its administration, to include the late Sir James Mackenzie's propositions. If the public can be educated to the necessity for periodic health examinations, if employers of labour are entitled to certificates of health from employees, if the dosage by physic can be reduced, then the practicability of introducing prevention into the service becomes feasible and not only desirable but highly essential.

How far short the Public Health Service is falling in dealing with the state of public health as at present administered is only too evident from the following statement:—

"More important, however, are the facts that the record provides a reasonably reliable indication of the nature of the ailments from which the population is ordinarily suffering, and that comparatively few of these ailments come within the purview of public health workers. Indeed, it can be claimed that the ramifications of the essential public health services, extensive although they are, are barely penetrating the surface of the main mass of diseases which incapacitate the people. The disablement and the loss of working days caused by the notifiable diseases and the other diseases and afflictions which are the concern of the Medical Officer of Health are, now that measures against these diseases have reached a high degree of efficiency, of relatively small significance when compared with the physical and economic hardships and inconveniences which attend the ordinary ailments of the man in the street."

Is not this a very strong argument for the inclusion of the National Health Medical Service into a co-ordinated whole with the Public Health Service and the re-organization of that service on preventive lines, as I have indicated?

When we come to industrial health we find here a vast field for investigation in the prevention of disease. And yet this sphere is touched only superficially by the Public Health Service. The duties of a Medical Officer of Health as required under Sections 132 and 133 of the Factory and Workshops Act, 1901, are external to the diagnosis of health in the worker and the rendering of Form 572 tells us nothing of the condition of health of the worker in the factory and workshop. Valuable research work is done, investigations are carried out from headquarters, but none of this

comes within the scope of even the most advanced Medical Officer of Health.

The investigation into industrial health lend itself particularly to statistical methods. To quote from the *Function of Statistical Method in Scientific Investigation* (Yule):—

"The scientific investigation of many, and, perhaps, of most, industrial problems is necessarily founded largely on the application of statistical method, whether this consists in the simplest commonsense interpretation of numerical data or involves the employment of procedures of a highly technical character, the details of which are obscure and even repellant to those who are not specialists. A principal reason is that the investigators are only exceptionally able to rely upon the method of pure experiment. It is obviously impossible to modify at will the conditions under which industrial work is carried out; a factory is not an academic laboratory wherein the scientific investigator can eliminate from his experiment variables which he does not, at the moment, desire to study. Even when a measurable change is made in the conditions in a factory, the effect in any given respect of this change is nearly always obscured by the play of other factors not directly relevant—or not known to be directly relevant—to the matter under study. It follows that the student of such problems must take note of many things which the laboratory worker is able to eliminate and is, therefore, obliged to rely more than the latter upon statistical methods."

Important work has been done, *e.g.*, on industrial fatigue, by statistical methods. Many other problems require elucidating by the application of these factors, and training in this work would be an important asset to a public health department. A unified authority to deal with the worker in his work and to investigate and control industrial health is required, and plainly the authority should be the Ministry of Health and the Public Health Service.

An incomplete attempt to get into touch with the health of the worker is made in some areas where the Medical Officer of Health is appointed Factory Surgeon, but industrial health as a whole should form a specialised service in a Medical Officer of Health's department. The time has come when the local Public Health Service should be viewed as embracing the total health services concerning its area and all factors should be in possession of the administrator of the area, who is the Medical Officer of Health. Not only mortality, but morbidity and health statistics, are all required in estimating the state of health of an area, but, at present, we have a very incomplete picture.

This brings me to the re-organisation required for this purpose. We have (1) the training necessary to engender the "health conscience" in the medical student as suggested by the General Medical Council in the revised curriculum; (2) the institution of degrees in Public Health;

(3) probationary training of medical officers controlled by the Ministry of Health.

It should not be impracticable to evolve a scheme by which training is spread over the various activities in public health as administered by the Ministry and by local authorities for a period in which a probationary medical officer would become skilled, and at the end of this period be qualified to take his or her degree of Doctor of Public Health, and be fitted for appointment under a local authority.

The probationary personnel, being appointed and controlled by the Ministry of Health, and during this period, being a mobile unit, would be posted to selected localities to gain training and experience in all duties. I suggest that this junior personnel can be absorbed in appointments in municipal, fever, and other hospitals under public health control, in laboratories, by posting to all clinics (maternity and child welfare, schools, tuberculosis, venereal disease, etc.), to sanitary departments for training in Housing Acts, etc., and to the Deputy Regional Medical Officer's staff under the National Health Insurance Service.

(4) One of the serious defects in the Public Health Service is the lack of opportunities for advancement. What is required is the grading of appointments from junior to senior by advancement according to service and merit.

Candidates for appointments to local authorities would be recommended by the Ministry of Health. From the selected list, suggested by the Ministry, the local authority would make their free choice. Records of service and capabilities of all medical officers in the Public Health Service, should be filed at the Ministry of Health.

Under this scheme, no difficulty would arise for extended leave for special purposes, such as research work, to qualify for higher degrees, to travel abroad for the purpose of investigating public health conditions in other countries, and so forth.

(5) The co-ordination of the National Health Medical Service in its preventive aspects with the Public Health Service, and

(6) Industrial Health to be co-ordinated with the Public Health Service under the administrative headship of the Medical Officer of Health of the area.

It is not advisable to exclude from this review the material which we are required to mould. I refer to public opinion. Without a receptive attitude on the part of the people I do not see that our presentation of preventive medicine will be popular nor receive the attention which it deserves. This, at present, is a difficulty we are up against, and the same applies to the doctor in practice who is imbued with the preventive

outlook. This is exactly what we are finding not only in the schools but also among the public at large.

The results of the enquiry given in *The Health of the School Child* (1929) bear this out, and Sir George Newman's considered opinion is stated in these words:

"We cannot get and we need not expect to get a healthy people *unless our youth are trained in health*. Ignorance of children in regard to healthy living and their failure to acquire and practise healthy habits is spoiling a substantial portion of our educational effort, and also providing in after-life a burden of disease, disharmony and incapacity which is extremely costly both in wastefulness and in remedy."

If the present regime is not "delivering the goods," which we must admit, is not it time, in view of the findings of Parliamentary Committees and Royal Commissions on the importance and paramount necessity of health education, that we, as the responsible Society, should make ourselves heard? I am fully convinced that the first move must be in the schools.

At present, the attitude of the public is sceptical, and until youth is efficiently trained that attitude will remain. I have had some experience in popular health education, and I must say the results are disappointing for the reason that the seed is being sown on unprepared ground. For the same reason health education is one of the most difficult problems in public health. With much ingenuity, we have prepared many attractive diets, but they are not being digested by the public.

I do not think this is surprising, but rather to be expected, with our present incomplete and disjointed schemes, and I have indicated here some of the links required to unify these schemes.

As Dr. Savage said in his Presidential Address to the Society last year, "There is so strong a tendency to imprison the ever-expanding basis of preventive medicine in a fixed administrative framework and a settled routine, that we must constantly review our procedures," and I go further, and state that a complete resetting of our training and organisation is required, if our vision of preventive medicine is to be attained, and the diagnosis of health is to be our goal.

Your Enemy the Rat.—The Ministry of Agriculture and Fisheries announce that their new film with the above title is now ready for loan to local authorities and others. The film deals with the loss and damage caused by rats and mice and the measures to be taken for their destruction. It is available in a short sound version (6 minutes) or a longer silent version (20 minutes), both in 35 mm. size. Enquiries should be addressed to the Ministry, 10, Whitehall Gardens, London, S.W.1.

Hereditary Disease in Relation to Racial Fitness*

By C. N. ARMSTRONG, M.B., M.R.C.P., D.P.H.

Honorary Assistant Physician, Royal Victoria Infirmary and Hospital for Sick Children, Newcastle; Clinical Teacher in Medicine, University of Durham College of Medicine.

For the purposes of this paper, disease is taken to be either hereditary or acquired. In the public health service, attention has been directed towards the latter acquired diseases and the improvement of the conditions of life or the environment of the populace, rather than the eradication of hereditary disease, and I hope to make it plain that preventive medicine and its practitioners must concern themselves with the problem of hereditary disease if they are to improve or even maintain our present-day fitness; or else their very one-sidedness will actually defeat the goal to which all their energies are directed.

I intend, first, to deal in turn with each hereditary disease and then to discuss the outlook as it is to-day.

It is accepted that the chromosomes contained in the cell nucleus form the basis of the mechanism of inheritance. A set of chromosomes of particular number, sizes and shapes is characteristic of each species. Man has a relatively high number in his somatic cells, *i.e.*, 48. When cell division takes place in the process of growth the chromosomes maintain their number and structure by all splitting lengthwise.

The next important fact is that the chromosomes are in homologous pairs in the somatic cells, derived from the division of the fertilised egg. Of each pair, one is maternal and one paternal in origin. These chromosomes multiply by longitudinal division during somatic development, but during germ-cell formation undergo a unique process in which the members of each chromosome pair separate. In this way their contained genes are brought into various combinations in the resulting germ nuclei.

This segregation, therefore, is a process by which the pairs of hereditary factors, or genes, received by an individual from his two parents, are dissociated in the formation of his gametes or germ cells, so that each germ cell receives one factor, or the other, but not both, and means that in a cross between two individuals which differ genetically, *i.e.*, as regards their inheritance, in a particular character, the offspring will belong to one type or the other, but will not inherit or transmit a blended condition between those of the parents. Thus among brothers and sisters, some may have blue and others brown eyes. This may be

the case not only when one parent has brown eyes and the other blue, but also when both parents have brown eyes, because brown-eyed parents will also produce usually germ cells containing the factor, gene or element for blue eyes. Inheritance of a characteristic or disease may be inherited by the transmission of dominant or recessive characters. In a brown-eyed individual who had one brown-eyed and one blue-eyed parent, the brown is dominant to blue and the blue-eyed condition is recessive. Thus dominant gene determination is "direct heredity."

A rare familial (recessive) condition is nearly always associated with normal parents. The majority of the brothers and sisters of persons thus affected are potential transmitters of the disease, but unless they choose a mate who is also a transmitter, or who is affected, their children will not suffer from it. A recessive gene may be transmitted, so far as known, for an indefinite number of generations, until it meets the same recessive gene from another individual. If a disease is more frequently found in males than in females, the possibility of the operation of a recessive sex-linked gene is to be taken into consideration. If females are more frequently affected than males, a dominant sex-linked gene may be thought of; no dominant sex-linked genes have yet been identified in man.

I now intend to mention briefly the main hereditary diseases under each system. Time does not allow me to discuss diseases in which it is very problematical whether heredity plays a part or not.

Amongst the organic nervous diseases, Huntington's chorea and hereditary ataxia are the outstanding examples, the former as a Mendelian dominant (direct heredity). If a possible victim passes middle age without symptoms then one can say that his children will not suffer. Hereditary ataxia, a large associated group and also a serious disease, is inherited both as a dominant and as a recessive: it may appear to skip several generations. Peroneal muscular atrophy is definitely hereditary (sex-linked recessive). Van Richlinghaus's disease is a well-known hereditary disease (M.D.). Migraine is also (M.D.) hereditary.

Progressive muscular dystrophy, although included under nervous diseases, is now known to be due to a disturbance of creatine metabolism. It is undoubtedly inherited, and in a variety of

* Paper read to the Northern Branch.

ways, as a dominant, recessive and sex-linked recessive. Although it may spring up in a family of apparently healthy parents, it is certain that if an affected individual has offspring some of his issue will inherit the disease. Formerly the worst form, pseudohypertrophic, which begins in early life, became progressively worse and the victim became incapable of reproducing; but now with the new glycine treatment we have hopes, or fears, that he will live to reproduce diseased offspring. Myotonia congenita is also hereditary.

I now come to the important question of whether epilepsy is hereditary or not. Epilepsy is, of course, only a symptom like vomiting and has a variety of causes, but the type with which I intend to deal is the so-called idiopathic epilepsy.

Myerson, in 1925, stated "the hereditary factor in epilepsy has not been proven to exist"; but it is accepted by most authorities that heredity plays a part. One generally finds that about 30 per cent. of epileptics have one or more relatives suffering from it also. It can be assessed that the expected incidence of epilepsy in the children of an epileptic parent is 10 per cent.

The association, however, of epilepsy and mental deficiency in several generations of the same family should not be lost sight of. Idiopathic epilepsy always manifests itself before the age of 25 years, so a person after that age is safe to marry if he has never had a fit.

Mental disorders, apart from those produced by organic disease, always have a prominent place in hereditary conditions, and under this heading one includes the psychopath. Manic-depressive psychosis and its varying milder manifestations are probably hereditary; one-third of the children will inherit the same disorder. In schizophrenia, 10 per cent. of his children will suffer from this disease and 34 to 42 per cent. will show a schizoid personality (eccentricity); only about half will be mentally normal. In considering how the inheritance of abnormal mentality applies to the individual, Aubrey Lewis states:—

"At one time it was thought that disorders which were demonstrably hereditary must of necessity be inaccessible to treatment, but now that all hereditary characters are recognised to be the product both of environmental stimuli and hereditary predisposition, it is clear in theory, as in practice, that much may be accomplished by therapy for the affected individual. But the more successful for the patient the more dangerous for the stock. Restored to health or protected against ill-health by measures of mental hygiene, the individual is not, as often hitherto, debarred by his illness from the power to procreate freely. Moreover, many who do not now fall within the range of certifiable insanity are themselves socially undesirable because of abortive mental disorder or psychopathy; many tramps, criminals, swindlers, irresponsibles and chronic dependents, agitators and hysterics form a large part of the

social problem group. These people may transmit the predisposition to maladaptation of various kinds."

There is no doubt that the main mental disorders are transmitted to an alarming extent, with increasing success in individual therapy; therefore, the danger grows rather than lessens.

To come to the problem of mental deficiency, the hereditary factors in which have caused so much controversy: it is of immense practicable importance to the state and has been the subject of inquiry by Royal Commission. There is definitely a progressive increase in the proportion of defectives in the population; this increase has been viewed with alarm, and many have demanded sterilisation or segregation, which in turn have been denounced by others. This is due to the controversy whether heredity or environment plays the larger part in the production of the mental defect.

Another important factor to be remembered is that as stated by Henry Herd, "It is now the opinion of the best authorities that men and women of a mentality rather above that of the defective are a more fertile source of trouble to the community than the defectives themselves."

Anti-social conduct is not a common characteristic of the mentally defective, and further, procreation among the mentally defectives is not proportionally excessive among their own class. Nevertheless, the fact that there is an increase in the proportion of mental defectives in the population is a real one.

The methods of inheritance of mental deficiency are difficult to establish; many factors play a part such as Mendelian dominants, recessives, environmental circumstances, toxins, alcoholism and disease. It can, however, be laid down that a definite defective should not marry, and it is immaterial whether the amentia is primary or secondary. Further, an apparently normal person with a marked taint should not marry a person with a similar taint as they may both be carriers.

To pass from conditions associated with sub-normal mentality to those associated with super-normal mentality, I come to asthma and other allergic diseases. Bray has said that

"In general, the manifestations are disagreeable rather than dangerous, and do not appear to shorten the average span of life. On the other hand, the sufferers are generally above normal mentally, and free from many other diseases that commonly afflict the race."

Allergic conditions are not, therefore, a serious problem as far as the race is concerned.

Into a similar category comes hereditary cardiovascular disease. The condition to which I refer is essential primary hyperpiesis and associated arteriosclerosis. There is no doubt that this condition is hereditary and probably the underlying

diathesis is inherited as a dominant Mendelian character.

There is little doubt that high blood pressure and overweight are associated; both occur independently in the same families. Personally, my view is that it is due to a relatively large proportion of basophile cells in the anterior pituitary.

From the point of view of the race, what is the position? To quote Maurice Campbell:—

"Only exceptionally where these conditions have occurred frequently and at an early age are we justified in warning against parenthood. Practically, our advice is limited by the fact that cardiovascular disease is likely to occur in these stocks which are desirable from other points of view, that is to say, in their freedom from more important disabilities like tuberculosis and mental disorders. If a disease does not occur before sixty or later its occurrence may be no contra-indication to parenthood, even were it known to be inherited with certainty, especially as the vigorous and capable type in whom cardiovascular disease is likely to occur may have excelled in almost any walk of life before the age at which the malady manifests itself."

This statement by a man who is an authority on this aspect of the disease is impressive. It makes one understand why so frequently those in the higher walks of life die of coronary heart attacks and strokes.

To turn to diseases of the blood. The most important is acholuric jaundice and hæmolytic anæmia due to abnormal fragility of the cells and consequent increased hæmolysis. This disease is more common than is recognised; it has been hitherto regarded as a harmless abnormality, and its victims have been described as more jaundiced than ill, but it is now known that many die prematurely, either from exacerbation of the anæmia or from the effect of the calculi which form in the biliary passages after years of jaundice. Symptomatic cure and a normal expectation of life can be secured by removal of the spleen. This operation is rightly regarded as one of the triumphs of surgery, but it acts very dysgenically, for it does not remove the fundamental abnormality of the corpuscles and promotes the propagation of an undesirable stock.

It is inherited as a Mendelian dominant and where one parent is affected half of the offspring have the disease. This is serious, especially when the disease may be latent.

Acholuric jaundice or hæmolytic anæmia leads to much suffering and invalidity, and the alarming factor is that those affected are often very fertile.

Hæmophilia is a well-known hereditary disease; it is 200 times more frequent in males and is transmitted by the female. 50 per cent. of her sons are affected and 50 per cent. of her daughters carriers.

There has been doubt for some time as to whether diabetes mellitus was hereditary, or was

always due to environmental factors or secondary to acquired disease. Modern conclusions are that 25 to 30 per cent. can be shown to be hereditary, but the mode of transmission is uncertain. From the eugenic standpoint this is very important because, before the discovery of insulin, in the most serious type (that occurring in early life) and most likely to be hereditary, the children died and the men became impotent and the women sterile; but to-day, with insulin they can live to procreate diabetics—a great triumph for science, but a disaster for the race.

I now come to the very vexed question of tuberculosis; is it an hereditary disease or not? There is, of course, no question of the disease itself being inherited, since it is infective in origin and, therefore, the heredity must be in the inherent diathesis or constitution. Some doubt whether inherent diathesis or constitution really is a factor in tuberculosis and whether there is a hereditary susceptibility for, or a hereditary immunity against. The Jew, urbanised and closely segregated for centuries, has a traditionally high resistance to tuberculosis, while the Irish and the Hungarians and Norwegians, for example, only recently and reluctantly urbanised, have a notoriously low resistance. I think it must be accepted that minimal doses of infection gradually build up immunity, and for this reason the urbanised have acquired immunity which is transmitted. In the same way that syphilis, when introduced into Europe in the sixteenth century, was different from what it is at the present time, its recent introduction into the Sudan presents to-day the characteristics of the sixteenth century in Europe. And similarly with measles.

It is at least probable, therefore, that some races, through long exposure to certain diseases, have acquired a partial immunity to them, and that this immunity is genetically transmitted.

That heredity does play a part is established by the study of monovular and binovular twins. In the case of monovular twins the environment of both twins is the same, their heredity is identical; in the case of binovular twins the environment is the same, their heredity is different. If heredity has an influence in the development of tuberculosis, then when one member of a group of twins develops tuberculosis the other should also be affected with much greater regularity in the monovular group than in the binovular group.

Otto von Verschuer and Karl Diehl in a series of over a hundred twins show definitely that this is the case, and, what is more, that, even if the environment of each member of a pair of twins is widely different, the monovular twins are the only ones which show any identical response to tuberculosis in spite of their separation.

I have attempted to deal only with the main hereditary diseases; there are many others, including those affecting eyes, ears, skin and skeleton and neoplastic diseases, but I have mentioned sufficient to illustrate what a wide field of disease is dependent upon hereditary factors. This fact must be of supreme importance to those whose branch of the profession is in the interest of the public health; therefore, it should engage your attention to the full.

Are you satisfied that your special branch of the profession—preventive medicine—is doing everything to prevent disease and improve the future fitness of the race? I choose the word “fitness” with great care and thought. I do not mean necessarily to improve the welfare and amenities of life, but to improve the stock, the mental and physical fitness of our race. To improve environment and eliminate the environmental causes of disease makes life more comfortable and benefits the health of our population, but are you satisfied that, except for the elimination of environmental diseases, it necessarily eliminates disease, or—and I ask this question very earnestly—do public health activities in the prevention of infections, and the improvement of the conditions of living, actually improve the health of the future generations?

The purpose of the public health service is to improve the conditions of living, to attempt to prevent the spread of infectious diseases, and to see that all in need of treatment get it, while the purpose of clinical and research workers is to discover the causation of disease and treat it successfully.

Our combined efforts, therefore, save life, bring much relief to the sufferers from disease, and increase the outlook for the length of time we may live, but we are quite unable to eradicate the hereditary factor of disease in an individual who carries it. There is only one way in which such morbid inheritance can be eliminated, and that is by those with the morbid taint abstaining from procreation.

What are our government authorities doing to improve the future fitness of our race? As far as environment may improve the fitness of the future generation, everything is being done, but little or nothing to improve the stock which has to live in that improved environment. On the contrary, our professional and national policy results in increasing the multiplication of the subnormal and degenerate strains and not in the promotion of the fertility of the inherent superior stocks. Whereas in the past the survival of the well-endowed stocks and of the defective in body and mind approximately balanced each other, or even showed a gain on the side of the more effective, this no longer holds good. As a consequence of philanthropic

care and medical services the poorer stocks have been given a better chance for survival both of themselves and of their offspring, whereas the better stocks are hampered by the deadweight of keeping the poorer. This particularly applies to the mental grades of our population; the professional and upper middle classes, although their own standard of living has risen proportionally with the general rise in the standard of living, have such a struggle to maintain that level owing to taxation (approximately one third of total income) and the proportionately higher charge of necessities (*e.g.*, education) that they find it necessary to restrict the number of their children.

Of course, it must be pointed out that the higher intellectual classes are continually being fed from the lower and that many of the offspring of the higher fall to the lower, but it must be remembered that men of genius are five times as frequent among the well-to-do intellectual and professional classes as they are among the poorer families. I submit, therefore, that it is not good policy to have a state of affairs which necessitates the professional classes restricting the number of their children. But the position is summed up in Dr. Cattell's reported statement: “Statesmen should think about the next generation, but posterity has no votes and the Church is not interested in biological matters.” Without going further into the problem from the political and social aspect, I have indicated that there are factors at the present day which are not in the best interests for the promotion of the fertility of the inherently superior mental stocks.

What are we, as a profession, doing to improve the fitness of the race? To consider mental conditions first. Are the improved environmental conditions of life and psychotherapy facilities improving the race? Aubrey Lewis states: “With increasing success in individual therapy, the danger grows rather than lessens.”

I have already pointed out that in mental abnormality two factors are necessary, as a rule (*a*) hereditary, and (*b*) environmental. By the improvements of social welfare and the skill with which mental disease can now be treated, the hereditary mentally unstable can be saved from going insane and becoming locked up, but instead are left as undesirables and anti-social individuals in all classes of the population, causing much trouble, unhappiness and distress in the world, and these will in turn create yet more undesirables. Is it to be wondered at, therefore, that the psychopath, the feeble-minded and the psychotic are on the increase?

There is danger of increase of other hereditary diseases also. A substantial proportion of cases of diabetes, probably the most serious variety, are

hereditary, and science, with the discovery of insulin has made it possible for these people to live and reproduce more diabetics, who in turn will reproduce still more, whereas before insulin the tendency was for these cases to decrease. Acholuric jaundice and hæmolytic anæmia, which can lead to much ill-health and early death, can be cured by splenectomy, and sufferers from these diseases are particularly fertile. I believe them to be much more common than is recognised.

The latest discovery is that progressive muscular dystrophy can be arrested by glycine; now by its administration we can hope to see cases of pseudo-hypertrophic muscular dystrophy, which seldom reached procreative age, live to procreate more diseased children. Then to-morrow we may be able to arrest hæmophilia and so on.

The aim of this paper is to direct your attention to the importance of these matters and to ask you whether you, as public health medical officers and administrators with powers, are satisfied that you are doing everything to improve the future fitness of the stock. Is it possible to stem the tide of the increase of the subnormal?

I submit that as things are going at present the eventual goal is an inferior mental and physical people enjoying all the amenities that improved environment and science can give; but is this more desirable than a superior mental and physical people living under less easy conditions?

In an address I gave in October, 1935, I pointed out that it is a fundamental law and proved fact that in life there are always constructive and destructive forces at work, and all authoritative psychologists are agreed that in the end the destructive forces always prove the stronger. This makes me wonder whether the social services and medical science are not as we think they are, constructive forces, but really destructive.

I believe that it is only by thoroughly understanding and facing the full facts that we can hope to tackle the problems before us and to overcome that fundamental law of destruction. It is, however, a very difficult problem to decide what is the best policy to pursue. To quote L. S. Penrose:—

“It is argued that by preventing individuals who suffer from the serious hereditary diseases from breeding we could improve the general standard of health to an important degree within a relatively short period. Unfortunately, there is little evidence to suggest that this view is correct. The human generation lasts some thirty years, and during such a period the environment of the population may undergo great modifications. If in each generation, it were possible to prevent all the defectives from breeding, mental deficiency would not be exterminated. The incidence would only be reduced by one-eleventh every thirty years. The reason for this is that if 1 per cent. of the population exhibit a recessive character (for defective), 18 per cent. must possess this

character in heterozygous form (hybrid). It is these heterozygous individuals who will perpetuate the condition in the next generation.”

We cannot foresee the future environment of the human race and, therefore, we cannot be certain what characters to breed for. It is urged that the improvement of the general intelligence of the race should be one of the most important aims, but, even if we could do this by eugenics, we may legitimately doubt whether the human race would be happier. The philosophies of medicine and eugenics, sooner or later, diverge. What is pleasant for the individual is not necessarily good for the perfection of the race. Some say that, as the professional class are less fertile than the labouring, if we breed for intelligence, fertility might be lost, but as the intelligent do not limit their offspring because of impotence, they may be doing so now for environmental reasons which might be absent in the future.

Presumably the eugenic principle which would be most in line with medical philosophy would be to encourage the breeding of those individuals best adapted to meet environmental changes.

In my view, therefore, our aim should be to prevent those who are suffering from obvious serious transmissible disease from having offspring and then, as far as is possible, to make conditions such that the type that is mentally and physically suitable for the environment increases proportionally. One of the main troubles of to-day is that we are increasing proportionally the wrong type of individual. Formerly, we required large masses of the labouring class to do manual work and fight in hand-to-hand warfare. To-day, the necessity for manual labour is declining; the machine has taken its place: what we require is more of a mental worker to manage the machines. Likewise our battles, to preserve our national existence, necessitated, in the past, large numbers of soldiers. Napoleon said a country with a population of 30 millions was bound in the end to conquer a country with 15 millions, but not so to-day. A small nation which can manufacture, or acquire, and use modern armaments will conquer a nation of twice the population but unarmed.

It might be argued that it is not breeding but only environment and education that is necessary to produce the necessary type, but, as we are already over-populated, it seems only sound common sense to breed them from parents who belong already to this class.

Difficult as the problem is, it is to those whose service is in the interests of social welfare and public health that we should look for guidance.

REFERENCES.

“The Chances of Morbid Inheritance.” 1934. Edited by C. P. Blacker.

“The Influence of Heredity on Disease.” L. S. Penrose.

Papers and Discussions in Brief or Abstract

CAUSATION OF DENTAL CARIES

One of the Dental Officers' Group meetings during the past session was made the occasion of a Symposium on Dental Caries. The opening papers were read by Mr. G. Graham Macphree, M.A., M.D., CH.B., L.D.S., Honorary Dental Surgeon in charge of the Pathological Laboratory, School of Dental Surgery, University of Liverpool, and by Mr. J. Sim Wallace, D.Sc., M.D., L.D.S., Lecturer in Preventive Dentistry, King's College Hospital. Their contributions are summarised below.

Dr. Graham Macphree

Much research work has recently been done in the field of dental caries and we might now take stock and try to see what point has been reached.

Each new theory is hailed at first as the one and only explanation or solution, and gradually wanes in importance as another appears. We were once told that all we had to do to ensure perfect teeth for the next generation was to make them eat plenty of vitamin D or substances containing it. Then, that all they required was raw milk. Other constituents of the diet were variously praised or blamed as affecting the incidence of caries; and all the time we were being told repeatedly that the chemical constitution of the diet has no effect and that it is solely the physical form that counts.

There should be no antagonism between the supporters of the various "theories" but rather harmonious co-operation in the attempt to solve the problem. Probably each theory explains a part of the whole, but only a part. I wish to emphasise that most of the present-day theories refer only to the immediate cause of dental caries. The underlying cause seems to be still unknown.

What first drew my attention to the inadequacy of the generally accepted theories was the discovery that cases kept cropping up which did not fit in with the conventional explanations. Any exception to a natural law must show that our conception of the law is at fault. Dental disease should not be supposed to be a separate category, distinct from any other disease of the human body, simply because we do not understand it fully. I am convinced that there is some underlying cause yet unknown.

Prior to 1882, tuberculosis and pneumonia were in a similar position. It was known that some individuals had a "diathesis" or predisposition to a disease, and that malnutrition, unhealthy surroundings, and so forth, were predisposing causes. The exciting cause in the case of acute lobar pneumonia was supposed to be exposure to cold.¹ It was only when the tubercle bacillus and the pneumococcus were discovered that the ultimate cause was known.

Similarly, the exciting cause of dental caries is supposed to be acid fermentation, and attack of the enamel surface. Dental caries may not be due to an organism, but it is foolish to reject such a hypothesis simply because we have not found a definite causal organism satisfying Kock's postulates.

The experimental work which I was fortunate enough to introduce was an attempt to find if there was any

evidence to support such a theory. With diphtheria, it is well known that there may be substances in the body fluids which have an inhibiting effect, and it is now possible to inject these substances, toxins and antitoxins. Briefly, it was felt that people who were free from dental caries might have some protective substance in the body.

These experiments are fully described elsewhere.² Suffice it to say that precipitin tests were carried out on subjects who were free from dental caries and those who were afflicted with caries, and it was found that the serum of the caries-free subjects produced a marked precipitate when mixed with "cariogenic" while the serum of those who suffered from caries showed very little reaction. Various other tests had been tried, such as agglutination, but in view of the fact that the causal organism of dental caries, if any, was not known, one could hardly expect any very definite results. It was found, however, that *S. mutans* behaved differently, in further precipitin tests, from other organisms thought by some to be associated with dental caries.³

Further tests with complement fixation showed that the same proportionate differences existed with that reaction, and moreover it bore no relation to the syphilitic reaction of the Wassermann test.

It thus seems that in the serum of caries-free individuals there is some property which is lacking or weak in those afflicted with caries. The proof of this is the precipitate obtained in the test-tubes, which has been photographed for record.

This supports the hypothesis that some individuals have "immunity"—whether natural or acquired is another question; but a possible explanation of the decrease in the incidence of fresh caries with advancing age is "acquired immunity."

These experiments rather suggested that this protection acts from the inside of the tooth. From reading the work of others I am inclined to believe that there is some sort of circulation in the enamel; not an active circulation but rather a diffusion or permeation of fluids. This does not mean that the enamel is vital in the sense some observers would have us believe. Permeability is a better word. The mere fact that we cannot get dyes to diffuse readily into human enamel does not mean that there is no passage. With more subtle or penetrating dyes, having smaller molecules, it may yet be possible to demonstrate a passage. The translucent zones in enamel described by Mummery in 1926⁴ may be an indication that changes do take place. One cannot dismiss their presence by calling them "normal appearances," for what is the "normal" appearance of enamel? Their presence may indicate that the enamel is not "normal." One need not postulate a so-called vital process for their presence, because a chemical precipitation is sufficient to account for them. The translucent zones in dentine may be similarly explained, although generally regarded as a vital reaction under the carious process in occlusal cavities of molars, where arrested caries most frequently occurs.

An objection has been raised against this view,

because commencing interproximal cavities are sometimes found to become arrested when the adjacent tooth is extracted, although at this site there is a dead-tract reaction with deposition of secondary dentine by the living odontoblastic layer of the pulp. This may be because the immediate attacking force is removed, namely acid fermentation, or else the calcium barrier may not be completely impermeable and some slight effect may still be exercised from within, sufficient to cause an arrest of the caries now that the overwhelming attacking force is removed. Some people do not agree entirely with the dead-tract theory and consider that the calcium barrier is not absolute. On the other hand, the saliva may have some hardening effect sufficient to cause arrest of the caries when free access is gained. The saliva is, after all, a body fluid secreted by the salivary glands from the blood serum. Various therapeutic substances are excreted in it. Diphtheria antitoxin has been found in detectable amounts in human saliva and its concentration was directly related to the concentration in the blood.⁵ It is therefore quite possible that any immune principle against dental caries may equally well be present in the saliva.

It has been argued that artificial caries and caries in dead teeth disproves any vitalistic theories. I do not think this is so. Caries *in vitro* is merely a chemical process. There is no response on the part of the tooth such as calcium barriers or translucent zones; no halt in the carious process such as so frequently occurs in the mouth; and no arrested caries. Given certain conditions, decay always takes place in experimental caries; there are no exceptions such as one finds with vital teeth in the mouth. With dead teeth in the mouth the same holds good. Clinically it is frequently possible to tell when a carious cavity is in a live tooth or in a pulpless tooth.

It seems to me that at present too much importance is attached to laboratory experiments and too little to clinical work. It is much more difficult to assess the value of clinical observations, and a far greater number of such observations must be carried out; but if a large amount of carefully recorded work in this field were made available it would surely help us in the search for truth. This plea is endorsed by C. N. Johnson.⁶ School dental officers could help greatly by accumulating a sufficient volume of clinical observations.

Turning to some recent theories of dental caries, the subject that has bulked most largely of late years is diet.

Certain substances are necessary for the healthy growth of the body, whether plant or animal; we can write out a prescription for a culture fluid on which a plant will, with the addition of sunlight, grow. These ingredients are best supplied in certain proportions, but if any one of them is completely withdrawn the plant will cease to thrive.

The animal body is perhaps more complete, but a certain minimum amount of each element must be present to ensure healthy growth. Some of these elements are present in the diet in pure form, others, notably carbon, are in complex chemical combination. The total deprivation of any one of them will have more or less injurious consequences. Thus, in the total absence of iron, the blood will suffer because haemoglobin cannot be manufactured. If iodine is withheld

we get thyroid disturbances. Some of these essential dietetic constituents are present in very small amounts, like the accessory food factors, such as vitamins, which appear to have an action almost like a catalyst in chemical reactions. Entire absence of any one of these "essential constituents" leads to trouble. Obviously, in the complete absence of calcium, or of phosphorus, we could not have teeth formed, since calcium phosphate comprises the greatest bulk of the tooth. It has been found that in the absence of vitamin D, teeth (and bones) will not be properly formed. On account of the mystery which for long surrounded this substance, and the infinitesimal quantities of it required, it appears to have obtained undue importance in recent investigations. It is only *one* of the thirty or forty "essential constituents" of the diet. When we are told that in the last few years 16,000 articles have been published on the subject of vitamins,⁷ you will perhaps agree with me that their importance has been exaggerated.

The truth of the matter seems to be that we must have enough of each constituent in the diet. An excess of any one will do no good and may even do harm. Even if a deficiency of any constituent such as vitamin D does lead to imperfections of tooth structure, it does not follow that caries is more likely to occur. Lower incisors are usually the most "hypoplastic" teeth in the mouth, yet they are the least frequently affected with caries. Dogs with very "hypoplastic" teeth are yet almost completely immune from caries. In the absence of Mrs. Mellanby I do not propose to say much about the vast amount of work done by her on vitamin D; but McCulloch in 1932⁸ pointed out several fallacies in the experiments themselves and more recently Dr. Weaver published a critical review on some of her work which makes one doubt very much how far her conclusions are justified. It would be fair to say that vitamin D is an "essential food constituent," but only one of many.

In fact, we must have an "adequate dietary" or a "balanced diet." The proportions of the various food substances to each other are important, particularly the calcium-phosphorus ratio. In a good mixed diet we are likely to get everything that is necessary from a chemical point of view.

The physical character of the food has of course been stressed by Dr. Sim Wallace. The methods he advocates are the best we have at present for preventing the onset of caries. I do not, however, consider that his theory explains the underlying cause of caries. Out of 4,000 school children whom I examined, 5.8 per cent. had no caries—roughly 200. Of these 200 about 50 had unclean mouths, just the sort of mouths in which one would expect to find decayed teeth; yet they were free from caries. Dr. Sim Wallace explains that there are different kinds of dirt, and that sometimes dirt is unfavourable to the development of caries. In these mouths, which I examined carefully, there seemed to be no difference clinically from ordinary dirty mouths that develop caries. It seemed to me that the individuals concerned must have had some sort of "immunity."

Until we find the ultimate underlying cause of dental caries—whether it be a filterable virus, or an organism, or not—we can only treat the disease symptomatically. By good nourishment of the growing child (which

PUBLIC HEALTH

DECEMBER

includes pre-natal care) we can help to produce strong well-formed teeth which, other things being equal, should be more resistant to disease. By eating the foods advocated by Dr. Sim Wallace we can ensure good functional activity; and by using the toothbrush regularly we can, if necessary, supplement the efforts to keep a clean mouth. The self-cleansing action possessed by the mouths of some patients, and first pointed out, I think, by Breese, is an important factor in this connection. The old slogan of "clean teeth never decay" would be better expressed as "clean teeth seldom decay." The immediate exciting cause of dental caries is undoubtedly the acid attack on the enamel, as explained by Miller's chemico-parasitic theory, just as the immediate exciting cause of acute lobar pneumonia is exposure to cold. Keeping the teeth clean is like keeping dry and warm a person susceptible to rheumatism or pneumonia.

REFERENCES.

- ¹Muir, R., and Ritchie, J. "A Manual of Bacteriology." 7th edition, p. 226 (1919).
²Macphree, G. Graham. "Studies in the Aetiology of Dental Caries." (Bale, London, 1935.)
³—. *Brit. Dent. J.*, 57, 518 (1934).
⁴Mummery, J. H. *Brit. Dent. J.*, 47, 472 (1926).
⁵Sugg, J. Y., and Neill, J. M. *J. of Immunology*, 20, 463 (1931).
⁶Johnson, C. N. (Editorial.) *J.A.D.A.*, 22, 833 (1935).
⁷Brady, E. P. *J.A.D.A.*, 22, 204, 3 (1935).
⁸McCulloch, E. W. *Brit. Med. J.*, 1932, ii, 75 (1932).
⁹Breese, F. *Brit. Dent. J.*, 34, 574 (1913).

Dr. J. Sim Wallace

My first axiom is that dental caries invariably starts externally. This was brought to light over 100 years ago¹ and has never been effectively challenged.

The second is that "Dental decay is a chemico-parasitical process consisting of two distinctly marked stages, decalcification or softening of the tissue, and dissolution of the softened residue. In the case of enamel, however, the second stage is practically wanting."²

The chemico-parasitical theory became fully recognised about 1890. As the result of the investigations on fermentation made by Pasteur and his successors together with co-ordination of clinical facts and of laboratory work on the experimental production of caries, we came to conclude that the cause of caries is the unduly prolonged lodgment, together with periodical renewal, of fermentable carbohydrates in more or less immediate contact with a part of a tooth where the fermenting mixture is undisturbed by the access of saliva.³

Notwithstanding the fact that saliva and mucus in the mouth may provide excellent facilities for the proliferation of bacteria we contend that saliva plays an important rôle in the prevention of caries, especially by facilitating mastication and the hygienic state of the mouth and teeth after food is consumed.

Normally it is secreted in large amounts during and for some time after a meal. It is continually permeating and liquefying the carbohydrate residue, neutralising acid and facilitating its removal, so that all the surfaces of the teeth subject to friction and to the protective

action of fresh saliva are not liable to caries, given that the food is of such a nature that the mechanical actions of the tongue, jaws, cheeks and lips, together with the natural flow of saliva are not interfered with on any part of the surface of the enamel. But all the surfaces of the teeth cannot be kept entirely free from every kind of fermenting carbohydrate by direct friction. Such surfaces depend on a mucous coating for their protection. A special rôle of the mucus is to lubricate the teeth, tongue and mucous membrane, and to facilitate removal of unwanted matter. Where there is not considerable friction the mucus tends to remain clinging. This coating is ingeniously adapted for the preservation of the teeth and the hygiene of the mouth, for it lubricates the enamel and facilitates the removal of carbohydrates. The mucus which remains on unrubbed surfaces undergoes a process of disintegration which facilitates its own removal, but hydrodynamical force (brought about particularly by mastication) is necessary to prevent it stagnating so long as would permit tartar to form. On some teeth, conspicuously the incisors, even depressions or grooves well away from the gum margin may remain coated with a film of tartar. This coating is liable to become pigmented and so we have obviously dirty teeth which are anything but liable to decay. Mucus saturated with buffer salts renders acid harmless to the enamel until the buffer salts are used up. If fresh saliva and so buffer salts are continuously being introduced no decalcification of the enamel will take place, that is to say caries is prevented without the formation of tartar. The danger from tartar is to the gum margins and is not directly provocative of caries.

Different teeth in the same mouth are not equally subject; the lower incisors are generally caries-free while the disease is progressing in the upper incisors, and similarly the molar teeth suffer from decay more than twenty times as frequently as do the lower incisors. Again, caries almost equally invariably commences at certain spots or areas on the enamel, and not on others. In a recent research⁴ the frequency of caries at particular points was carefully recorded from the analysis of 488 children. It was shown how very liable the enamel is to be attacked where carbohydrates tend to lodge. This research also shows that there is practically no such thing as "immunity" to caries, since with the dietary régime under which the children were being brought up, "only one mouth in 488 was found to be free from caries." Another case of so-called immunity⁵ was that of a boy who by luck, or perhaps parental example, seems to have strictly avoided pap feeding, e.g. porridge, rice and milk. In fact he appears to have had an exclusive preference for solid foods which he could lift with his hands and bite into with his teeth. We are not told how much sugar he ate or how it was eaten. All that is reported indicates that such sugar as he did take was not taken in its obnoxious forms, or at the worst times. Indeed, bread and jam, bread and marmalade or sweets between meals or before going to bed or at any other time, did not form any part of his dietary, in other words, sticky sugars, or sugars in their specially dangerous forms were conspicuous by their absence. We have good reason for believing that this boy's mouth was easily kept clean by the natural self-cleansing processes, that normal habits in mastication

manifested themselves early, that he had a natural dislike for spoon or pap feeding and that the physiological reactions of the saliva had not been disorganised.

Nearly forty years ago, scientists began to discredit the belief in the hereditary degeneracy of the teeth. The refinement of foods, pap feeding and the increasing consumption of sugar in many civilised countries, accounted far more satisfactorily for the prevalence of caries. Familial and racial prevalence of caries could be far more rationally attributed to dietetic customs handed down from one generation to another than to constitutional predisposition or insufficient calcification of the enamel.

It was objected that while eating the same foods, some had many decayed teeth while others were "immune." Apart from occasional natural or unnatural anatomical variations, we recognised that dietetic habits were often very different in the same family. In 1913⁶ it was specially clearly demonstrated by Mr. Frederick Breese that almost immediately after eating the same meal the mouths of some children were relatively free from carbohydrate debris while with others much carbohydrate remained in the retention areas. What struck me most about the caries-free children was the regular arrangement of the teeth and consequently the ease with which they could be kept clean by the action of the tongue and the flush of the saliva.

With regard to undesirable tastes, preferences and dietetic habits, suffice it to say that some children masticate their food fairly thoroughly while others swallow it virtually without mastication, and thus do not invoke the normal self-cleansing processes. Some use their tongue, lips and cheeks much more efficiently than others at the end of a meal. As was pointed out by J. H. Gibbs in 1917, we know that "a sufficiently large number of children have been brought up on the lines we recommend to prove that under modern civilised conditions dental caries can easily be entirely or almost entirely prevented."⁷ We know further that even though had dietetic habits and their consequences have prevailed for some time and caries has resulted, the filling of the decayed teeth and a change over to a physiologically correct dietetic régime will almost invariably in time stop further decay.

Much has been said about the value of thick enamel, good calcification, and the structure of the teeth as important in the prevention of caries, but an analysis of the evidence clearly proves that this is not the case. Thus in simple hypoplasia of the upper lateral incisors, caries is less frequent than on normal or large lateral incisors in which the enamel is thick. Indeed few dentists have ever seen caries starting on the lingual surface of such dwarfed or hypoplastic lateral incisors though it is a common site of caries when the enamel ridges are thick and a carbohydrate retention area is present.

Similarly, Hutchinsonian incisors are rather less than more liable to caries than the normal incisor since the hypoplastic enamel towards the cutting end is at a place where carbohydrate stagnation can hardly occur, and because such incisors are rather small and peg-shaped.

I have presented briefly "the theory of dental caries generally held in this country and elsewhere in the

world,"⁸ and "the generally accepted conclusion that prevalence of caries is caused by the action of food in the mouth,"⁹ i.e. the present-day environmental or local stasis theory. I am aware that the part played by food-stuffs (or vitamins) "after absorption from the alimentary canal," i.e. the vitamin or nutritional theory, was considered by many the fundamental cause of the terrible state of the teeth in civilised countries. Although during the past few years this idea has been given up by the great majority of dental experts, no doubt there are many medical men and even some dentists who still cling to it. To them I would ask the following questions:—

1. Why do dentists fear the destruction of the teeth where ill-fitting metal clasps surround them?
2. Why are lower incisors caries-free, when the corresponding upper incisors are afflicted with the disease?
3. Can any theory of nutrition or constitutional causation account for this prevalence of caries in the upper incisors when it is known that both upper and lower incisors are nourished by the same blood at the same time, and the development controlled by the same hormones?
4. Why do teeth start decaying with remarkable regularity in obvious carbohydrate retention areas?
5. Why are teeth which have been devitalised on account of having decayed no more susceptible to caries than they were when they could draw nourishment from the blood?
6. Why did caries among school entrants and young children in Shropshire, and England generally, show such a remarkable diminution during and immediately after the War? Was vitamin D, phosphorus, calcium or sunshine more prevalent? Was butter, meat, eggs, or cod liver oil or anything else containing vitamin D consumed more freely? Was not the decrease in caries in school children the result of war conditions such as the restricted consumption of sugar, jam, marmalade, and sweets?
7. Why do the nutritionalists base their case merely on controversial inferences?
8. On what nutritional hypothesis can the fact be explained that a tooth may cease to decay on the mesial surface next to an extracted tooth and at the same time commence to decay on the distal surface?
9. Why do the nutritionalists not attempt to rebut the facts that disprove their inferences?
10. Why do dogs fed on diets drastically deficient in vitamin D show such remarkable freedom from caries?
11. Why is the enamel which is formed in winter, when vitamin D is scarce, just as thick and smooth and perfect in quality as that which is formed in summer, when mothers, babies, children, cows, butter, milk, etc., are saturated with this vitamin?
12. Why are rats, even when dosed with cod liver oil, so subject to dental caries in the retention pits of the molar teeth, when these are packed with fermentable corn?
13. Of what value are investigations which only cause confusion and distract attention from the well established conclusions arrived at after prolonged observation and research by the most able and distinguished members of the dental profession?

REFERENCES.

- ¹Parmly. "A Practical Guide to the Management of the Teeth, comprising a Discovery of the Origin of Caries." (1818).
- ²Miller, W. D. "The Microorganisms of the Human Mouth." p. 205. (1890).
- ³Wallace, J. Sim. "The Prevention of Dental Caries." p. 19. (1911).
- ⁴Day, C. D. M., and Sedwick, H. J. "Studies on the Incidence of Dental Caries." *Dental Cosmos.*, Vol. lxxvii No. 5, May, 1935.
- ⁵Herd, Henry. "The School Medical Service." *Public Health*, January, 1935, No. 4, Vol. xlviii, p. 128.
- ⁶Breese, F. "School Dentistry—Some Facts and Figures." *Brit. Dent. J.*, June 16th, 1913.
- ⁷Gibbs, J. H., F.R.C.S., L.D.S. "Child Welfare and the Prevention of Dental Disease." *Edin. Med. J.*, Vol. xviii, N.S., 1917.
- ⁸Breese, F. "Diet and the Teeth." *Brit. Dent. J.*, February 1st, 1934, p. 120.
- ⁹Shaw, J. C. Middleton. "The Dental Problem in the Prevention of Dental Disease." *South African Medical J.*, March 12th 1932, p. 151.

THE NEW MIDWIVES SERVICE

Discussion by the North-Western Branch.

An ordinary meeting of the Branch was held in Parkers Restaurant, Manchester, on Friday, November 6th, 1936, the President, Dr. S. T. Beggs, occupying the chair. Forty-eight members were present and apologies were received from six members.

The minutes of the last meeting were confirmed and the President called on Dr. NORA SMITH (Assistant Medical Officer of Health for Maternity and Child Welfare, Manchester) to open a discussion on the Midwives Act, 1936. Dr. Smith said the principal object of the Act was to establish a service of salaried midwives sufficient for the needs of the district, and the principal difficulty which would have to be solved was the drafting of a new service on to an existing one. The first question which had to be answered was the number of births which had to be provided for. At the present time there was a great demand for confinement in hospital and it was doubtful whether the peak of this demand had yet been reached. She thought that mothers probably did not like hospital for confinement but went there because they felt that everything was at hand to deal with emergency, that they paid a fixed fee, and there were no extras. In Manchester it was anticipated that they would have to provide for 5,500 confinements annually. They proposed to allow the midwives to book two cases per week and, allowing for holidays, etc., this would work out at about 80 per year. In estimating the weekly working hours of a midwife they considered that two confinements would occupy 12 hours, morning visits 28 hours, evening visits 7 hours, a total of 47 hours per week. In addition a certain amount of time would be occupied in ante-natal work. It was proposed that the midwives should work in groups of four to permit of satisfactory arrangements for holidays, off duty and days of rest.

It was thought that the booking should be controlled at a central office. The patient would book with the midwife who would transmit the booking to the central office. This system would allow a reasonably free choice

of midwife and would facilitate regulation of the number of cases taken by the midwife. It was proposed to take on as many as possible of the existing midwives and offer a salary of £215 rising to £295 together with laundry, uniform, travelling allowance and telephone. She thought the scheme would be an expensive one by reason of the additional services which would be developed. It was probable that a central sterilising station would be established and the drums distributed to the midwives by motor and, as midwives became trained in the use of the Minnett apparatus, a service for the distribution of cylinders of gas would be necessary.

The usual fees in the Manchester district are £2 for primipara, and 35s. for multipara. The midwives have not many bad debts, the net payment received by the midwives for each case being in the neighbourhood of 80s. The local authority did not propose to charge more than these amounts. There would, however, be some difficulty in the collection of fees due and an additional clerk and an investigation officer would be necessary. It was anticipated when the service developed each confinement would cost the local authority £4 and that the average amount recovered would be about £1 per case, leaving the net cost per case to the local authority at £3. With regard to compensation to midwives who surrendered their certificates it was proposed to assess the amount on the basis of 30s. per case, a figure which was accepted by the Assessors of Income Tax. The midwives who do not come into the scheme may continue with the hope that they may be called upon to surrender their certificates on the ground of ill health and receive compensation on the basis of five times the annual value of the practice. Unsatisfactory midwives who do not surrender their certificates will be gradually eliminated.

Dr. Smith was doubtful whether the Act would give an adequate return for the money spent by the reduction of maternal mortality and morbidity. We are asked to make up a new service with old material and the designation of a woman as a municipal midwife will not turn a bad midwife into a good one. Some of the existing midwives are poor, some are good but not many are of the desired standard, and supervisors of midwives will have a difficult task for many years as the personnel will be below the desired standard.

Will the new service eliminate the "pin-money" midwife? She may remain outside the scheme and we cannot remove her as her midwifery may be good enough for the Central Midwives Board. Although her number of cases may be insufficient to keep her efficient she cannot be stopped. If a satisfactory scheme for a municipal midwifery service is established and things go well with the municipal midwives, mothers will accept the service to the exclusion of the private practising midwife, but if one or two unfortunate accidents occur in the early days, they may be very detrimental to the service.

The discussion was continued by Dr. F. A. SHARPE (of Preston) who expressed the opinion that we had never been presented with such a "hotch-potch" as the Midwives Act of 1936, as a new service cannot be satisfactorily drafted on to an old one. He was very doubtful about the employment of the old midwives as

the majority were doing too little to be efficient. He thought the payment of municipal midwives would present a difficulty as many were only earning £50 per annum at present and he suggested the payment of a minimum salary equal to the average of the present earnings with a payment for additional cases up to 80, i.e. £75 for 30 cases with £2 10s. per case up to 80.

Dr. J. E. SPENCE (Eccles) thought that too much must not be expected in the immediate future as it would be 10 to 15 years before the service could be remodelled. After the Act of 1902 when the *bona fide* midwife was admitted to the Midwives Roll there was very little change in the service for some years and it was not until after the War that a great majority of the midwives possessed a certificate of training and even now, 34 years later, there still are a few of the old *bona fide* practitioners. The chief change which would be an improvement of the status of the midwife. She would be a member of the staff of the Health Department and no longer in private practice; as such she would be under the supervision and control of the Medical Officer of Health, all her work would be carried out under his direction and control and would be much more closely supervised than that of an independent midwife. This would no doubt tend to improve the standard of work. Local authorities would no doubt in the first instance select the best of the midwives with considerable experience practising in their area. He thought that an endeavour should be made to regulate the congestion of maternity hospitals by reducing the number of healthy multipara who were admitted as with improving housing conditions and trade they could with safety and comfort be quite well confined at home. In addition, confinement at home would be a smaller burden on the rates. With regard to the collection of fees he thought the midwife should not be responsible for this work but should assist in it as far as possible. A booking fee should be charged when the midwife was booked, and the mother supplied with a card so that the fee or a considerable part of it could be collected in instalments during pregnancy. He thought that the memorandum of the Ministry on the Act was a direct request for local authorities to relax their regulations under the Local Government and Other Officers Superannuation Act and admit to established posts women of any age provided their record and physical conditions were favourable. Any extra charge for superannuation would not fall on the superannuation fund but would be an expense in connection with the Act and as such would be eligible for grant. He expressed the opinion that the administration of the Act, if provision were made for the whole of the domiciliary midwifery in the area would be between 0.4 to 0.5 of a penny rate.

Dr. R. B. BERRY (Wallasey) referred to the difficulty of devising a scheme if a large number of the midwives of the district, who were not selected for the municipal service, elected to remain in private practice. He also thought that a midwife would reach the end of her active life at the age of 60 years but could not be retired until she attained the age of 65.

Dr. INNES (Rochdale) said that they had six municipal midwives in that town who were doing most of the midwifery. He thought that the municipal midwife,

backed by the auxiliary services of the municipality, would attract the bulk of the work and those who remained outside the scheme would find that their practices would gradually decline. He also thought that a salary comparable to that of Health Visitors would be so attractive to the private midwife that few would not apply for appointment. In Rochdale the midwives collect the fees as soon as the maternity benefit is paid. The Act would not raise the standard of midwifery at once but it was a step towards a better service.

Dr. WHITEHEAD (Wigan) thought that midwives with only the Certificate of the C.M.B. should not be raised to the same status as Health Visitors as many of them had a very poor general education; a salary on a lower scale than that of Health Visitors would raise their status. The midwives, he thought, should continue to collect fees. Those left out of the scheme would not have sufficient work and would soon surrender their certificates. He thought that 55 should be the maximum age limit on appointment. There was a possibility that the municipal midwife by insisting on a thorough ante-natal supervision at home and at clinics might drive some patients to seek the services of less conscientious midwives in private practice. There would also be difficulty in dealing with a midwife whose practice was in the area of two authorities.

Dr. JEAN MACKINTOSH (Maternity and Child Welfare Medical Officer, Stockport) said we would have to accept poor material for a considerable time. Would the supervision exercised over midwives be similar to that in the past or would the supervisor be a midwife with extensive experience. Who would actually supervise her work at confinements? She awaited with interest the publication of regulations relating to the qualifications of Inspectors of Midwives. In appointing midwives consideration should be given to length of experience in fixing the commencing salary. The municipal midwife will receive a greater income but will have increased work and will have to make arrangements for someone to look after her house and answer the telephone in her absence.

Dr. R. M. GALLOWAY (Bolton) thought that in propounding a scheme the maximum establishment of midwives should be determined but that only a few should be appointed at first and additional appointments made later as and when necessary. He was doubtful whether the offer of compensation based on the average of three years was sufficient to induce midwives to surrender their certificate.

Dr. ROBERTSON (Darwen) said he was in rather a different position as 70 per cent. of the midwifery in that town was carried out by the Queen Victoria Jubilee Nurses Institute who employed four midwives. It was his intention to make arrangements with the Institute, and leave the other midwives alone. The Institute paid their midwives £85, board, laundry, etc., being provided. If the Corporation require the midwives to be paid the same salary as the Health Visitors the other nurses employed by the Institute may demand increased pay. The Council proposed to pay the Institute for the midwives the same salary as Health Visitors, namely £216, and he thought that the midwives should receive this sum less £75 for board, laundry, etc. The fees would be collected by the nurses and retained by the

Institute but the accounts would be audited by the Borough Treasurer and the amount retained deducted from the total due from the Corporation. Supervision of the midwives would be carried out by the matron but all books would be open for inspection by the Medical Officer of Health who would be supplied with such information as he required.

Dr. KEDDIE (Oldham) felt that the extent of the service necessary could not be determined until the admissions to hospital became stabilised. At the present time they were falling owing to increased assessments. He thought that 25 per cent. of the midwives appointed should be women who had had experience as sisters in a maternity hospital in order to improve the standard of the service and that the area should be divided into districts with an ex-sister in each.

Dr. SEEKINGS (Barrow-in-Furness) agreed that there should be a dual scale of salary with a supervisor in a grade higher than the other two. He thought the direct cost of the scheme would be equivalent to a rate of 0.4 or 0.5 penny but that there would be an increase in the cost of the auxiliary services such as ante-natal clinics.

In Chester, Dr. LOBBAN stated it was proposed to ask the District Nursing Association to undertake the work and appoint more midwives as the present private midwives, most of whom were married, were not willing to live in a nursing home.

In replying to the discussion, Dr. NORA SMITH said we would certainly obtain better supervision of the midwives. It was not proposed to distinguish between general trained midwives and those with only the midwifery certificate in Manchester; all would commence at the same salary. She agreed that in normal cases it is better for multipara to be confined at home and admitted the advantages of the proposal to collect fees in advance by instalments. She thought that supervision of midwives under the scheme would be gradually improved and hoped that in Manchester it would ultimately be based on the three large hospitals in which a great deal of the midwifery of the City was carried out.

In proposing a vote of thanks to Dr. Nora Smith for her interesting opening to the discussion, Dr. WILKINSON expressed disappointment with the Act as he did not think it would succeed in reducing maternal mortality and morbidity. What is required is a complete scheme with specialists and well-trained medical practitioners. He also emphasised the importance of post-natal care.

Dr. J. H. PORTER, in seconding the vote of thanks, thought that the free admission of multipara to hospital was leading to dangerous overcrowding with far graver risks to the mother than when the confinement was conducted at home.

Discussion by the County District M.O.H. Group.

A meeting of the County District Group was held at the house of the Society on November 19th. There were twenty-eight members present with the President, Dr. A. T. W. Powell, in the chair.

A discussion on the operation of the Midwives Act, 1936, was opened by Dr. T. Orr (Ealing), Dr. K. E. Tapper (Bromley) and Dr. Leonard Williams (Barking). Dr. Orr reviewed the steps taken by the Borough of

Ealing, which is a Local Supervising Authority, whose proposals are to themselves engage full-time midwives. Of the 1,008 domiciliary confinements in Ealing in 1935, 711 were attended by local midwives acting either as midwives or maternity nurses. Assuming that each midwife can deal with 80 cases, it is proposed to engage ten midwives, on the assumption that the remaining 208 cases will be attended by midwives in private practice. Dr. Orr favours the general trained midwife and envisages that all those appointed after the engagement of those taken on in the first instance will be so qualified. It is contemplated that the same charge will be made for the service of the midwife whether acting as midwife or as maternity nurse.

Dr. Tapper, whose district, Bromley, is also the Local Supervising Authority, outlined his proposals, which will be that every woman would be entitled to the services of a doctor, midwife and home help, the ante-natal work being carried out by the doctor who would decide whether or not it would be necessary for him to be in attendance at the confinement.

In Dr. Leonard William's district, there are two well-established associations providing domiciliary midwifery services and his proposals contemplate contracting out with these associations, with a part of the district being staffed by some municipal midwives.

Many took part in the ensuing discussion, including some from areas which are welfare councils. Dr. G. F. Buchan suggested that, allowing for the absence of midwives from sickness or holidays and the standing off of midwives who are temporarily infectious, the maximum number of cases to be taken by midwives should be 65.

PAISLEY INFECTIOUS DISEASES HOSPITAL

Visit by the Scottish Branch of the Society.

A meeting of the Scottish Branch of the Society of Medical Officers of Health took place on Saturday, September 26th, in the newly opened fever hospital at Paisley. There was a large and representative attendance, and the forenoon was devoted to an inspection of the hospital under the guidance of Dr. G. V. T. McMichael, Medical Officer of Health. The party was thereafter entertained to luncheon in the hospital on the invitation of the Corporation of Paisley.

The new Paisley Infectious Diseases Hospital is situated on the outskirts of the burgh at Hawkhead, and occupies an attractive site, 25 acres in extent, on the banks of the White Cart river. It is the intention of the Corporation, who have acquired a considerable area of ground adjacent to the fever hospital, to centralise all their hospital services on this site, and already they are about to proceed with the erection of a maternity and children's hospital of 60 beds.

The first impression of the visitor on entering the hospital grounds is of spaciousness and brightness. The buildings have all flat roofs and the walls are finished in a substance called "Brizolit," which is of comparatively fine texture and seems to reflect the light better than many other wall finishes. The wide lawns—although the hospital was only opened in July—are in excellent order already. An unusual feature is the construction of brick-walled flower beds round each of

the pavilions and many of the other buildings. Other touches of colour are lent by the skilful use of coloured tiles in such as around the ward doorways.

The lay-out in general, which is as simple as possible, is shown on the plan below. A straight main avenue runs east and west, and six single-storeyed pavilions are placed at right angles to this on its south side. On the opposite side of the avenue from the pavilions there is an isolation block of two storeys.

The pavilions vary in capacity from 20 to 30 beds. The architect has been careful to give them clean, straight lines externally and has been very successful in combining this external appearance with the maximum of convenience in internal arrangements. The sanitary annexes, ward kitchen and ward administrative unit, as well as two single bedrooms, are situated in the centre of each pavilion. The diphtheria ward has a small operating theatre. The observation block contains one four-bed ward, three two-bed wards, and 20 single-bed wards. Attached to this block on the north side is the hospital operating theatre, with anaesthetic room, wash-up room, sterilising room and surgeon's toilet room. The internal arrangements make it clear that the designer and those advising him have given very detailed consideration to all the functions of a modern fever hospital. Likewise, the colour schemes have been carefully thought out, and the selection of furniture and fittings is in itself indicative of the meticulous care which has been given to the planning of this institution.

There is one pavilion specially designed for the accommodation of phthisis patients.

The same care is obvious in the nurses' home and administrative buildings, where, despite a rigid adherence to simple principles of practical utility, nothing of the customary institutional atmosphere has been permitted. This effect has been produced mainly by the skilful use of colour. The nurses' home contains

accommodation for 55 nurses and sisters, which gives a ratio of roughly one nurse to 3.3 patients. In the nurses' home there are the requisite sitting-room accommodation for both nurses and sisters, study and lecture room, visitors' room, individual laundry, etc. The sitting-rooms have a verandah facing south. The administrative block contains the hospital offices, resident medical officers' quarters, Matron's quarters, dining-rooms for nurses and domestic staff, and 25 bedrooms for domestic staff. The main kitchen is also situated in this block.

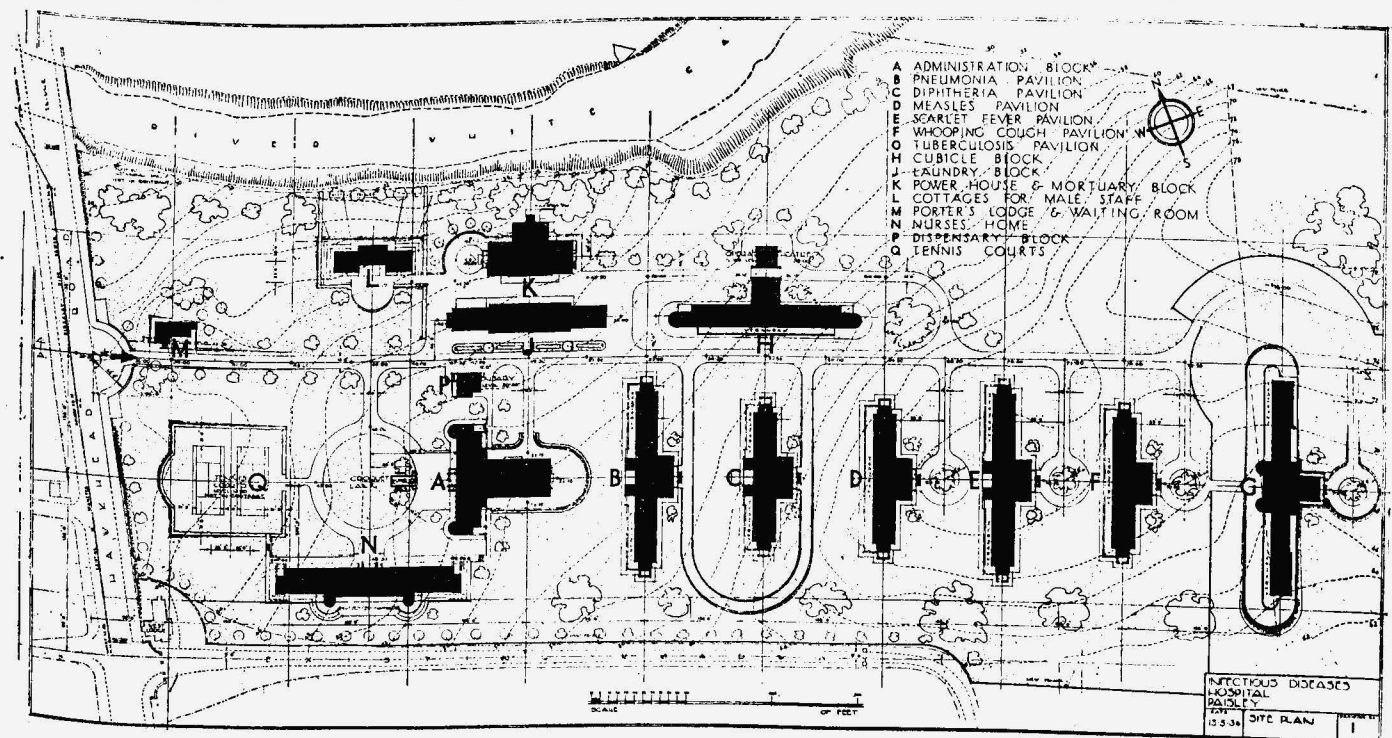
The heating of the institution is by the "Aquavac" system of low-pressure steam; the ordinary type of radiator has been employed throughout.

The hospital dispensary and laboratory, the power house, the mortuary block, laundry block, and the cottages for male staff have all been designed with the same degree of care and efficiency which has been displayed in the other parts of the hospital.

These services are constructed so as to permit of expansion in order to meet the needs of any future extension of the hospital which may be necessary.

The visitors were unanimous in their opinion that Paisley's new Fever Hospital should be regarded as a triumph of architecture combined with efficiency and utility. The whole appearance of the institution is pleasing in the extreme, and shows abundant evidence that there has been intimate co-operation in every detail of design and equipment between the architect, the Medical Officer of Health, and his Committee—for example, the architect has been consulted as regards the main items of furnishing and design of furniture, which has not hitherto been a common procedure.

It would well repay any Medical Officer of Health whose authority are contemplating the erection of a fever hospital to pay a visit to Paisley. The architects are Messrs. Sir John Burnet, Tait & Lorne.



The Central Council for Health Education

NINTH ANNUAL CONFERENCE, NOVEMBER, 1936.

The Ninth Annual Health Education Conference, organised by the Central Council for Health Education, was held in the Lecture Theatre of the London School of Hygiene and Tropical Medicine, on Thursday, November 19th, and Friday, November 20th, 1936.

This was the first two-day Conference held by the Central Council, and the number of delegates appointed to attend—over 300—was the highest in the history of the Conference.

The President, the Right Hon. the Lord Horder, K.C.V.O., M.D., F.R.C.P., opened the morning session on Thursday, and, in his address, said:—

The Central Council for Health Education is to be congratulated upon securing its incorporation this year. The added prestige of this achievement will greatly enhance the value of its work. Its personnel is representative of all the institutions which aim at improving the health of the people of this country through education. The position of the Council is thus quite unique and its potentialities tremendous.

I suppose it is un-British to say much about it, but I sometimes wish the public, not only at home but abroad, were told more often, and more clearly, about your efforts. But British efforts in general, in this matter of health education, have never taken half the credit they deserved. For years before health education became a stunt, we British were slogging away at it, both on the official and on the non-official side. If any other country had achieved half as much as we have achieved in this direction, it would be made the subject of much self-admiration and also of much propaganda for foreign consumption.

I propose to touch upon a few principles that make an appeal to me individually in relation to the subject that interests us all.

1. My first principle relates to the existence and the work of the Central Council. I am entirely in sympathy with its main purpose, which I conceive to be the co-ordination of health education all over the country. Whilst allowing full autonomy in all its affiliated societies, I would urge a boldness in the policy by which it strives to avoid overlapping and duplication of effort. Whilst there is much good inherent in the fact that ours is a highly individualised society, this state of affairs must be closely watched lest we dissipate our energies in a large number of discursive efforts. In times of national crisis, such as war with other nations, we realise the need for centralisation and cohesion. Ill-health and disease constitute a menace against society and in this respect it may be truly said that we are in a state of perpetual war, and that, therefore, centralisation and cohesion are perpetually necessary.

2. My next principle is connected with the process of education and the thing aimed at—health. Let us get back to definitions, in so far as these terms admit of definition. In "Education," there are three stages—there is the stage of nourishing or rearing, there is the stage of systematic instruction in preparation for the work of life and there is the stage of culture or the

development of power. As for "Health," can we define it more exactly than by saying it is soundness of body and of mind: that condition in which their functions are duly discharged? Or is this only a description and not a definition? Probably; for many primitive experiences cannot be defined, they can *only* be experienced. We must appreciate the value of evening-up the general level of the common health and we must concentrate upon groups and districts where this process is most necessary.

3. My third principle is concerned with the manner in which advance proceeds; again I bear in mind the special conditions of Great Britain. Advance takes place by pressure from behind rather than by a lead from in front. Our own particular Society almost invariably progresses in this manner. Public opinion is the dominant factor that activates Government in Great Britain, which, despite the efforts in certain directions to decry and debase the word, is fundamentally democratic still.

We are very fortunate in having, at this important time, a Minister of Health who is sensitive to well-informed opinion. We are also fortunate, in this country, in possessing a network of machinery which we term "local administration," through which health education can find efficient expression.

4. My fourth principle relates to the place which science holds in all this health propaganda which engages so much of our thought and energy and time these days. First of all, let me remind you that health does not necessarily depend upon science at all. This statement may seem to come as a shock to some, and yet on reflection it will be found to be unassailable. Though many of our forebears died prematurely from diseases which we now prevent by the application of lessons taught by science, many others of them enjoyed as perfect health as we can ever hope to do, yet without the help of science, if by science we mean laboratory researches—and this is too often the restricted meaning given to the word science nowadays. Take this much-talked-of business of nutrition. We are discovering how it is that a mixed diet makes for health and a diet that is not sufficiently mixed makes for ill-health. It is because what the Council's excellent posters call the "body builders," "body protectors" and "body workers and warmers" are all represented in the mixed diet and are some of them absent, or exist in relatively too small degree, in the "deficiency diets."

Science is too often regarded as man's master, whereas she should be regarded as man's servant. Science was made for man, not man for science. Care is needed, too, to warn the public against pseudo-science masquerading as the real thing. The shibboleths of pseudo-science so easily become "ramps," and these take the form of patent foods and patent medicines and patent health gadgets of all sorts, science being prostituted to commercialism. Here is an important piece of work for the Central Council. The whole

position of advertisements in relation to health questions is badly in need of overhauling. Some of the most lying, and most blatant, frauds in this field are disseminated in Government-controlled media, which are sold to the general public.

5. My fifth principle is a statement of the fact that the social services are always in a state of tension, those relating directly to health no less than those relating to education and to public assistance. But this is a good, and not a bad, thing. The whole business of health education, as I conceive it, is to convert this state of tension into a state of "tone." "Tone," that subtle quality in the fit person, and in a fit society, which can be experienced but cannot be defined. It can no more be defined than can health itself, for health is not merely the negative state of being free from disease. I have been regarded by many critics as a visionary because I conceived the Ministry of Health as being also if we take the long view, a Ministry of Happiness. But I shall continue to hold that conception. I believe it is a psychological truth that the two states of health and happiness are so inextricably mixed in our natures that no analysis can separate them nor any synthesis of one be completed without the incorporation of the other. If this be so, then we who aim at health education dare not be compartmental in our efforts. We must concern ourselves with the spirit of man as well as with his body and with his mind. And we must canalise science, as it were, towards this end also, as well as towards mere freedom from disease and disability of the body. Years ago, when we were told that we must eat a certain kind of bread—or die of cancer and other terrible diseases, I expressed my disapproval by saying that I did not view the way of health as a tight-rope along which we make a slow and trepidating progress, the least bias to this or to that side, not immediately corrected, or corrected too slowly or inaccurately, and we plunge headlong into the abyss.

Another idea has been promulgated of late, the idea which is embodied in the phrase, "The Secrets of Good Health." This second conception is on all fours with the first and is equally regrettable. "Secrets," forsooth! As though good health were something masonic! Regard the carter driving his team, the sailor hauling on his rope, the smith working at his anvil; his physical fitness, far from being a mode of difficult and unnatural progression, or the result of initiation into a ritual, is the most spontaneous of all acquirements.

In conclusion, Mr. Chairman, what of the future? Health education is more than ever necessary, and the work of the Central Council must be strengthened and intensified. Let us show the world that health can be achieved without regimentation, as the result of a close interaction between the desire to be fit on the part of the citizen and the work of those who are trained and are able to give the necessary information to this end. Let us continue to pull together. Let us make each step intelligible to the people concerned. Let us fight panic, and let us eschew ramps. Let us stick to the wide view and the comprehensive policy. Then wisdom will be justified of some, at least, of her children.

Dr. J. H. Harley Williams (Medical Commissioner, National Association for the Prevention of Tuberculosis) then opened a discussion with an address on "Creative Health Propaganda," in which he said:—

Healthy living means that we learn and practise the art of protecting ourselves from stresses, both from without and within ourselves. Preventive medicine, during the last generation, has reduced appreciably the number of environmental causes of disease by providing greater freedom from infection, better means of treatment, and a higher standard of sanitary and housing accommodation.

We are gradually gaining control over the environmental and organic causes of ill-health. But in nearly every disease there are stresses in which temperament and the emotional life play an important part. These causes, for so long the territory of the Quacks and the Cults, are now being taken over by orthodox medicine, and they are especially influenced by propaganda.

Whoever has attended a Christian Science service for healing or who has seen the rapture that follows a political meeting or who has read of accounts of mass-healing by Emil Coué and others, will not doubt that an influence supremely favourable to health and harmony may be induced by such means.

Health is freedom from outer and inner stresses; health propaganda is the art of suggesting the method of relieving such stresses, among large numbers of people by the creation of right conditions of knowledge and feeling.

For such efforts the need to-day is obvious. Our very civilisation depends on our physical and mental vigour and ability to meet the shocks which modern industrialism has in store for us. Our birth rate is falling to such an extent that within a lifetime the population of this country may sink to two-thirds of its present level.

Nearly all propaganda by advertising is bad health teaching because it emphasises a single universal rule for everyone. Whereas we know in practice that one man's meat is another man's poison, and unfortunately the number of universal rules that help us to prevent disease is limited.

Now the object of creative health propaganda is to bring about harmonious co-operation between the various agencies that are concerned with diseases and their prevention; the medical profession, the health authorities, the teaching profession, the great mass of the people, and most important, the young individual who is still forming his habits.

The means through which propaganda can be done are very numerous. In England, we have some splendid voluntary agencies which have laid the foundation upon which nearly the whole of our public health system has been built. Who cared for health education 35 years ago? I can give one example, and one of several, in the National Association for the Prevention of Tuberculosis which was agitating for measures that are now commonplace; in the unfamiliar world, it began to launch ideas of open-air, rest and nutrition that have infiltrated our living to such an extent that their connection with the original object of preventing tuberculosis has been obscured in the general enlightenment.

The Press is still our greatest medium of health

education, and opportunities of teaching become more numerous and effective because "Health" is becoming "News." But here we have to be content, for the present, with a subordinate place.

The B.B.C. recognises that health education has a demand upon the available time, and the kind of teaching that is given seems to appeal to the more intelligent and thoughtful person.

The cinema is perhaps the greatest engine of mass suggestion and propaganda, good and bad, that the world has ever known. And at the present time, it is largely closed to serious health education. I am not referring to the admirable private use of the film as an aid to education. This has rightly been exploited though not to the full. But the health films are used chiefly for selected audiences of persons who come to be informed. Even if we could afford the lavish expenditure on health films that the big producers can bestow on their screen dramas of love and hatred, the cinemas would be closed to us, because the management say, and we can understand what they mean, "Our patrons come to be amused, not to be instructed."

Such are the obstacles that at present prevent our health propaganda from becoming truly creative and widespread. They exist not because the public do not appreciate the advantages of health, but because the technique of propaganda has not yet been adequately exploited.

Towards this the Central Council for Health Education has taken enormous strides. In a paper on this subject I read five years ago I urged the creation of a special department of the Ministry of Health to deal with propaganda. This hope has not been realised, but we on the Central Council are proud to have the counsel of two representatives of the Ministry in our day-to-day deliberations. The Ministry give encouragement and advice, but as usual, they hand over the actual affair to the local health authorities and insurance committees. I think the attitude and assistance of these bodies to be of profound importance. They have the future in their hands and to them I address myself.

Dr. Drummond Shiels (Medical Secretary, British Social Hygiene Council) read a paper on "**Aims and Methods in Health Education**," of which the following is an extract:—

Although poverty, with consequent malnutrition, unemployment and economic insecurity, the pace, clamour and excitement of modern life and the dread of war, with all the anxieties and emotional disturbances these bring in their train, may not be regarded as coming appropriately within our scope, they all have a profound effect on health. We must very largely leave the consideration of these matters to others, but it is right for us to say that all who are striving to create a desire and will for an environment where a decent, secure and happy life is possible for the ordinary individual are carrying out health propaganda, although they may not know it.

We have much to enjoy which was unknown to our fathers. But the strain and stress and noise of modern life, in particular, and the lack of repose and quiet for reflection and nervous recuperation, are having (as our Chairman pointed out in his recent notable address to the British Association) manifest effects not only on the

nervous system, but, also, on the circulatory, digestive and other functions of the body.

Certainly, we must have more community control over new and unhealthy developments.

But we have also to consider, to some extent, the adaptation of the modern individual to the modern environment, so that he may secure for himself these conditions of life and leisure which will prevent his physical and mental health degenerating amidst the increasing stir of a feverish and hustling world.

In no connection more than health is it true that "The child is father of the man" and we must begin with the child. We must try to secure, with the guidance and warnings of the psychologists in mind, the adoption of habits of personal hygiene and conduct which will enable these to become almost automatic and not the subject of continuous thought. People who are always thinking about their health are not healthy!

Whatever may be done later, the first education of the child takes place in the home. Although many parents do not realise it, the answer to the young child's questions about where babies come from has a vital effect on the whole outlook of the child on sex. We must get away from the gooseberry bush and the cabbage patch, the doctor's bag and the nurse's bag, and parents must learn—and it is an important part of health education to assist them in this—to answer simply but truthfully their children's questions on subjects associated with sex.

This parental frankness should be followed up in the schools by an adequate grounding in biology, supplemented by some elementary human physiology. This kind of teaching is given, to some extent—but seldom adequately—in secondary and public schools, but the vast majority of the children of the nation are turned out at fourteen into a very difficult world without any background of the most elementary scientific knowledge which will make it natural for them to have care and reverence for their own bodies and for those of other people.

In these days of falling birth-rates and melancholy foreshadowings of a drastic fall in population, parents have become a very important class of citizens, and preparation for marriage on the physical, as well as on other sides, is now recognised by responsible people as being desirable, and, in many cases, essential, to promote success in matrimony.

Much has to be organised and arranged before we can regard education for marriage and parenthood as being in a satisfactory position. And marriage at a reasonably early age should be made much more possible than it is at present.

The great achievements of public health have come from a combination of scientific and medical discovery and of co-operation by the community in applying the discovery. The co-operation of the community has always been achieved as a result of education.

The emphasis has always to be on prevention, by explanation of the causes of disease and how these can be avoided. The great efforts now being made to abolish diphtheria are a notable example of the kind of thing people should know more about and a good

response is always got where the case is put well and with appropriate publicity.

There is a great field on which to work on the question of diet—not only on the kind of food, but on the balance of the various necessary constituents which will ward off disease.

As I have already suggested, the effect of the emotional side of life on physical and mental health must not be neglected and very profitable hints can be given on how to resolve the conflict between primitive urges and the reasonable demands of community life. Effective sublimation prevents nervous tension and utilises creative energy in directions which harmonise with religious or ethical ideals.

Now is all this to be done? The good work which is in process at present must be carried on and extended. Health Weeks, talks by medical officers and other health workers, the efforts of voluntary bodies in supplementing other national and local effort must continue. Clubs, youth organisations, guilds and other societies, as well as meetings for the unorganised public must be addressed; pamphlets and booklets should be able to be taken home from such meetings or otherwise distributed; the circulation of excellent magazines like *Better Health* produced by the Central Council, should be increased; articles in the Press are better and more economical than advertisements. Ambulance and first-aid classes are invaluable; they are of great practical benefit and of high educational merit.

Mixed meetings of people of all ages and conditions can be utilised for general health topics, and tuberculosis is a popular and very successful subject at big gatherings. I have been increasingly impressed, however, in my health education work with the value of speaking to selected groups, such as to parents about their children; to men about themselves and their wives, and so on. You can speak more freely and with more certainty of unity in the audience and can get the points home much better than in a meeting full of heterogeneous elements.

All municipal health services might be more used for education.

Some subjects are difficult and one may be faced with the problem of how to make the case sufficiently impressive without arousing fear, with the danger of creating phobias. The subject of cancer is a good example of this difficulty. A little risk has to be taken of the danger of phobias or obsessions for the greater good of the greater number, and, if emphasis is laid on detection of the early danger—signals and on the willingness and desire of the doctor to interest himself or herself in the smallest suspicious circumstance; and if the excellent prospect of cure is put clearly there need not be many of these cases.

We have, however, to avoid either using fear as a weapon or inducing it as the result of our treatment of the subject.

To do all this effectively, the resources of those whose task is health education must be increased both centrally and locally.

To make the premises in which they are held attractive and comfortable, and with a human welcome from the doctor and nurse as part of the equipment, is also a

valuable educational contribution, as it marks the status and importance of the service. A cold or draughty ante-natal clinic, or one so insufficiently staffed that a long wait on hard benches is inevitable; or one without proper privacy or other amenities does not suggest to the expectant mother that those in authority consider it important for her to attend.

There is much to do, but it is well worth while! It is not so much new discoveries that we need as that the scientific and medical knowledge available should be applied through and with the co-operation of every citizen.

The meeting was then thrown open to discussion.

DISCUSSION.

The first speaker from the floor was **DR. JOHNSTONE JERVIS**, representing the City of Leeds. He emphasised the danger of inculcating fear and suspicion in relation to maternity, and the necessity for the utmost tactfulness in advertising these services. "Propaganda," he said, "should enhance the sense of the individual's value in the community." Dr. Johnstone Jervis also expressed his complete agreement with the remarks made by Dr. Drummond Shiels as to the advisability of speaking to small and carefully selected groups instead of to large mixed meetings.

MR. J. J. MAHONEY (Health Committee, Portsmouth City Council) thanked the Council for the help which had been given to them during the Portsmouth Health Week. He emphasised particularly the success of the outdoor film publicity, together with the short talks which were delivered from the van. He thought appeals which were simple and direct, "were much more effective than any other type of address." As a result of the Portsmouth Health Week the city is now hoping to inaugurate lectures on mothercraft in four schools each week.

DR. T. W. HILL (West Ham) made two points. Firstly, he stressed the importance of appealing directly to school children and of teaching them elementary physical facts as a matter of routine. He said that the danger to be avoided was that of compartmentalising a knowledge of health. Secondly, the medical profession itself was not entirely blameless in connection with commercial advertisements of health remedies. It was their duty to relieve public ignorance which made such advertising possible. Insurance Committees' doctors were a potential source of first class health teachers prepared and willing to point out a way of life.

MRS. OLIVE BENNETT (Greenwich Borough Council) then said that the necessity for the efforts of the Central Council lay in the fact that at the present time we have neither health nor education. Health implies a sufficiency of food, warmth and shelter, the primitive and essential need of every individual. She advocated sex education for children in the home and by the parents rather than in the schools. Girls should be taught mothercraft, and it should be taught to them not as one subject amongst others, but as the noblest profession for women.

Dr. James Fenton, the Chairman of the Central Council, opened the afternoon session by reviewing "**The Year's Work**."

The present Conference is one of exceptional importance; not because a greater number of delegates have been appointed than in any other year; not because it comes at the end of a year in which our activities have more than doubled, but because it comes at a time when all those who are associated with the Central Council in its work of health education have an oppor-

tunity of playing a part in a great national movement for better health and physical fitness.

It is not sufficient that the nation should be made vaguely health-conscious. I hope that we shall have before us always concrete aims, and that we shall check the results of each of our activities carefully as we proceed with our work. Some of these concrete aims have already been referred to in Parliament and in the Press; an improved dietary, a higher physical standard and a greater use of the existing health services.

We have in this country the most efficient and the most comprehensive health services in the world, and nobody is in a better position to judge the work which is entailed in the maintenance of these services than the delegates to this Conference. But you know that the facilities which you provide are not at present being used to their full capacity. If we can direct the public enthusiasm which has been created during the last few weeks since the King made his now famous reference to the need for greater physical fitness, in his speech at the opening of Parliament, in such a way that the councillors and officials of local authorities are given the backing from the general public which they have long deserved and not always received, we shall be able to show definite results in the improved physique of each mother, child and adolescent.

Since April of this year, the Central Council have had under consideration the formulation of definite proposals to bring together the public and the public health services.

In fulfilling the first part of their duties, the Committee have been faced by some astonishing facts, which I should like to quote: of every 100 expectant mothers only 49 seek advice from the ante-natal clinics provided by local authorities. As the maternal mortality rate is lower amongst those who attend than amongst those who do not attend these clinics, we can point to a definite loss of life through the ignorance or lack of appreciation of the existing services. Of every 100 mothers with children under one year of age, some 40 never attend the Welfare Centres, and you know there is no district of which it can be said that 40 per cent. of the parents are so placed as not to need this advice. For every 100 school children who are shown by the School Medical Services to require treatment, only some 65 actually receive it. This state of affairs is not due to any deficiency in the available services, but to the apathy, ignorance, or lack of appreciation by citizens of what can be done for them if they would only seek help and advice in the proper quarter.

In the past year, the Central Council has carried on its usual work of assisting individual local authorities by organising intensive local Health Week campaigns and exhibitions, by providing and distributing posters, in co-operation with its affiliated associations, by supply-leaflets and copies of *Better Health* for distribution by local authorities, and by answering numerous enquiries with reference to films, exhibits, and publications. Intensive Health Week campaigns have been organised, in co-operation with local authorities, in York, Southampton, Crayford and Dartford, Harrogate, Edmonton, Cuckfield, Portsmouth and Woolwich.

In addition to the poster sets produced on Diphtheria Immunisation and Nutrition by the Central Council

others have been produced and displayed on the Empire Marketing Board frames in co-operation with the British Social Hygiene Council, the Dental Board of the United Kingdom, the Eugenics Society, the Health and Cleanliness Council, the National Association for the Prevention of Tuberculosis, the National Council for Maternity and Child Welfare, and the Smoke Abatement Society, and the Council is now able to offer local authorities who will agree to take these posters regularly for two years free poster frames for their display. There is no reason why every local authority should not be fully equipped with these "wayside pulpits" of sound health advice.

We have now collected material for a comprehensive survey of available health propaganda material which should be of the greatest value to you in your educational work. The results of this survey will be published shortly in a Year Book, and distributed without charge to all local authorities.

The Minister of Health now appoints three full voting members of the Council, and we should like to take this opportunity of thanking them for the splendid co-operation which we have had throughout the year from the Ministry of Health.

Lastly, I am happy to be able to report that a larger number of delegates have been appointed to this Conference than on any previous occasion.

Mr. S. H. Payne (President, the National Association of Insurance Committees) thereupon took the Chair and opened the second part of the session.

He said that a very pressing need was a closer co-operation between local authorities and insurance committees; the former have a responsibility and they have the power to carry on health education with local funds. Insurance committees can provide well-informed public workers who, however, have no responsibility and no funds. Doctors, therefore, should urge their local authorities to co-opt lecturers from the Insurance Committees.

Mr. Payne also cited passages from a Memorandum (see Appendix to this report) submitted to a meeting of the Stratford Division of the British Medical Association, in which existing public ignorance of preventive medicine and the need for local education effort was stressed. Public opinion had lagged behind the rapid advances of sanitary governance and public medical services, which were, as a result, hampered in their usefulness. The way in which the position could be rectified lay in propaganda, films, demonstrations, camps, exhibitions and suitable literature, and local authorities were equipped by the Public Health Act, 1925, with funds to carry out such work.

Mr. Payne then re-opened the discussion, begun in the morning session, on the papers submitted by Dr. Harley Williams and Dr. Drummond Shiels.

DR. J. J. PATERSON (East Berks.) emphasised the importance of appealing to children, and of teaching them to treat the body as their most precious possession. There should be more co-operation between teaching staff and medical services.

MISS HARRIS (National Federation of Personal Health Associations) pointed out that certain reputable proprietary medicines might be advertised so as to co-operate with the work of the Central Council; they were not all

disreputable. The Press, also, would willingly treat Health as news, and give it space, provided the material was suitably prepared.

DR. MAITLAND RADFORD (M.O.H., St. Pancras) referred to the difference between the work of the Central Council and its related societies, and the advertising of patent medicines; where the latter used fear of disease as a lever, the former, he said, used hope of recovery.

After further discussion, **DR. DRUMMOND SHIELS**, replying, insisted principally upon two points. First, small and homogeneous meetings were better than large and heterogeneous ones; secondly, teachers and not doctors should teach health subjects to children, in order that these subjects should not be regarded as "special" and compartmentalised, but should rather pervade the life of the children.

DR. HARLEY WILLIAMS defended the word "propaganda"—previously condemned by Dr. Paterson—as being not synonymous with "education," but a special kind of education; both were necessary. Referring to Miss Harris' remarks, the Press simply supplied demand; the way to improve it was to improve the news-sense of the public by propaganda and education.

After this discussion, **Mr. Edwin Potts, O.B.E., B.Litt.**, delivered a paper on "**The Duties and Responsibilities of Insurance Committees.**" He said:—

The insurance committees were set up under the National Insurance Act, 1911, for all administrative counties and county boroughs, and in the counties district committees were appointed. When the Bill was introduced, these "Health Committees," as they were called, were to be given definite duties in relation to health education as well as the administration of sanatorium benefit and of all benefits for insured persons who did not join one of the approved societies.

It is important to point out that insurance committees include representatives appointed by the council of the county or county borough and others by the Central Department.

The Central Council for Health Education recognised that insurance committees could play an important part in co-operation with the local authorities who had been empowered to undertake similar activities by the Public Health Act, 1925 (Section 67) and accordingly they appointed a Special Committee to examine the position.

Insurance committees are inclined to think that it is necessary and desirable that they should carry out their duties by making provision for the giving of lectures and the publication of information on questions relating to health.

The Central Council after receiving reports from its committees agreed to draw the attention of local authorities to the willingness of insurance committees to co-operate with local authorities as suggested in the last paragraph of the Ministry's Memorandum, and to invite local authorities to do all in their power to encourage co-operation with insurance committees in health education work.

The representatives of the county and county borough councils upon the insurance committees would be extremely valuable in facilitating joint action taken by these bodies.

This decision and the Memorandum were considered by the National Association of Insurance Committees

at its recent Annual Meeting at Bournemouth, and a resolution was unanimously passed instructing the Executive Council "to again urge upon the Ministry of Health to place at the disposal of insurance committees such a sum as would enable committees at least to help to provide health lectures and to take part with local authorities in the observance of health weeks."

The present day campaigns in favour of more physical training, more playing fields and swimming baths, boys' and girls' clubs, juvenile centres and, generally, better opportunities for everybody to make good use of their leisure suggest that the time is opportune for active health propaganda.

Besides the vast national and local expenditure annually, many voluntary organisations are expending large sums, derived from donations and subscriptions and grants-in-aid upon social and health services of different types.

With regard to National Health Insurance, the enormous expenditure on sickness and disablement benefits and the increasing cost of drugs and appliances suggest that expenditure upon Health Education amongst insured persons might result in substantial savings of insurance funds to the advantage of the Approved Societies.

All activities in health education should be regulated and developed in the closest co-operation in a National Scheme which might be directed by a "Health Broadcasting Corporation." The Central Council has a valuable contribution to offer; indeed, it may even develop into the Central Authority recognised by all health education movements.

MR. WEST (Clerk to the Cheshire Insurance Committee) in a very spirited address, asked Mr. Potts to explain the attitude of the Ministry of Health to those powers with which the Insurance Committee were originally endowed. The Ministry had not co-operated, and the Committees had, in fact, no funds applicable to the prevention of disease. Given suitable co-operation, Insurance Committees were an excellent medium for the dissemination of health propaganda. **MR. POTTS**, in replying, forecast successful health propaganda when closer bonds were established between local authorities and insurance committees.

DR. ERNEST WARD (President of the Society of Medical Officers of Health) thanked Mr. Potts for his excellent paper.

The Friday morning session was opened by **CAPTAIN G. S. ELLISTON**, M.C., M.A., M.P., who introduced the speaker, **Dr. Claude Lillingston** (League of Red Cross Societies). The League, Capt. Elliston said, was a most important agent in the dissemination of health propaganda. Children, upon whom much of its efforts was concentrated, were the most promising factor for health education in this country; they were willing and able to learn.

DR. LILLINGSTON then delivered a paper on "**Health Education of Parents by their Children in Different Parts of the World.**"

Biologists tell us that throughout the animal kingdom parents teach their offspring, not *vice versa*, and the deplorable results, so obvious to the child, so obscure to the parents, have been accepted with stoicism. What might not have been made of the League of Nations and other abortive attempts at progress had

they enjoyed that clarity of view and honesty of purpose which, on the whole, are more conspicuous in a kindergarten than in an assembly of elder statesmen?

In the field of hygiene, parents have passed on to successive generations the most atrocious superstitions. Read such a book as *Devils, Drugs and Doctors*, by Professor Haggard of Yale University, and you will be shocked and saddened by the misplaced ingenuity human beings have shown in the past in teaching their children the road to ill-health and deformity.

Let me give you an example with which I am sure nearly all of you are personally and painfully familiar. I refer to the licking of pages, stamps and envelopes. Which of you has not been caught in the act, red-handed—or rather wet-tongued—by some child gazing on you open-mouthed, more in sorrow than in anger, over your lapse from grace? Here, again, we see the younger generation overtaking the older generation and asking it: "Is this really good enough?"

May it not be possible for some youth movement, several youth movements for that matter, to develop in such a way that the health lessons the child learns get passed on to his parents without offence being given or taken? Of course, what the young learn as children they apply to their daily lives when they grow up and themselves become parents, but this is a comparatively slow process. Why not learn from your own children here and now?

Before I go on to describe some of the activities of the Junior Red Cross, I must dissociate it emphatically from whatever may have seemed paradoxical and provocative in what I have just said. It is a movement as modest as it is sincere; and its leaders would be justifiably distressed were anything I said about it to suggest that Junior Red Cross members are encouraged to treat their parents as ignorant folk in need of education. Nothing of the sort. But if, in the course of the pursuit of Junior Red Cross activities, its members do incidentally bring home to their parents new and valuable lessons in hygiene, we need surely not object to this reversal of the old order of things.

Let me also make another point clear. The Junior Red Cross, with its membership of more than 17,000,000 children in 53 different countries, came into being during the Great War in response to a spontaneous demand by children in Canada, Australia, and elsewhere to take part in Red Cross activities. The organisation of the Junior Red Cross is so elastic that what may be perfectly true of its activities in one country may not be so of another.

Dr. Lillingston then gave a number of examples from his own experience and that of his colleagues, all showing how in fact the lessons in hygiene which children learnt at school affected and improved the outlook and practice of their parents. The work of the Junior Red Cross was exercising, through its work in the schools, a very perceptible influence upon whole communities in many lands. Concluding, Dr. Lillingston said:—

How much have parents benefited from their children's examples? Who can reply in terms of concrete achievement? You cannot measure the growth of a health conscience as you would measure so much butter and milk. And yet I doubt if anyone who has seen the

Junior Red Cross at work would dispute the statement that its members are quietly and efficiently, however unconsciously, teaching parents a healthier mode of life.

MISS CROSS (Director, Junior Red Cross) the first speaker, said that in the education of children, establishing habits was more essential than instilling knowledge. The Red Cross, by helping teachers to do this, was achieving most satisfactory results.

DR. R. A. GLEGG (East Sussex) described a very successful experiment carried out in Cleethorpes (Lincs.). The local authorities offered school children a prize for an essay on Health; the best essays were then published and sent to the parents as a pamphlet.

COUNCILLOR MALONEY (Health Committee, Portsmouth City Council) expressed the opinion that health propaganda might be spread profitably by public orators. Simplicity and directness were the qualities most necessary to appeal to the public.

DR. PATERSON (East Berks.) further underlined the necessity of appealing to children and teaching them good habits from the beginning; parents were frequently very difficult to teach, but the effect of education of their children was felt in the home.

MISS NORA MARCH (Health and Cleanliness Council) said that her Council frequently used suggestions made by children as the theme of illustration of its literature. It had also prepared a pamphlet consisting entirely of children's work.

DR. KERSHAW (Accrington) pointed to meals in school kitchens as an important point; they should be made models of correct diet; children would insist on having similar meals at home, and so affect their parents.

COUNCILLOR MRS. MCALISTER (Dagenham Urban District Council) made a plea for the usefulness of parents. They should be consulted about their children's psychological difficulties. Both with parents and children, the aims of propaganda lay in "winning the mind."

MR. C. E. HECHT (Food Education Society) referred to an experiment made in spreading propaganda relating to efficient mastication. The food supplied by local authorities, in schools and elsewhere, still allowed of great improvement.

DR. FENTON then read an acknowledgment of a telegram of good wishes for the Conference received from Sir Kingsley Wood, Minister for Health. Then, in thanking Dr. Lillingston, he went on to say that adults were not entirely unteachable; the Central Council's work lay largely in teaching them. Also, men from the ages of 18 to 30 had been neglected in the matter of health education; young working men of this age were willing and able to learn, and eager to take part in the life of the community. The Central Council should now appeal to the young father.

DR. LILLINGSTON acknowledged Dr. Fenton's modification of his paper as valuable, and Dr. Maitland Radford thanked Captain Elliston for having occupied the Chair.

APPENDIX TO MR. PAYNE'S SPEECH.
Memorandum adopted by the Stratford Division, British Medical Association.

After reviewing briefly the growth during the last 100 years in the science and art of medicine, the personal aspect of preventive medicine, the educational work of the Ministry of Health, the Board of Education, local authorities and voluntary bodies, and public health education in other countries, Sir George Newman, in his memorandum on "Public Education in Health," states:—

There is great and exceptional need for public education in health. First, there has been a growth of knowledge

in the science and art of medicine and its application to many morbid conditions now known to be preventable; secondly, there has been a rapid development of the whole system of sanitary governance and public medical services—and public opinion has not kept pace with these two profound changes. Yet without an enlightened public opinion the measure and value of scientific and legislative advance is impaired. It is true that attempts have been made—all of them public spirited, many of them gallant, and a few of them even heroic—by the voluntary service of persons or societies to meet this situation and fill the breach. On the whole those efforts have met with encouraging, and sometimes enduring, success. But such enterprise is in need of guidance and support, and is liable to some degree of misdirection. It lacks unity, tends to become chaotic, is without adequate supervision, and is, all too often, insufficiently related to the new knowledge and the expanding organization.

There is at the present time so much ill-advised, silly and harmful publicity on health matters, and efficiency in health propaganda is so often sacrificed to sensationalism, that the Stratford Division of the British Medical Association is anxious to co-operate with other responsible bodies to provide in its area the guidance and organisation of which public education in health stands in need. It suggests that a committee composed of representatives of local authorities, the Stratford Division of the British Medical Association and other interested local bodies might be appointed to organise a scheme which would include the following methods of education:—

(a) Lectures and cinema demonstrations on general health topics such as food, general sanitation, housing, insect pests, industrial hygiene, personal hygiene, cancer, tuberculosis, infectious diseases, rheumatism, etc.

(b) Visits to suitable centres where practical demonstrations could be given—for example, dairy farms, hospitals.

(c) Health holiday camps.

(d) Health exhibitions.

(e) Distribution of literature, exhibition of posters, etc.

(f) Methods of preventive medicine, e.g., diphtheria immunisation.

Attention is drawn to the following Section 67 of the Public Health Act of 1925, which empowers local authorities to finance public education in health:—

67. (1) Any local authority or county council may arrange for the publication within their area of information on questions relating to health or disease, and for the delivery of lectures and the display of pictures in which such questions are dealt with, and may defray the whole or a portion of expenses incurred for any of the purposes of this section.

(2) The Minister of Health may, for the purpose of this section, make rules prescribing restrictions or conditions subject to which the powers conferred by this section may be exercised.

Reprints of the above Report of the Conference on Health Education will be issued shortly to the delegates appointed by local authorities and insurance committees, and copies will also be supplied to others on application to the Central Council for Health Education, 1, Thornhaugh Street, London, W.C.1.

COMMITTEE ON HEALTH AND COMFORT CONDITIONS IN HOUSING

In connection with a survey, in which several countries are co-operating with the Health Section of the League of Nations, a conference was held at the London School of Hygiene and Tropical Medicine representative of the building industry and of official bodies and technical and medical research workers in this country concerned with health and comfort conditions in housing. A permanent committee has now been instituted. Invitations to appoint representatives have so far been accepted by the following bodies: The Ministry of Health, the Department of Health for Scotland, the British Medical Association, Building Industries National Council, Building Research Station, the Industrial Health Research Board, the Institute of Electrical Engineers, the Institution of Gas Engineers, the Institution of Heating and Ventilating Engineers, the London School of Hygiene and Tropical Medicine, the Royal Institute of British Architects, the Royal Sanitary Institute, and the Society of Medical Officers of Health.

It will be the object of the Committee to serve as a link between the building industry and organisations concerned with medical and technical research bearing on health and comfort conditions in housing. It will be their main endeavour to co-ordinate and interpret what is already being done by other bodies.

The information at the disposal of the League of Nations should be representative of current practice and accepted data and methods in building design, construction and regulation in this country and the Committee will forward from time to time suitable information to the Health Section of the League of Nations. Apart from this it is intended that their two main functions shall be

(1) To co-ordinate, interpret and present the results of technical and medical research bearing on health and comfort conditions in housing in such a way as to make these results conveniently available to practising architects, engineers and the building industry, and to local health authorities.

(2) To receive from organised sections of the building industry information as to problems bearing on the hygiene of housing requiring attention, to bring these problems to the notice of appropriate centres of research and, possibly, to co-ordinate the approach of various research centres to them. Under modern conditions a specific problem may call for joint investigation by both medical and technical workers.

As regards the second of these objects the initiative rests with the building industry. On the first work has already been started. The Royal Sanitary Institute are co-operating by devoting a sessional meeting in the spring to a subject falling within the Committee's terms of reference. A survey is being undertaken of papers at present accessible only in official and technical publications and in the proceedings of professional bodies in order that those of general interest may be given a wider publicity through the agency of the Committee.

Communications may be addressed to the Secretary, at the London School of Hygiene and Tropical Medicine, Keppel Street (Gower Street), W.C.1.

The Society: Reports and Proceedings

THE ANNUAL DINNER.

The Annual Dinner of the Society, held at the Piccadilly Hotel on Friday, November 20th, with the President (Dr. Ernest Ward) in the chair, was attended by about 230 members and guests.

Before proceeding to dinner, the President and Mrs. Ernest Ward received the company, which was as follows:—

Official Guests.—Sir Kingsley Wood, P.C., M.P. (Minister of Health); Sir Arthur MacNalty (Chief Medical Officer, Ministry of Health); Sir Cuthbert Wallace (President, Royal College of Surgeons); Sir Comyns Berkeley, F.R.C.S., F.R.C.P. (Chairman, Central Midwives Board); Sir Ewen Maclean (President, British College of Obstetricians and Gynaecologists); Sir Percy Hurd, M.P. (President, Rural District Councils' Association); Alderman C. W. Key (Chairman, Metropolitan Boroughs Standing Joint Committee); Miss E. M. Musson, R.R.C. (Chairman, General Nursing Council); Dr. A. P. Gibbons (Master, Society of Apothecaries); Frank J. Pearce, Esq., L.D.S. (President, British Dental Association); Dr. G. Lissant Cox (Chairman, Joint Tuberculosis Council); Dr. Charles Hill (Deputy Medical Secretary, British Medical Association); Dr. H. A. Clegg (Deputy Editor, *British Medical Journal*); Dr. Egbert Morland (Acting Editor, *The Lancet*); Dr. James Clark and Dr. C. D. Coyle (President and Hon. Secretary of the Medical Superintendents' Society); Major D. S. Rabagliati, F.R.V.C.S. (Vice-President, National Veterinary Medical Association); Dr. J. W. Dudley Robinson (Secretary, Royal Sanitary Institute).

Past-Presidents.—Dr. W. G. Savage, Sir Francis Fremantle, M.P., Dr. G. F. Buchan (Hon. Treasurer), Dr. J. J. Buchan, Dr. G. H. Pearce, Dr. R. Veitch Clark.

Branch and Group Presidents.—Dr. R. P. Garrow (Home Counties), Dr. H. L. Barker (East Midland), Dr. Arthur Massey (Midland), Dr. W. A. Murphy (Welsh), Dr. J. C. Pickup (Yorkshire), Dr. Agnes Nicoll (Maternity and Child Welfare), Dr. Norman Tattersall (Tuberculosis), Dr. E. H. R. Harries (Fever Hospitals), Mr. Jeffrey Fletcher, L.D.S. (Dental Officers).

Members of the Council.—Dr. Cyril Banks, Capt. G. S. Elliston, M.P., Drs. James Fenton, James Ferguson, A. Joe, Catherine Morris Jones, Thomas Orr, T. N. V. Potts, T. P. Puddicombe, V. E. Soothill, H. G. Trayer, H. Gibbons Ward, R. H. Wilshaw and F. T. H. Wood.

Members and Guests.—Mrs. Pearl Adam, Mr. David Adams, M.P., Dr. O. H. Alcock, Dr. Wm. Alcock, Dr. and Mrs. E. D. Allen-Price, Dr. and Mrs. E. B. Argles, Miss Argles, Dr. and Mrs. A. L. Banks, Mrs. Cyril Banks, Miss Barker, Mr. T. B. Barker, Dr. Malcolm and Miss Barker, Dr. H. W. Barnes, Dr. and Mrs. P. L. T. Bennett, Dr. F. J. C. Blackmore, Mr. and Mrs. Fredk. Breese, L.D.S., Dr. G. I. Brodie, Mrs. G. F. Buchan, Dr. J. L. Burn, Dr. J. J. Butterworth, Dr. Irene Chandler, Dr. Stella Churchill, Dr. A. Clark, Dr. Brice Clark, Mrs. R. V. Clark, Dr. Mary Clarke, Mr. A. Powell Coke (Town Clerk, St. Pancras), Dr. and Mrs. J. B. Cook, Mr. and Mrs. Corser, Mr. G. Crombie, Dr. and Mrs.

H. L. Cronk, Sir Weldon and Lady Dalrymple Champneys, Dr. G. H. Dart, Dr. Hilda Davis, Dr. L. Meredith Davies, Mlle. S. Demouliere, Dr. and Mrs. W. T. Donovan, Mr. G. Des Forges, Dr. N. D. Dunscombe, Dr. P. Edwards, Mrs. E. E. Elles, Dr. T. R. Elliot, Mr. J. C. P. Elliston, the Executive Secretary, Mrs. James Fenton, Mr. and Mrs. John Fenton, Mrs. J. Ferguson, Mr. A. N. Ferrier, Mrs. J. Fletcher, Dr. A. R. Forbes, Dr. E. S. Galbraith, Miss Galbraith, Dr. and Mrs. J. C. Gilchrist, Dr. Mary Gilchrist, Mr. G. Goldsmith, Dr. and Mrs. N. M. Goodman, Mrs. E. H. R. Harries, Lt.-Col. F. Harvey, Dr. and Mrs. T. Shadick Higgins, Dr. and Mrs. J. B. Howell, Dr. Nancy Howell, Dr. Mary Howie, Captain and Miss Hunt, Dr. J. W. Hunter, Mrs. Ingrams, Dr. George Jessel, Dr. Lilian Johnston, Dr. D. Fenwick Jones, Dr. J. H. Jones, Dr. N. T. K. Jordan, Dr. and Mrs. J. T. C. Keddie, Dr. and Mrs. J. A. Kerr, Capt. and Dr. Julia Kutschbach, Dr. Laura Macfarlane, Mr. and Mrs. E. D. Macgregor, Mrs. Macleod, Dr. G. Malmberg, Mr. C. A. G. Manning, Sir Fredk. K. Menzies, Dr. Hilda Menzies, Dr. and Mrs. R. L. Midgley, Dr. K. J. G. Milne, Mrs. W. A. Murphy, Dr. and Mrs. E. H. T. Nash, Mr. A. J. R. Neale, Mr. C. and Dr. Katherine Odling-Smee, Lt.-Col. G. S. Parkinson, Mr. and Mrs. Parks, Dr. F. M. Parsons, Dr. D. D. Payne and Guest, Mr. F. J. Pearce, Mrs. G. H. Pearce, Dr. S. Vere Pearson (Vice-Chairman, Joint Tuberculosis Council), Mrs. J. C. Pickup, Miss Pickup, Dr. and Mrs. A. B. Porteous, Sir Allan and Lady Powell, Dr. D. A. Powell, Mrs. Puddicombe, Dr. Maitland and Dr. Muriel Radford, Dr. and Mrs. Gerald Ramage, Dr. J. Rowatt, Dr. Violet Russell, Dr. and Mrs. J. B. Samson, Dr. E. V. Saunders-Jacobs, Miss Shaw, Mr. F. B. Smith, Dr. K. Steele, Dr. J. Sutherland, Dr. and Mrs. F. Tannahill, Dr. and Mrs. John Tate, Dr. Dorothy Taylor, Mr. George Thomson, L.D.S., Dr. and Mrs. I. S. Thomson, Mr. Arnold Thorne, Mrs. W. Rosa Thorne, D.D.S., Dr. and Mrs. W. H. S. Wallace, Mr. G. M. Ward, Dr. H. E. Watson, Dr. Nora Wattie, Dr. and Mrs. A. D. Whitelaw, Dr. and Mrs. H. C. M. Williams, Miss Wilshaw, Prof. G. H. Woolbridge, Dr. C. I. Wright.

The speeches which followed the loyal toast are briefly reported below.

SIR KINGSLEY WOOD, Minister of Health, was cordially greeted on rising to propose the toast of "The Society of Medical Officers of Health." He said:—

"Medical Officers of Health occupy the front line position in our campaign for the reduction of disease and the promotion of healthy living. Their work in the last three decades has not only increased in complexity but has come to be inspired by new conceptions both of methods and of object, and since the appointment of the M.O.H. in 1872, certainly our conception of the value of national health has been very greatly improved. I would truly like to thank you to-night for the great part that you have played in our national housing campaign for the abatement of overcrowding and the clearance of the slums. These matters go right down to the root of the improvement of the public health in this country. In the recent King's Speech the Government have emphasised the importance of securing the improvement and expansion of health services, and we regard this particular part of

our programme as one of the most important pieces of work we have got to do during our period of office. I would only mention to-night, Mr. President, that we want to see, as far as the children of this country are concerned, the continued development of the maternity and child welfare services, and the expansion of school medical services with facilities for further dental treatment.

"The President has had a successful career at Cambridge, at the London Hospital and in connection with tuberculosis work, and he has another claim to our admiration in that he has ventured successfully into the sphere of authorship. I have great pleasure in coupling his name with the toast of the Society."

The toast was drunk with great enthusiasm.

The President (DR. ERNEST WARD) replying, said: "We are grateful to the Minister of Health for again honouring us with his presence and I thank him sincerely for his generous words about the Society and myself. The Society of Medical Officers of Health will take to heart all that has been said about present progress and especially about going forward to greater things in the future."

"I have the honour to be the first departmental officer to occupy the Presidential chair, which demonstrates that we are all equal within the Society, and that the Presidential badge may be figuratively reposing in the attaché cases of other non-M.O.H. members."

"I should like to give my impressions of the Council of the Society, on which I have now sat for many years. Their activities are multifarious, but I have sometimes felt that they have too much respect for tradition; they criticise, and criticise most ably, propositions which are submitted to them, but are not perhaps ready enough to initiate new ideas. They prefer to mark time rather than to step forward—and perhaps put their foot in a puddle. To be fair, however, I must say that I have had the same feeling about all the other organisations, whether connected with birds, plants, cycling or tuberculosis, on which I have served."

"The Society has now started reform, for we are going to attempt the initiation of post-graduate refresher courses for medical officers. In this effort we hope to have the support and advice of the Ministry, and from what Sir Kingsley Wood has said I feel sure that our hope will not be disappointed."

"In conclusion, I am venturing to give my impressions of one or two leaders in the Society's work. First, Dr. Charles Porter, who I am very sorry is not with us to-night, is a man with a heart of gold and an uncanny flair for discerning hidden motives and concealed objectives. Then there is Dr. James Fenton, who presides admirably over the deliberations of the General Purposes' Committee, and also of the Central Council for Health Education. He is a master of tact and diplomacy. I wonder sometimes whether there is a point where tact obscures fact—but never in the case of Dr. Fenton. Then, Dr. George Buchan. He is one of those rare people who know their own mind. I used to oppose him on some points, but I no longer do so, as I know that he will get his way in the long run. Lastly, I come to Professor Picken, who has occasionally administered to me just and proper rebukes; but I

have been protected by the fact that my hearing has not always allowed me to catch what he has said."

DR. F. T. H. WOOD, O.B.E., gave a graceful and witty welcome to "The Guests," in proposing their toast. Referring to the regretted absence through indisposition of Sir George Chrystal, Secretary of the Ministry of Health, he said that Sir George had shown the typical versatility of the Civil Servant, but we hoped that he would now settle down to be the guide and friend of the public health service. We were glad to welcome again Sir Arthur MacNalty and to congratulate him on the mark of appreciation conferred on him by the King since his attendance at our previous Annual Dinner. Dr. Wood went on to say that we welcomed the presence after an interval of some years, of another of the distinguished line of Presidents of the Royal College of Surgeons in the person of Sir Cuthbert Wallace; the surgeon's work was individual, his results immediate and his reward material, whereas the M.O.H.'s work was communal, his results less easily demonstrated and his reward—a contented mind. But each recognised that they were all members of one great profession. We were happy to have with us Sir Comyns Berkeley, Chairman of the Central Midwives Board. "Sir Comyns," said Dr. Wood, "has already received many tokens for his work in obstetrics, but dare I suggest that, if some further mark of appreciation be conferred on him, there could be nothing more suitable than a motto for his coat of arms of 'Quickly, Safely, Pleasantly.'" Dr. Wood referred also to the presence of Sir Ewen Maclean, Sir Percy Hurd, Mr. F. J. Pearce and other distinguished representatives of kindred bodies and of local government. He concluded by speaking of the ladies, of whom he singled out by name Miss E. M. Musson, of the General Nursing Council, and Mrs. Ernest Ward, whose charming presence, he said, "has dispelled the doubts of some of us that the President really has a home in Devonshire."

SIR CUTHBERT WALLACE, P.R.C.S., in an amusing reply, said that surgery to-day was really living on street accidents and the failures of physicians and public health experts. When preventive medicine had come into its own, the nation would of course be on a proper diet and no doubt Sir Kingsley Wood's successor would broadcast every night the nation's menu for the day after to-morrow. Then the poor surgeon would be in distress, especially if the Minister of Transport had by that time put sense into the pedestrian and the motorist.

SIR COMYNS BERKELEY, who also returned thanks on behalf of the guests, spoke with great appreciation of the services of Dr. John Buchan as the Society's representative on the Central Midwives Board. The observations of the Society and of individual M.O.H. on the draft new training rules had been largely adopted by the Board, and he hoped for similar co-operation in the future. He thought that it was most desirable that the friendly relations between the Board, the M.O.H. and the Society should continue to their mutual advantage.

The formal part of the evening then terminated, but a number of members and their guests adjourned to the hotel ballroom, there to forgather with colleagues or to enjoy the dancing and cabaret performance.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, November 20th, at 2 p.m. The President (Dr. Ernest Ward) was in the chair and there were also present Sir Henry Brackenbury, Drs. Louisa C. Adam, Cyril Banks, H. S. Banks, G. F. Buchan, J. J. Buchan, R. Veitch Clark, Captain G. S. Elliston, Drs. James Fenton, James Ferguson, R. P. Garrow, C. E. Herington, A. Joe, R. H. H. Jolly, Catherine Morris-Jones, James Mair, Thomas Orr, W. Paterson, G. H. Pearce, R. M. F. Picken, Charles Porter, T. N. V. Potts, T. P. Puddicombe, W. G. Savage, F. A. Sharpe, V. F. Soothill, J. A. Stirling, D. J. Thomas, E. W. Caryl Thomas, A. G. G. Thompson, H. G. Trayer, H. Gibbons Ward, R. H. Wilshaw and F. T. H. Wood. Apologies for absence were received from Professor W. W. Jameson, Drs. A. W. Forrest, E. H. Snell, P. H. Stirk and Mr. J. F. Pilbeam, L.D.S.

The minutes of the last meeting (September 18th) having been confirmed and signed, the President offered a welcome to Drs. Cyril Banks, R. P. Garrow and Thomas Orr on their return to the Council, and to Drs. Louisa C. Adam and F. A. Sharpe and Mr. J. F. Pilbeam on their election for the first time.

Report of the General Purposes Committee.—Dr. James Fenton (Chairman) presented the following report from the General Purposes Committee:—

149.—A meeting of the General Purposes Committee was held at the house of the Society on Friday, October 30th, at 2 p.m.

Present: Dr. James Fenton (Chairman), Drs. G. F. Buchan, J. J. Buchan, A. Joe, R. H. H. Jolly, G. H. Pearce, R. M. F. Picken, Charles Porter, W. G. Savage, Ernest Ward, H. Gibbons Ward and F. T. H. Wood.

Apologies for absence were received from Drs. R. Veitch Clark and James Mair.

150.—*Minutes.* The minutes of the meeting held on September 4th were confirmed with the amendments as reported in PUBLIC HEALTH of October, 1936, page 27.

151.—*Training of Midwives.* The Committee received a letter dated October 27th from the Secretary of the Central Midwives Board together with a statement setting out the amendments to the draft new Section B of the Board's Rules following the circulation of the original draft in April last.

The Committee noted from these documents that amendments had been introduced in accordance with almost all the suggestions put forward by the Society, but they instructed the Executive Secretary to point out to the Board that Rule 6 as amended does not appear to accord with Rule 36 in the original draft.

The Committee also instructed the Executive Secretary to forward a copy of the Board's letter and amendments to the Maternity and Child Welfare Group for their information.

The Committee received a communication from the Maternity and Child Welfare Group in reference to the suggested training of pupil-midwives by pædiatrics with a special knowledge of the normal infant. The Group asked the Council of the Society to request medical officers of health in certain areas where the availability of pædiatrics so qualified was not known to submit names, such names to be submitted in turn to the Group Committee.

RECOMMENDATION.—That in view of the facts that the original enquiry from the Board regarding pædiatrics was an informal one, and that the local training

institutions are themselves responsible for the arrangements made, the Board should themselves communicate with the M.O.s.H. concerned and convey any information received, as they think fit, to the training institutions.

152.—*Public Health (Drainage of Trade Premises) Bill.* Dr. John Buchan reported to the Committee that he had gone carefully over the above-named Bill, and found that the Bill, with the amendments incorporated in its passage through the House of Lords, was such that it should be supported by the Society. In his view, local authorities were sufficiently protected in the matter. The Bill had been promoted by the Central Council for Rivers Protection which had obtained general agreement with the interests concerned and had conferred with the County Councils' Association and the Association of Municipal Corporations.

RECOMMENDATION.—That the Society support the passage of the above-named Bill.

153.—*Method of Selection for the Presidency.* The Executive Secretary submitted a draft formula for regularising the procedure of the Council in connection with the selection of the presidential nominee at its May meeting in each year.

Dr. Ernest Ward put forward an amendment which was accepted by the Committee.

RECOMMENDATION.—That the selection by the Council of a nominee to be put forward for election as President of the Society in the ensuing session shall be conducted as follows:—

1.—In the event of there being only one Fellow nominated by the Branches for the Presidency, the selection of this Fellow by the Council will be automatic.

2.—In the event of there being two Fellows nominated by the Branches, the Fellow receiving a majority of the Council's votes shall be deemed their nominee.

3.—In the event of there being three or more Fellows nominated by the Branches, unless there be an absolute majority for one candidate, the Fellow receiving the smallest number of votes at the first ballot shall be eliminated and the process shall be repeated until an absolute majority is obtained. Each member shall have one vote only at each ballot.

154.—*Lindsey C.C. v. Marshall.* The Committee received from Dr. G. F. Buchan a memorandum dealing with maternity hospital procedure having regard to the case of Lindsey C.C. v. Marshall.

The Committee passed a vote of thanks to Dr. Buchan for his memorandum and reviewed the details of his suggestions for procedure to be adopted by maternity hospitals in the light of the above case. Certain alterations were suggested and Dr. Buchan undertook to redraft part of his memorandum forthwith.

Dr. Buchan also reported that he had been nominated as one of the representatives of the B.M.A. in a conference to be held with the British Hospitals Association, the County Councils Association and the Association of Municipal Corporations on this legal decision.

The Committee agreed to communicate Dr. Buchan's memorandum as amended for the information of the B.M.A.

RECOMMENDATION.—That the Council refer Dr. G. F. Buchan's memorandum to the B.M.A.

The Council accepted this recommendation and decided to forward also to the B.M.A. certain additional notes furnished by Dr. Buchan. It was agreed, however, that the Society would offer no comments on these documents.

155.—*Refresher Courses for Medical Officers of Health and Departmental Medical Officers.* Dr. G. F. Buchan reported that the special Sub-Committee appointed to

consider the above subject had held their first meeting that morning. A useful preliminary discussion had taken place and Professor Picken had kindly agreed to suggest a programme for a post-graduate course to be held in Cardiff late next year which he would submit to the next meeting of the Sub-Committee, after he had had an opportunity of discussing the details with Professor Jameson. The main idea in the minds of the Sub-Committee had been that it was important to undertake the organisation of at least a first course from the point of view of getting experience for subsequent courses. The Sub-Committee would present a full report after their next meeting.

156.—*Initiative by the Committee and the Council.* Dr. Ernest Ward submitted a statement of proposals under the heading of "Improvements in the Public Health."

RECOMMENDATION.—That Dr. Ward's item (1) "School Medical Service" be referred to the School Medical Service Group; item (2) "Abortus Fever," be referred to the Veterinary Associates in the Yorkshire Branch; item (3) "Puerperal Pyrexia," and item (4) "Incapacitating Illness," be brought to the notice of the Programme Committee with a view to their discussion at General meetings of the Society; item (5) "Scarlet Fever" be referred to the Fever Hospital Group; item (6) "The Tooth Brush" be referred to the Dental Officers' Group; and item (7) "School Work and Education Committee" and item (8) "Special Classes" be deferred for fuller consideration by the General Purposes Committee. It was decided to refer the enquiry in item (9) to Dr. J. E. McCartney (Director of Research and Pathological Services, L.C.C. Hospital Services).

157.—*Nomination for Life Membership.* The Committee considered the position in regard to the nomination for life membership by the Midland Branch of Dr. H. D'Arcy Ellis (who was an original member of the Birmingham and Midland Society of Medical Officers of Health on its foundation in 1875 and who is still carrying out the duties of part-time Medical Officer of Health for Ambleside U.D.).

It was pointed out that Dr. Ellis is not eligible for election as a Life Fellow under Article 12, which reads: "Any member who has duly paid the annual subscription over a period of 25 years, and who has retired from active practice, may be recommended by a resolution of his Branch for nomination by the Council as a fully-paid Life Member."

RECOMMENDATION.—That in view of Dr. Ellis's very long services as a medical officer of health and his membership of the Society over a period of 61 years, he be elected by the Council as an Honorary Fellow of the Society. (Article 4 defines Honorary Fellows as "persons who are eminently distinguished in the advancement of public health").

158.—*Abortion Undertaken for other than Medical Reasons.* The Committee considered letters from the Hon. Secretary of the Joint Council of Midwifery requesting the Society to nominate a second representative to serve on a sub-committee appointed to enquire into the above subject.

RECOMMENDATION.—That Dr. James Fenton be appointed the Society's second representative in addition to Dr. J. J. Buchan who is already serving on the Committee.

159.—*Central Council for Recreative Physical Training.* A letter was received from the Organising Secretary of the Central Council for Recreative Physical Training, stating that at the last meeting of the Council it was decided, on the proposal of Dr. Veitch Clark, to invite the Society to become a Constituent Member

of the Central Council and to appoint a representative. A copy of the last Annual Report of the Council was enclosed showing that a large number of representative bodies were already members of the Central Council.

RECOMMENDATION.—That the Society becomes a Constituent Member of the Central Council for Recreative Physical Training, and that the President for the time being be nominated as representative.

160.—*Grants to Groups and Sub-Groups.* The Committee considered a letter from the Hon. Secretary of the Midland Branch, reporting an application received by that Branch from the Midland Maternity and Child Welfare Sub-Group for a contribution towards their expenses. The Sub-Group had pointed out in their application that the majority of its members were unable to attend Branch Meetings, and would in all probability not have joined the Society if it were not for the advantages to be obtained from membership of the Sub-Group. They had further indicated that they had had to make a special levy on Sub-Group members to defray expenses apart from the bare secretarial expenses which had been refunded by the Hon. Treasurer of the Society in accordance with the usual practice.

The Committee considered the present arrangements in connection with the financing of Branches and Groups.

RECOMMENDATION.—That the Council reply that the Society's finances do not warrant the payment of a capitation grant to the Groups at present, but it is hoped that a steady increase in the membership of the Society as a whole may make it possible to lower subscriptions all round after a few more sessions; and that the Midland Branch might consider the question of making some allocation to the Maternity and Child Welfare Sub-Group in view of the fact that a capitation grant is made to the Branch in respect of some 40 members attached to the Sub-Group.

161.—*National Ophthalmic Treatment Board.* The Committee considered a letter from the General Secretary of the National Ophthalmic Treatment Board regarding the co-operation of medical officers of health in the scheme for making known the National Eye Service.

RECOMMENDATION.—That the nature of the Board and the National Eye Service be given publicity in the Journal.

A statement on the Board's origin and present scheme is appended:—

Events leading up to the formation of the Board.—By the additional Benefit Regulations, 1921, made under the National Health Insurance Act, power was given to the Approved Societies to pay the whole or part of the cost of optical treatment and appliances. The British Medical Association was eventually approached by a large Approved Society which was providing optical benefit; and which desired to get its refraction work done by ophthalmologists if it could afford to do so. It was subsequently agreed by a representative meeting of ophthalmologists to accept a fee of one guinea for each Approved Society member examined; and a list of some 500 (now 1,000) ophthalmic surgeons willing to do this work was compiled in 1924 and made available to all Approved Societies.

The majority of Approved Societies referred nearly all of their members to sight-testing opticians and only special cases to ophthalmologists. The B.M.A.'s policy was that the reference of persons for sight-testing to other than medical ophthalmologists ought not, in the public interest, be encouraged, but the Approved Societies frankly said that their funds would not admit of them paying one guinea for a medical examination in every case. The sight-testing opticians then applied for statutory

recognition in 1927. The Departmental Committee set up to report on this matter gave the B.M.A. to understand that unless provision was made within a reasonable time for an ophthalmic medical service which would be within the reach of the poorer classes, the demand of the sight-testing opticians for state recognition could not be resisted.

The National Eye Service.—The result was the co-operation between the B.M.A. with the Association of Dispensing Opticians in the formation in 1929 of the National Ophthalmic Treatment Board. The Board's National Eye Service provides a combined service consisting of an ophthalmic medical examination (fee, 10s. 6d.), and the provision of glasses by a non-sight-testing dispensing optician at the lowest possible standard charges. The Service is now operating in most of the cities and larger towns throughout the country. Any insured person desiring Ophthalmic Benefit is entitled to take it through the N.O.T.B. scheme.

The personnel of the N.O.T.B. consists of equal numbers of representatives of the two Associations (B.M.A. and Dispensing Opticians).

162.—*Ministry of Health Circular 1550.* The Committee considered a memorandum prepared by the Maternity and Child Welfare Group in reference to the above memorandum.

RECOMMENDATION.—That the memorandum be received.

163.—*Ten Year Plan for Children.* The Committee considered an invitation from Mrs. Wintringham for the Society to nominate a representative to serve on the General Committee of the above movement; the first sub-committees appointed were to deal with school buildings, nursery infants' schools, juveniles and school meals.

RECOMMENDATION.—That no action be taken.

164.—*Post-Graduate Facilities for Departmental Officers. Methods of Appointment of Medical Officers of Health.* The Executive Secretary reported the observations so far received from Branches and Groups in regard to the above memoranda.

The Committee decided to defer consideration of these matters until further observations had been received.

165.—*Enquiry re Application for Election.* The Executive Secretary reported receipt of an application for election to the Society by a doctor whose appointment as M.O.H. had been reported as being at a salary below the appropriate figure laid down in the Askwith Memorandum. The applicant forwarded a statement of the circumstances of his appointment, but the Committee decided to defer a recommendation on this matter until the attitude of the British Medical Association in this connection was finally settled.

166.—*Application for an Irregular Appointment.* The Executive Secretary reported correspondence with a Fellow who appeared to have made application for an appointment which was the subject of an Important Notice in the *British Medical Journal*.

The Committee were satisfied that the Fellow in question had acted through a genuine misunderstanding, and instructed the Executive Secretary to inform him accordingly and to thank him for his letter of explanation.

167.—*Advisory Committee on Salaries—Increments to Salaries of Medical Officers of Health.* Professor Picken gave notice that he would like the Committee to consider the question arising under the Askwith Memorandum of increments received by Medical Officers of Health. He reminded the Committee that the Askwith Memorandum merely laid down the appropriate commencing salaries, but made no provision for fixed increments beyond expressing the hope that these would be granted for capability and length of service.

The Executive Secretary was requested to prepare information on this matter before the next meeting.

168.—*Midwives Act, 1936—Qualifications of Supervisors.* The Secretary reported receipt that morning of a letter dated October 29th, from the Ministry of Health requesting the Society's observations on the draft regulations which the Minister proposes to make, describing the qualifications of persons appointed by an authority to supervise midwives in its area.

The Committee decided to defer this matter for full consideration by the Council on November 20th.

The Council fully considered these draft regulations.

(1) It was agreed that medical officers of health of local supervising authorities would be the chief administrative officers of the new midwifery service, and would in general exercise the supervisory powers as hitherto, through their senior maternity and child welfare medical officers, whose qualifications are defined in the Local Government (Qualifications of Medical Officers and Health Visitors) Regulations, 1930. Difficulties in administration might be experienced if two sets of regulations made different stipulations concerning one officer.

The Council felt that the qualification specified in the Local Government (Qualifications of Medical Officers and Health Visitors) Regulations, 1930, were adequate. Moreover, the detailed duty of supervising would generally be carried out by a non-medical officer, who would be responsible, through the senior maternity and child welfare medical officer, to the medical officer of health.

In these circumstances, the Council decided to recommend to the Minister of Health that Clause 3 of the draft regulations ("Medical Supervisors") should be omitted entirely.

(2) Clause 4 of the draft regulations, dealing with non-medical supervisors, did not appear to safeguard the position of those officers appointed before the date of the regulations in respect of the tenure of their present posts, and the Council decided to recommend to the Minister that after the word "person" on the first line of Clause 4, there should be added the words "appointed after the date of these regulations."

(3) It was further decided to recommend to the Minister that, if he did not omit Clause 3 of the regulations, there should be introduced a similar safeguard for medical supervisors to that mentioned in the previous paragraph in respect of non-medical supervisors.

(4) It appeared to the Council that the proviso to Clause 4 might be held to prevent a supervisor employed by one authority from applying for a more lucrative supervisor's post under another authority. For example, a non-medical supervisor appointed at Blackburn might at the time of her appointment be qualified under Clause 4, but if she applied for promotion to Manchester after she had been at Blackburn for three years it might be held that she was not qualified for the Manchester appointment because she had not been in active practice as a midwife during the previous three years.

It was decided to ask the Minister to safeguard in this respect supervisors already appointed and hereafter appointed.

The Council adopted the report and recommendations of the General Purposes Committee with the additions shown under items 154 and 168.

Rules for Diplomas in Sanitary Science, Public Health or State Medicine.—The Council received the report of the Special Committee appointed at the last meeting to make recommendations for the amendment of the Rules for Diplomas in Sanitary Science, Public Health or State Medicine. The Committee, which consisted of Professors W. W. Jameson and R. M. F. Picken, and Drs. G. F. Buchan and T. N. V. Potts, held a meeting on October 14th, after which they immediately forwarded suggestions for redrafted Rules to the Registrar of the General Medical Council and to Sir George Newman (Chairman of the sub-committee of the General Medical Council which is considering the revision of the Rules). It was reported that the redrafted Rules submitted by the Society's Committee were as follows:—

Rule 1.—A Diploma or Degree in Sanitary Science, Public Health or State Medicine shall not be granted to any candidates until a period of at least two years has elapsed since the date on which he obtained a medical qualification approved for this purpose (by the General Medical Council).

Rule 2.—The curriculum for a Diploma or Degree in Sanitary Science, Public Health or State Medicine shall extend over a period of not less than (a) twelve calendar months of which not less than three calendar months shall be devoted to the whole-time study of the subjects comprised in Rule 3, or (b) an academic year of whole-time study covering a period of not less than nine calendar months, subsequent to the attainment of a medical qualification approved for this purpose.

Rule 3.—Every candidate shall produce evidence of having attended, during not less than 280 hours, at an institution approved by the Licensing Body granting the Diploma or Degree:—

(a) Practical instruction in bacteriology and parasitology (including immunology, serology, medical entomology, etc.), in relation to the public health;

(b) Practical instruction in physiology and biochemistry in their application to the public health;

(c) Instruction in technical procedures of importance in public health practice, in relation to such matters of environmental and personal hygiene, as the methods of examination and purification of water and sewage, the composition and various forms of adulteration of the more common foods, the nature of and methods of estimating pollution of the atmosphere, and methods of disinfection and disinfestation.

Rule 4.—Every candidate shall produce evidence of having received, during not less than 120 hours, at an institution approved by the Licensing Body granting the Diploma or Degree, instruction in the following subjects:

(a) Epidemiology and Vital Statistics (including Statistical Method);

(b) The Principles of Public Health;

(c) Public Health Law and Administration (including Social Insurance, Public Medical Services and Hospital Administration);

(Note.—A suggestion was made that some knowledge of Mental Hygiene is now also required by Public Health Medical Officers.)

(d) Industrial hygiene and the welfare of industrial workers.

(e) Sanitary Construction and Planning.

Rule 5.—Every candidate shall produce evidence that he has attended for three months on the clinical practice of a recognised Hospital for Infectious Diseases. At least 24 daily attendances of not less than two hours shall be required.

Rule 6.—Every candidate shall produce evidence that he has, during a period of not less than six months, been engaged in acquiring a practical knowledge of the duties, routine and special, of Public Health Administration under the supervision of a Medical Officer of Health, who shall certify that the candidate has received, from this Officer or other competent Officer during not less than three hours on each of sixty working days practical instruction in these duties, and also those relating to:—

(a) Maternity and Child Welfare Service;

(b) Health Service for Children of School Age;

(c) Venereal Diseases Service;

(d) Tuberculosis Service;

(e) Industrial Hygiene;

(f) Hospital Services;

(g) Inspection and Control of Food, including meat and milk.

(Instruction in (a) to (g) should include attendance at the centres, clinics, institutions and premises concerned.)

Certificates of having received the prescribed instruction in Public Health Administration must be given by a whole-time Medical Officer of Health of an area approved by a Licensing Body.

Rule 7.—The examination for the Diploma or Degree shall be divided into two parts, Part I and Part II, each of which shall extend over not less than two days and shall be conducted by Examiners specially qualified.

A candidate must pass in all the subjects of Part I before being admitted to examination for Part II.

In Part I, and also in Part II, a candidate must pass in all the specified subjects at one time.

Rule 8.—The examination for Part I shall include written and oral examinations in the subjects comprised in Rule 3 together with a practical laboratory examination in the subjects specified in Rule 3 (a).

Rule 9.—The examination for Part II shall include the subjects referred to in Rules 4, 5 and 6.

The examination shall be written and oral, and shall include practical examinations in Infectious Diseases, Food Inspection, Inspection of Premises—dwellings, factories, workshops, schools, etc.

Candidates may not be admitted to examination for Part II until after they have completed the prescribed courses of instruction in the subjects thereof.

The Council approved the action taken by the Committee and Sir Henry Brackenbury explained the procedure which would be taken by the General Medical Council towards adopting any revisions of the Rules for Public Health Diplomas.

National Federation of Personal Health Associations.—A letter was received from the General Secretary of the National Federation, requesting the support of the Society towards securing the co-operation of medical officers of health in the formation of local Personal Health Associations. It is stated that, by the constitution of the National Federation, a local Association cannot be formed without the previous approval of the M.O.H. and of the local Division of the B.M.A.; but that such approval does not entail any further work on the part of the M.O.H. in connection with the running of the Association.

The Council decided that the formation of Personal Health Associations in various towns was a matter for local consideration and that it would be wise to leave the discretion of individual medical officers of health unfettered in this connection.

Action taken by Local Practitioners in regard to their Medical Officer of Health.—A confidential letter dated

November 9th, was received from a Fellow of the Society, who is the M.O.H. and S.M.O. of a municipal borough. He drew attention to the action of some local medical practitioners, who have addressed a statement, making serious allegations against the professional competence of the M.O.H., direct to the Town Clerk, with a request that their statement be placed before the borough council. The allegations were mainly that the M.O.H., in his capacity as School M.O., had refused to have tonsillectomies performed in the cases of certain patients referred to him by the practitioners signing the statement. The M.O.H. holds (a) that these allegations are unjustifiable and deleterious to his status, and (b) that the method adopted by these practitioners to put forward their alleged grievances was unethical. He asked the Society to take appropriate action on his behalf.

The Council discussed this matter at length and decided to request the B.M.A., as a matter of urgency, to take action through their local Division to get this matter withdrawn from undesirable publicity and, if possible, settled through the machinery of the Association.

Co-operation between Municipal Midwives and Health Visitors.—The Council received a letter and memorandum from the Women Public Health Officers' Association making suggestions for co-operation between municipal midwives and health visitors in the formulation of the new service which would result from the Midwives Act, 1936. The Association's letter stated they desire to submit this memorandum to local authorities which would be concerned with establishing the new service in the hope that it would be of assistance to them, but it was desired first to obtain the observations of the Society on the memorandum.

The Council regretted that it was impossible to give the memorandum proper consideration at this meeting, but instructed the General Purposes Committee to do so at their December meeting and forward such observations as they thought desirable to the Women Public Health Officers' Association.

Nominations for Life Membership of the Society.—The Council decided to nominate the following for the status of fully-paid Life Fellows under Article 12 of the Society's constitution on the recommendation of the Branches:—

Scottish Branch.—Dr. A. K. Chalmers (formerly M.O.H., Glasgow), President of the Society, 1913-14. Joined the Society 1890.

Dr. W. Robertson (formerly M.O.H., Edinburgh). Joined the Society 1899.

Home Counties Branch.—Dr. A. L. Ormerod (formerly M.O.H., Oxford). Joined the Society 1899.

Dr. J. R. Prior (formerly Dep. M.O.H. and R.M.O., Isolation Hospital, Hornsey). Joined the Society 1907.

North-Western Branch.—Dr. J. J. Butterworth (formerly C.M.O.H., Lancashire). Joined the Society 1905.

Dr. S. L. Melville (formerly M.O.H., Middlewich). Joined the Society 1905.

The above nominations will be presented at the Ordinary Meeting of the Society to be held on December 18th.

General Purposes Committee, 1936-37.—The Council were reminded that the President (Dr. Ernest Ward),

Vice-Presidents (Drs. W. G. Savage, R. Veitch Clark and Charles Porter) and the Hon. Treasurer (Dr. G. F. Buchan) were *ex-officio* members of the committee and proceeded to elect the following as other members:—Drs. J. J. Buchan, James Fenton, James Ferguson, A. Joe, R. H. H. Jolly, James Mair, G. H. Pearce, R. M. F. Picken, T. N. V. Potts, J. A. Stirling, H. Gibbons Ward and F. T. H. Wood.

Journal Committee, 1936-37.—The following were elected to the Journal Committee: The President (Dr. Ernest Ward), Drs. G. F. Buchan, James Fenton, R. M. F. Picken and F. T. H. Wood.

Salaries of Public Health Dental Officers.—The Executive Secretary reported that the adjourned conference on the salaries of public health dental officers was being called by the British Dental Association for Friday, November 27th, and asked the Council to confirm our representation at the last conference on November, 1935, with the exception of Dr. H. J. Milligan, who is now retired from the Council. The Council re-appointed Drs. G. F. Buchan, James Fenton and Messrs. Grantley Smith and D. E. Mason as their representatives, and appointed Dr. Thomas Orr to take the place of Dr. Milligan.

Chairs for the Council Room.—Dr. G. H. Pearce drew attention to the shortage of arm-chairs when there was a full attendance of Council members.

The Executive Secretary undertook to order some additional chairs of the type now in use.

The meeting then adjourned.

ORDINARY MEETING.

The first Ordinary Meeting of the Session 1936-37 was held at the house of the Society on Friday, October 30th, at 5 p.m. The retiring President (Dr. W. G. Savage) was in the chair and there was a large attendance of over 50 members and visitors.

The minutes of the last Ordinary Meeting were confirmed and signed and apologies for absence reported.

Dr. Savage then proceeded to the installation of Dr. Ernest Ward as President of the Society. He spoke of the special significance of the occasion in that it marked the departure by the Society from its tradition of having an administrator in the Presidential chair; for the first time they had an expert—and a lovable expert—occupying the Society's highest office. It was also a matter of gratification to the West of England Branch that for two successive years the President had come from their membership. He had great pleasure in investing Dr. Ward with the Presidential badge.

Dr. Ward then took the chair and briefly returned thanks for the honour accorded him.

The meeting proceeded to the unanimous election of the following as fully-paid Life Fellows under Article 12, the nominations having been put forward by their respective Branches and endorsed by the Council:—

Dr. W. D. Betenson, formerly A.M.O., Port of London; joined Society 1906 (Metropolitan Branch).

Dr. L. W. Dryland, formerly M.O.H., Kettering R.D.; joined Society 1906 (Home Counties Branch).

Dr. C. E. Goddard, formerly M.O.H., Wembley and Harrow U.D.s; joined Society 1904 (Home Counties Branch).

Dr. J. Howard-Jones, formerly M.O.H., Newport (Mon.) C.B.; President, 1928-29; joined Society 1895 (Welsh Branch).

Dr. G. F. McCleary, formerly M.O., Ministry of Health; joined Society 1901 (Metropolitan Branch).

Dr. C. Killick Millard, formerly M.O.H., Leicester C.B.; joined Society 1893 (East Midland Branch).

Dr. A. E. Porter, formerly M.O.H., Reigate M.B. and R.D.; joined Society 1901 (Home Counties Branch).

The following candidates, who had been duly proposed and seconded in writing, were then elected to membership of the Society:—

As Fellows:—Armit, Adam, M.B., CH.B. (EDIN.), D.P.H.; Bastible, Michael John, M.D. (GLAS.), D.P.H.; Brooks, James, M.R.C.S., L.R.C.P., D.P.H.; Clouston, Gordon Stewart, M.D., CH.B. (LIV.); Crane, Catherine Beatrice, M.B., B.S. (LOND.), D.P.H.; Cruickshank, Robert, M.D., (ABERD.), D.P.H.; Drummond, John Shaw, M.B., CH.F. (GLAS.), D.P.H.; Dunscombe, William King, M.D. (DURH.), D.P.H.; Easterbrook, Annie C., M.B., CH.B. (EDIN.), D.P.H.; Eastwood, Cyril Gravell, B.Sc., M.B., CH.B. (MANCH.), M.R.C.S., L.R.C.P., D.P.H.; Evans, Robert, M.D., D.L.O., F.R.C.S. (EDIN.); Fox, Peter Power, M.B., CH.B. (LIV.); Gorrie, Mary Gray, M.B., CH.B. (GLAS.), D.P.H.; Gourlay, Evelyn Elizabeth, M.D., B.S. (LOND.); Grundy, Fred, M.D. (LEEDS), CH.B., M.R.C.S., D.P.H.; Barr-at-Law; Gubbins, Robert Charles, M.B., CH.B. (LIV.), D.P.H.; Guy, John Allen, M.B., CH.B. (EDIN.), D.P.H.; Hughes, Edward, M.D. (LIV.), D.P.H.; Knowlton, Ronald Wallace, M.A., M.D. (CAMB.), M.C.O.G.; Mackay, James Davidson, M.B., CH.B., D.P.H. (ABERD.); Mackenzie, Margaret Allan, M.B., CH.B. (EDIN.), D.P.H.; Nash, William Rowland, M.R.C.S., L.R.C.P., D.P.H.; Pirrie, George Denis, M.R.C.S., L.R.C.P., D.P.H.; Ponder, Constant Wells, M.A., M.D. (CANTAB.), D.P.H.; Proctor, Sydney Smith, M.D. (ABERD.); Pullen, Doris Marguerite, M.B., CH.B. (BRIST.); Reid, John, M.D., D.P.H.; Ross, Shielah R., M.B., CH.B. (EDIN.), D.P.H.; Wamsley, Nora Wilson, M.B., B.S. (LOND.), D.P.H.; Watson, Jean Carmichael, M.B., B.Ch. (BELF.), B.A.O., D.P.H.; Woodhead, Barbara, M.B. (BIRM.), M.R.C.P., D.P.H.

As Associates:—Allan, Donald D., L.D.S. (LIV.); Brabington-Perry, Frederick, L.D.S., R.C.S. (ENG.), D.E.C.D.S. (PARIS); Clarke, Reginald V., L.R.C.P. & S., L.D.S.; Colenso, Claude, L.D.S.; Gausden, Percival Donald, L.D.S., R.C.S.; Hall, Harry Donald, L.D.S.; Hayes, Leslie Fayle, L.D.S.; Jennings, Edward Almond, L.D.S.; Peach, Wistan Adams, L.D.S.; Peacock, Alexander Scott, L.D.S., R.F.P.S. (GLASG.); Sturgess, Frederick William, L.D.S., R.C.S.; Todd, James, L.D.S.; Wilson, Howard Bowser, L.D.S., R.C.S.

A further candidate did not receive the necessary proportion of votes (four-fifths of the Fellows present and voting) in the ballot and was therefore declared not elected.

Dr. John Buchan then moved a very hearty vote of thanks to the retiring President (Dr. W. G. Savage) for his distinguished service in the chair during the past session. Dr. Charles Porter, seconding, made special reference to Dr. Savage's eminence as a bacteriologist. The vote was carried by acclamation and Dr. Savage made a short reply in which he in turn thanked the members for support given him during his year of office.

Dr. Ernest Ward then read his Presidential Address on "Tuberculosis," which was published in the November issue of PUBLIC HEALTH.

Dr. E. H. T. Nash moved a vote of thanks to the President for his lucid reviews of the many-sided problems associated with tuberculosis work and Dr. A. S. M. Macgregor, in seconding, said that he hoped the precedent established by the election of Dr. Ward might be continued.

The meeting then adjourned.

ANNUAL GENERAL MEETING.

The Annual General Meeting was held at the Society's house on Friday, November 20th, at 5 p.m. The President (Dr. Ernest Ward) was in the chair and some 20 members were also present. The minutes of the last Annual General Meeting were confirmed and signed.

Before the meeting proceeded to its next business, Dr. F. T. H. Wood asked leave to present on behalf of the North-Western Branch, "a worthy portrait of a worthy President," that of Dr. R. Veitch Clark, President of the Society for 1934-35. The portrait was then unveiled and the President accepted it with thanks on behalf of the Society.

The meeting then adopted the Annual Reports of the Council, Hon. Editor, Hon. Treasurer and Auditor for the year ended September 30th, 1936 (printed in PUBLIC HEALTH, November, pp. 57 *et seq.*). It was pointed out that the market value of the Society's investments stood at £6,536 14s. 3d. and the total assets at £7,629 2s. 3d., instead of the figures printed by error in the Treasurer's Report.

Dr. G. H. Pearce moved and Dr. R. Veitch Clark seconded a vote of thanks to the Society's officers for their services. Both speakers asked that a specially cordial vote be accorded to Dr. Charles Porter, who had retired from the Hon. Editorship of PUBLIC HEALTH at the end of the session under review, and who had raised the journal to a standard which it would be difficult to emulate. The meeting unanimously accorded the vote of thanks and the Executive Secretary was instructed to write a letter to Dr. Porter conveying the Society's appreciation of his outstanding services as Hon. Editor.

Mr. J. T. Harris was re-elected as Auditor for the current session.

The following candidates, having been duly proposed and seconded, were elected to membership:—

As Fellows:—Badenoch, Eleanor, M.D., CH.B. (GLASG.); Bourn, William Harbit, M.B., B.S., (DURH.); Carson, James, M.D. (BELF.), D.P.H.; Cuthbert, James A., M.B., CH.B. (EDIN.), D.P.H.; Hogarth, Margaret C., M.B., CH.B. (ABERD.); O'Shiel, Frank Roantree, L.R.C.P., L.R.C.S.I., L.M., D.P.H. (LIV.); Parsons, Florence Mary, M.R.C.S., L.R.C.P.; Price, Cyril Frederick, M.B., B.S. (LOND.), D.P.H.; Russell, Audrey, M.R.C.S., L.R.C.P., M.B., B.S. (LOND.); Raeburn, Hugh Adair, M.D., M.R.C.P. (EDIN.), D.P.H.; Welton, Frank James, M.B., CH.B. (LIV.), D.P.H.; White, Ann Mower, M.R.C.S., L.R.C.P.; Whitworth, John W., M.B., CH.B. (LEEDS), D.P.H.; Woodrow, Robert, M.B., B.S. (EDIN.), D.P.H.

As Associates:—Hamlyn, Reginald Hamilton, L.D.S., R.C.S.; Sheasby, Henry William Seymour.

Nominations for election at the December meeting were reported, and the meeting then adjourned.

The Branches and Groups

METROPOLITAN BRANCH.

President: Dr. A. J. Shinnie (M.O.H., City of Westminster).

Hon. Secretary: Dr. Vynne Borland, Public Health Dept., Patriot Square, Bethnal Green, E.2.

At the meeting on November 13th, when Dr. Shinnie was duly installed as President for the year (twenty-three members being present) the proceedings were overshadowed by the recent death of Dr. W. M. Willoughby, to whose character and services the new President made fitting reference. The news that the Hon. Secretary (Dr. Borland) was recovering from an operation was also received with sympathy. The Branch Council has recommended certain methods of co-operation by Borough Medical Officers of Health with the London County Council in obtaining information as to unregistered nursing homes. At the next meeting on December 11th (to be held at 5.30 p.m.) Dr. Margaret Emslie will give a paper on "The Supervision of the Health of the Toddler."

YORKSHIRE BRANCH.

President: Dr. J. C. Pickup (M.O.H., Wombwell).

Hon. Secretary: Dr. James Mair, Public Health Department, Harrogate.

The inaugural meeting of the Branch was held in the Hotel Metropole, Leeds, on Friday, October 23rd, 1936. Twenty-seven members were present. Minutes of the last meeting were read, approved, and signed.

Dr. G. C. F. Roe, the retiring President, invested Dr. J. C. Pickup, Barrister-at-Law, Medical Officer of Health, Wombwell, with the badge of office and installed him in the Presidential chair and expressed the hope that he would have a very happy year of office.

Correspondence was submitted from the Dental Officers' Sub-Group suggesting that a joint meeting of the branch and the sub-group should be held at Wakefield in February and that Professor Gilmour, late of Liverpool University, had promised to address the meeting, it was agreed that arrangements should be made for this meeting to be held.

Drs. G. S. Johnston and N. Tattersall were elected representatives on the Tuberculosis Group Committee.

The memorandum on the Appointment of Medical Officers of Health by Professors W. W. Jameson and Ralph M. F. Picken was considered and after a very full discussion, in the course of which the opinion was freely expressed that very few, if any, local authorities would be willing to forgo their right to select their own officers, it was resolved "That the Society of Medical Officers of Health be prepared to give advice to local authorities when selecting officers and that the Council of the Society, if consulted, will put forward the names of three Medical Officers of Health, any one of whom may be asked by the local authority to advise them on the selection of a suitable officer."

Dr. W. Bertram Hill brought forward the question of the amount of retiring allowance granted to older officers under the Local Government and Other Officers Superannuation Act, and after very careful consideration it was resolved "That the attention of the Society be drawn to the hardship inflicted by the provisions of the

present Superannuation Act on older Medical Officers with many years non-contributory service and that the Society be requested to take all possible steps to improve conditions."

The question of "Precautions Against Air Raids" was also mentioned and it was decided that a special meeting be held to consider this at an early date.

So much time was taken up on the consideration of the various points that the President agreed to defer delivery of his Presidential Address until the next meeting to be held at the end of November.

The meeting was preceded by the Annual Luncheon of the Branch at the Hotel Metropole, Leeds, at which the Retiring President, Dr. G. C. F. Roe, presided, and was supported by fifty members and guests.

The toast of the Society of Medical Officers of Health was proposed by Councillor J. Brett, Deputy-Chairman Leeds Public Health Committee, who said that the M.O.H.'s difficulty was not to get his ideas "across to the public" but "across to the Councillors." After referring to the increasing work of M.O.s H. Mr. Brett said that the public and many general practitioners thought that they had well-paid jobs. He said that he would like to see conferences between Medical Officers and general practitioners where each could express themselves honestly and truly about the other.

Dr. G. H. Pearce, responding, said that the business of the Society was not primarily to look after the interests of its members but the promotion of the public health.

The Yorkshire Branch was one of the oldest Branches in the Society and had supplied three presidents of the Society. Referring to Mr. Brett's speech, Dr. Pearce said that if ever there was a job where a man needed defending, it was that of the M.O.H., because of the nature of his work. Every time an M.O.H. took action he was bound to tread on somebody's toes. Whenever they heard of an M.O.H. being "the nicest man in the town," they could depend on it he was not doing his job.

Dr. Bertram Hill, proposing the toast of the Guests, extended a welcome to the members of local authorities present; he thought that it was a desirable thing that they should have an opportunity of meeting M.O.s H. outside the atmosphere of office. Members of local authorities carried a load of responsibility and the value of their self-sacrificing work was not always realised.

The Mayor of Harrogate (Councillor S. Cartwright, J.P.) replied for the Guests.

Dr. L. Pickering Pick gave the toast of the retiring President, Dr. G. C. F. Roe. He had been an outstanding President and had arranged a very interesting programme of meetings. It was a pity that a larger proportion of the Branch members had not put in an attendance at some meetings.

In reply, Dr. Roe paid tribute to the senior members of the Branch for their assistance and advice. He thought that the main reason that the attendances at meetings were not larger was that Medical Officers had really too much to do. There was no lack of enthusiasm in the Branch.

Dr. J. J. Jervis then proposed the toast of the incoming President, Dr. Pickup. He said that Dr. Pickup's election was a fitting reward for his regular attendance and participation in the work of the Branch.

Replying, Dr. Pickup said that he had served in three different camps as general practitioner, as general practitioner and part-time M.O.H., and as part-time M.O.H. alone. From his experience he felt that the qualifications required of M.O.s H. were higher than those of the G.P.

He concluded by thanking the Branch for their encouragement in giving him a start as President.

SCOTTISH BRANCH.

President: Dr. A. S. M. Macgregor (M.O.H., Glasgow).

Hon. Secretary: Dr. W. G. Clark, Public Health Dept., Johnston Terrace, Edinburgh.

The Scottish Branch have re-elected their Office Bearers for a further period of one year as under:—

President—Dr. A. S. M. Macgregor, Medical Officer of Health, Glasgow.

Vice-Presidents—Dr. A. K. Chalmers, late Medical Officer of Health, Glasgow; Dr. Thomas Adam, Medical Officer of Health for the County of Stirling.

Hon. Secretary and Treasurer—Dr. W. G. Clark, Deputy Medical Officer of Health, Public Health Department, Johnston Terrace, Edinburgh.

At the same time the Branch recommended that Dr. A. K. Chalmers, who has been a member since 1895, should be elected to life membership under the Society's constitution, and that Dr. William Robertson, late Medical Officer of Health, Edinburgh, be also elected for life membership under the same Article.

HOME COUNTIES' BRANCH.

President: Dr. R. P. Garrow (M.O.H., Hornsey).

Hon. Secretary: Dr. C. Herington, M.O.H., Dagenham.

A meeting was held at the House of the Society on November 6th, there being present twenty-seven members, the President occupying the chair. Apologies for non-attendance were received from six members.

The minutes of the previous meeting were read and confirmed. Arising from the reference in the minutes to the nomination of a President of the Society for the next session, Dr. E. W. Caryl Thomas proposed that the name of Dr. E. H. T. Nash should be submitted. This nomination was seconded by Dr. E. H. R. Smithard. Dr. C. Sanders, a former President of the Society, rose to support the nomination which, being put to the meeting, was carried unanimously and by acclamation. The Secretary was instructed to enlist the interest of other branches for the candidature of the Branch's nominee. Dr. Nash rose and expressed his thanks to the Branch.

A paper was then read on the Kensington Rheumatism Scheme by Dr. Janet K. Aitken, Physician-in-Charge of the Kensington Rheumatism Clinic. This proved of great interest, many new aspects of the condition known as rheumatism were described and an account of research into the etiology of the condition was given.

A full discussion ensued and questions were asked by many members and answered by Dr. Aitken. Dr. C. L. Williams asked under what conditions rheumatic children should be excluded from school; the reply given was that this largely depended on the response of the patient to exercise, moderate exercise being encouraged in mild cases. Dr. Aitken advised that

severe cases should be admitted to special schools. From the point of view of infectivity, she was of the opinion that no exclusion of the patient was necessary.

Dr. D. H. Geffen objected to the word "carditis" and he asked for a more specific definition of the rheumatic heart lesion. The answer given was that the word was used more on account of its convenience than its clinical accuracy and was intended to convey the condition of the heart as found after a rheumatic infection. Several other speakers including Drs. Powell and Hunter raised questions.

The President remarked that in his view rheumatism was a rapidly disappearing disease and he suggested that areas in which there was a high incidence were those in which the supervision was most complete.

The suggestion that Dr. Aitken's paper should be published *in extenso* in PUBLIC HEALTH was received with enthusiasm.

A vote of thanks was proposed by Dr. Williams, seconded by Dr. Nash, and unanimously carried.

MIDLAND BRANCH.

President: Dr. Arthur Massey (M.O.H., Coventry C.B.).

Hon. Secretary: Dr. R. H. H. Jolly, Health Department.

The second meeting of the session was held at the Medical Institute, 154, Great Charles Street, Birmingham, on Thursday, November 5th, 1936, at 8.15 p.m.

The President (Dr. A. Massey) and thirty members were present. Apologies for absence were received from six members.

The minutes of the Ordinary Meeting on October 1st and the Special Meeting on October 15th, which had been printed in PUBLIC HEALTH, were taken as read and signed.

The Branch first considered the memorandum on "Methods of Appointment of Medical Officers of Health," which had been previously circulated. After considerable discussion, Dr. Horsburgh proposed, and Dr. Paul seconded, the following resolution which was carried:—"That having considered the memorandum on the 'Methods of Appointment of Medical Officers of Health,' referred to it by the Council of the Society, the Branch sees no advantage accruing from the setting up of a separate advisory body as the existing machinery is considered sufficient."

Dr. Nicholl's memorandum on "Facilities for Post-Graduate Study by Departmental Medical Officers" was next considered and it was resolved to inform the Council that the recommendations contained in it were generally approved.

The Hon. Treasurer presented his report and balance sheet for the session 1935-36 which were received and adopted. A cordial vote of thanks was accorded to Dr. Snell for his able and painstaking work as Hon. Treasurer.

Dr. M. Burn (Senior A.M.O.H., Birmingham) then opened a discussion on the exclusion of children from school on account of infectious disease. Others who took part were Dr. H. Paul (M.O.H., Smethwick), Dr. J. A. M. Clark (M.O.H., Walsall), and Dr. P. G. Horsburgh (M.O.H., Nuneaton). The discussion will be summarised in a later issue of PUBLIC HEALTH.

SOUTHERN BRANCH.

President: Dr. A. E. Druitt (A.M.O.H., Hampshire).
Hon. Secretary: Dr. E. Croft Watts, Lothian House, Fareham, Hants.

The Southern Branch paid a visit to Messrs. C. Shippam, Ltd., Chichester, to hold their November meeting on November 2nd.

Mr. Shippam welcomed the members of the Branch and conducted them round the factory, explaining all the processes used in the manufacture of their products from the raw material to the finished article. The members were much impressed by the extreme cleanliness evident everywhere and the care taken to render the products sterile. Eleven members were present, some of them being accompanied by their wives. After the members of the Branch had been conducted round the factory Mr. Shippam entertained them to tea, during which a very hearty vote of thanks was accorded to Mr. Shippam and his son for their kindness and hospitality.

The meeting of the Branch then took place, Mr. Druitt, the President, being in the chair.

The minutes of the previous meeting were read and confirmed. The Secretary reported he had carried out instructions with regard to the memoranda and presidential address.

Apologies for absence were read from Dr. Kelf and Dr. Bruce Young.

A letter from Dr. Maurice Williams was read suggesting that the time of the next meeting should be altered from 4 p.m. to 3 p.m. on account of the light, this was agreed to on the proposition of Dr. Williamson, seconded by Dr. Fleming.

The Secretary was instructed to send an official letter of thanks to C. Shippam, Ltd. The meeting then terminated.

DENTAL OFFICERS' GROUP.

President: Mr. Jeffrey Fletcher, L.D.S. (S.D.O., Devon C.C.).

Hon. Secretary: Mr. J. F. Pilbeam, L.D.S., Dental Clinic, Lodge Road, Croydon, Surrey.

The Annual General Meeting of the above Group was held on Saturday, October 24th, at the house of the Society, with Mr. Grantley Smith (retiring President) in the chair.

A report of the year's work was given by the Hon. Secretary, Mr. J. F. Pilbeam, who pointed out the close interest taken by the Group Council in all matters pertaining to the welfare of school dental officers. A considerable increase in the Group's membership during the past two years augured well for the future.

In introducing Mr. Jeffrey Fletcher, Dental Officer, Devon C.C., Mr. Grantley Smith spoke of the stirring work performed by Mr. Fletcher in the formation of the Yorkshire Sub-Group. His enthusiasm was a feature of the Group's meetings and it was a most fitting tribute to his work that the Group had honoured him with the Presidency in the Coronation year.

Mr. Fletcher then read his presidential address which was heard with great interest and will be published in PUBLIC HEALTH in due course.

A further meeting of the Group was held at the house of the Society on Friday, November 13th, when those

present were indeed fortunate to hear Mr. A. T. Pitts, D.S.O., M.R.C.S., L.R.C.P., L.D.S., deliver an address on "The Dental Treatment of School Children." Mr. Pitts was acclaimed with great enthusiasm.

MATERNITY AND CHILD WELFARE AND SCHOOL MEDICAL SERVICE GROUPS.

A joint meeting of the above groups was held at the house of the Society on Friday, November 13th, at 8.30 p.m. Dr. O. M. Holden, President of the School Medical Officers' Group, occupied the chair, and was supported by Dr. Agnes Nicoll, President of the Maternity and Child Welfare Group. Thirty-three members and friends attended.

The Minutes of the last meeting of the Maternity and Child Welfare Group were confirmed and signed and notices as to forthcoming meetings were read by the Secretary.

Dr. Agnes Young, M.B., CH.B., D.P.H., Assistant M.O., Warwick C.C., and Dr. Winifred Burbury, M.A., M.B., B.S., D.D.M., then read very interesting papers on "Medical and Administrative Problems of the Nursery School Class." The subsequent discussion was opened by Dr. Agnes Nicoll and continued by Drs. Holden, Puddicombe, Franklyn, Smithard, Saunders-Jacobs, Goodwill, Freeman, Brooke and others. Dr. Burbury replied, and Dr. Holden moved a vote of thanks to both speakers. An account of the papers and discussion will be published in a future number of the Journal.

MIDLAND MATERNITY AND CHILD WELFARE SUB-GROUP.

Chairman: Dr. A. Hamilton Wood (C.M.O.H., Warwickshire).

Hon. Secretary: Dr. Agnes Young, Bilton Rise, Rugby.

The Sixth Annual Meeting of this Sub-Group was held on October 24th, 1936, in Lancaster Street Child Welfare Centre, Birmingham. In the unavoidable absence of the Chairman, Dr. Newsholme, Dr. Morris Jones occupied the chair. The Annual Report of the Honorary Secretary was read and adopted and the following Office-Bearers were elected for 1936-37.

Chairman—Dr. A. Hamilton Wood, C.M.O.H., Warwickshire.

Vice-Chairman—Dr. Ethel Cassie, Senior Assistant M.O. (M. and C.W.), Birmingham.

Ex-Chairman—Dr. H. P. Newsholme, M.O.H., City of Birmingham.

Members of Committee—Drs. Balsillie, Cox, McLean, Hirst and Allan.

Ex-Officio Member—Dr. Morris Jones.

Hon. Secretary and Treasurer—Dr. Agnes Young.

Hon. Assistant Secretary—Dr. Hirst.

After the business proceedings Dr. Morris Jones vacated the Chair in honour of Dr. Hamilton Wood. Dr. G. C. M. M'Gonigle, M.O.H., Stockton-on-Tees, was introduced to the meeting and he gave an address on "Some Nutritional Factors in Maternity and Child Welfare Work." This was forceful, interesting and provocative. The members thoroughly appreciated all these characteristics and many took part in the ensuing discussion.

Dr. Hamilton Wood proposed a vote of thanks to

Dr. M'Gonigle and Dr. Cassie seconded. The members responded with enthusiasm.

Prior to the Annual Meeting a Luncheon was held at the Three Counties Club, Birmingham. Dr. Newsholme presided and Dr. M'Gonigle was the guest of honour.

Twelve members attended the Luncheon and thirty the Annual Meeting.

The Hon. Secretary's Annual Report for 1935-36 is appended:—

This Sub-Group has held four meetings throughout the year 1935-36.

The Sixth Annual Meeting was held on October 12th, 1935, in the Carnegie Institute, Hockley, Birmingham, Dr. Morris Jones presiding over eighteen members. After the business of this meeting Professor Richard Berry, Stoke Park Colony, Bristol, gave an extremely interesting address on "Brain Structure in relation to Social Efficiency." Prior to the meeting a Luncheon was held in the Three Counties Club, Birmingham, when seventeen members were present.

The second meeting was held on Saturday, November 30th, 1935, in the Child Welfare Centre, Lancaster Street, Birmingham, when Dr. Newsholme presided over twenty-five members. He read a paper entitled "An Aspect of Maternal and Infant Ill-Health." He dealt with his subject in an original manner which was intensely interesting and thought provoking. The members then made a tour of the Centre which included a visit to the Venereal Disease Clinic for women and children on the top floor of the building.

The third meeting took the form of a clinical week-end and was held on Friday, January 31st and Saturday, February 1st, 1936, in Birmingham. On Friday fifty members and friends met in the Lancaster Street I.W.C., Dr. Newsholme presided and an address on "The New Midwifery Service—What should it be?" was given by Dr. Stella Churchill, London. Discussion followed and was opened by Mrs. Bertram Lloyd, Birmingham, and Sister Thomas, Maternity Hospital, Birmingham.

On Saturday morning, February 1st, the members met in the Children's Hospital, Birmingham, where cases were demonstrated by the hospital staff in the wards and in the post-mortem room. A Luncheon was held at the Garden Club—the Chairman presiding over twenty members.

In the afternoon of Saturday, February 1st, a visit was paid to the Anti-Tuberculosis Dispensary where Dr. Dixon received the members. Later they visited Yardley Wood Sanatorium and listened to an address by Dr. Dixon on the work in the children's section. This concluded an enjoyable week-end in which twenty-four members participated.

The fourth and Summer Meeting took place at Nottingham on Saturday, June 20th, 1936. It was preceded by an informal Luncheon in the Mikado Café, Nottingham. Eleven members including the Chairman, Dr. Newsholme, were present. Thereafter the party adjourned to the Children's Hospital where they were received by Dr. Scott, Honorary Physician. After a tour of the hospital many interesting cases were demonstrated by Dr. Scott. At the conclusion of this demonstration the party went to the Abel Collins Maternity Hospital where the Medical Superintendent, Dr. Jean Morton, welcomed the members, conducted them round the hospital and explained how it owed its origin to the generosity of Abel Collins as long ago as 1705. Fifteen members attended.

The Chairman, Committee and members of the Sub-Group take this opportunity of offering sincerest thanks to all those who have given their talent, services, valuable time and hospitality in 1935-36.

The Registrar-General's Statistical Review, 1935, Part I. Tables, Medical; is now on sale at H.M. Stationery Office, price 6s. net.

The principal features are:—

The number of live births registered in the year was 598,756, giving a birth-rate of 14.7 per 1,000 persons living. This rate was 0.1 below that for 1934 but 0.3 above that for 1933, which was the lowest ever recorded. The county distinguished by having the highest rate was Durham with 17.8, followed by Holland (Lincs) with 17.7. The counties showing the lowest rates were the Isle of Wight, 11.5 and Cardiganshire 11.8.

The death-rate was 11.7 per 1,000 persons living, 0.1 below the rate for 1934 and 0.6 below that for 1933. When allowance is made for the fact that the average age of the living population is increasing every year, the resulting corrected or standardised death-rate was the lowest ever recorded both for men and for women, the rate for the sexes together being less than half of the corresponding rate in 1891-1900.

The survival rate of infants was also greater than in any previous year, only 57 dying before their first birthday to each 1,000 born alive, compared with 59 in 1934, 64 in 1933 and 128 in the first decade of the century.

Mortality from infectious and parasitic diseases in general reached a low record of 1.2 per 1,000 and the tuberculosis rate declined once again to a new low record of 718 per million. Pneumonia gave a new low record of 659 per million, the previous lowest being 696 for 1930, which was also a very healthy year. The measles death-rate per million children under 15 years of age, which up to 20 years ago was seldom below 1,000, fell to 143, and the whooping-cough rate to 170, each of these rates being the lowest ever recorded. Diphtheria also registered a considerable improvement over the preceding year.

The cancer rate, corrected for the increasing age of the population, decreased slightly to 1,001 per million from 1,003 in the previous year.

Deaths of women attributed to complications of child-bearing numbered 1.61 from septic causes and 2.33 from other puerperal causes to each 1,000 live and still births, compared with rates of 1.95 and 2.46 respectively in 1934.

Resort to suicide showed a further satisfactory decline in frequency, the crude rates per million persons living having fallen each year since 1932, when the high level of 143 was reached, by successive steps to 129 in 1935. Accidental deaths by fall or crushing, including traffic fatalities, also declined to 287 per million from the peak level of 306 which had been reached in the preceding year.

The County Boroughs showing the most satisfactory ratios of standardised mortality to that in England and Wales as a whole were Oxford and Croydon with ratios of 83 per cent., Bournemouth with 85 per cent., and Ipswich with 86 per cent. The three administrative counties with the lowest ratios, also corrected for differences in the estimated age distributions of their populations were Surrey (76 per cent.), Rutland (77 per cent.) and Berkshire (79 per cent.).

Book Reviews

Laboratory Practice. By J. R. CURRIE, M.A., M.D., F.R.C.P. (EDIN.), D.P.H., Professor of Public Health, Glasgow University, and Contributors. Edinburgh: E. & S. Livingstone. 1936. pp. 378. 169 figures. Price 21s. net.

In the introduction the author explains that this volume is intended primarily for the medical graduate proceeding to a D.P.H. or other public health qualification, and it is advanced as a laboratory guide. While it contains much useful information, some of it is not readily obtainable elsewhere, it cannot be recommended as an entirely satisfactory book for this purpose for several reasons, the most important being the poor balance of its contents. The book comprises six sections; 88 pages are devoted to Chemistry, 51 to Bacteriology, 41 to Protozoology, 48 to Helminthology, 75 to Entomology and 36 to Meteorology. Much is included of no value to the public health student and as a direct consequence much is omitted which he ought to have set before him. As an illustration, 2½ pages are devoted to moths of no public health significance and nearly a page to the cockroach, equally unimportant, while the all-important subject of the detection of tubercle bacilli in milk has 9½ lines and nearly everything of importance is omitted. The author evidently has let his contributors run away with the space he should have retained for his own contributions.

The author takes credit that much of the value of the book is in the supplementary information which it conveys on the public health relationship of the particular laboratory work described. In fact, while the book contains few absolute inaccuracies, it abounds in statements so inadequate that they are misleading as they stand. To give an instance, it is stated that "a polluted oyster can become self-purified within a week if transferred to pure water." Such a statement is better omitted altogether unless it is amplified to explain the various factors such as temperature, rate of flow, etc., which condition self-purification. The inadequate statements on chlorination illustrate the same point as also do the few lines on the cryoscopic determination of added water in milk where the one important factor, the significance and comparative value of the test, simply is not mentioned.

Of statements not in accord with most experts may be instanced the selection of the intraperitoneal method for detecting tubercle in milk and the remark that the bacteriological examination of sewage effluents may be undertaken to determine the efficiency of sewage purification plants. The chemical examinations, which are the only ones of any utility, are not even mentioned.

Large parts of the sections on protozoology and helminthology are only of interest to students who intend to practise in the tropics and in general it is better that, for such specialised work, students should consult the many useful volumes available. This elimination would have enabled the author to utilise his space differently. The book contains a great deal of useful information and is likely to be of value for reference purposes, particularly for the student who possesses a knowledge of the subject and can amplify the information given.

Our Baby—for Mothers and Nurses. By MRS. J. LANGTON HEWER, Certified Midwife, Member of the College of Nursing. Bristol: John Wright & Sons, Ltd. Price 2s. 6d.

Happy Babies and Their Mothers. By MARY KIDD, M.B. (LOND.), Medical Officer to the Hampstead Borough Anti-Natal Clinics; Assistant School Medical Officer, L.C.C. London: Burns, Oates & Washbourne, Ltd. Price 1s. 6d.

The Care of Children from One to Five Years. By JOHN GIBBENS, M.A., M.B., M.R.C.P., Physician-in-Charge of the Children's Department, St. John's Hospital, Lewisham. London: The Association of Maternity & Child Welfare Centres, 117, Piccadilly, W.1. Price 1s. 6d.

Each of this trio of books is excellent in its way, and deserving of recommendation. The first is already widely known and popular. The fact that this is a 21st edition speaks for itself. On this occasion it has been revised and brought up to date by Dr. Sophia Seekings Friel, who is as closely associated with the Infant Welfare Movement as the original author. Mrs. Hewer, in her preface to the first edition in 1891, expressed the opinion that it would raise the standard of health in the next generation, if every girl were obliged before leaving school to pass an examination on the subject of "How to bring up a baby." With this, the reviewer is in hearty agreement, and feels that a better text book than Mrs. Hewer's own book would be hard to come by.

In "Happy Babies and Their Mothers," Dr. Mary Kidd has produced a sequel to "Ideal Motherhood," which appeared last year, and in which it will be remembered, she displayed not only a sound and practical knowledge of ante-natal care, but, what is more rare, the happy gift of expressing that knowledge in such simple everyday phraseology that it appears to be given in a series of friendly talks rather than as lessons. In "Happy Babies and Their Mothers," which deals mainly with the care of the infant during its first year, the same characteristic is shown, and it is certain that the book will be welcomed and used by many who would turn away from any more technical manual.

The third of the series was written by Dr. John Gibbens at the request of the Association of Maternity and Child Welfare Centres, and is intended for the instruction of parents and others who have the management of children of from one to five years.

There is need for such instruction as apart from that on infant care, and Gibbens has succeeded in producing just the right kind of book. It is pleasantly written, keeps a balance between too much and too little detail, and does not forget to include such important practical matters as the management of a children's party. It should be widely known and will prevent many well-meaning parents from going astray.

The Story of a Tooth is the title of a very graphically illustrated leaflet issued recently by The Dental Board of the United Kingdom for distribution by local Education Authorities. MR. B. R. TOWNEND (Chief D.O., West Riding C.C.) was the main author and he and the Board are to be congratulated on the value of this educational production, of which the coloured diagrams showing spread of caries in a molar are especially commendable.

PUBLIC HEALTH

THE JOURNAL OF

THE SOCIETY OF MEDICAL OFFICERS OF HEALTH

No. 4. Vol. L.

JANUARY, 1937

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

"Public Health" is the Official Organ of the Society of Medical Officers of Health and a suitable medium for the advertisement of official appointments vacant in the health service. Space is also available for a certain number of approved commercial advertisements. Application should be made to the Executive Secretary of the Society, at 1, Thornhaugh Street, Russell Square, London, W.C.1.

Contents

Editorial

	PAGE
H.M. King George VI	111
The Report of the Chief Medical Officer for 1935	111
"Open-Choice" Domiciliary Medical Services	113
An Extension of Health Education	114
Iodine and Endemic Goitre	115

Obituary

Sir John Robertson, C.M.G., O.B.E., M.D.	115
Alfred Greenwood, M.D., D.P.H.	116
James Tyson Kitchin, M.D., D.P.H.	116

Special Articles

The Doctor as Administrator. By Arthur Massey, M.D., D.P.H., D.P.A.	117
Modern Methods of Diphtheria Prevention. By W. A. Murphy, M.B., D.P.H.	121
Domiciliary Midwifery with Reference to the Midwives Act, 1936. By T. Pierson, M.B., D.P.H.	123
Speech Defects in Young Children. By E. J. Boome, M.B., M.R.C.P., D.P.H.	126

Papers and Discussions in Brief or Abstract

Air Raid Precautions and the M.O.H.	131
Southampton Midwives Scheme	132

News

Recent Appointments in the Public Health Service	116
Ministry of Health Publications	120
Smallpox and Scarlet Fever Outbreaks	122
Joint Tuberculosis Council	134

Society of Medical Officers of Health

Notices of Meetings	135
Ordinary Meeting	135
Branch and Group Meetings	136

Book Reviews

Snow on Cholera	139
The Management of the New-Born Baby	140
The Toxæmias of Pregnancy	140
Maternity and Post-Operative Exercises	140

Editorial

H.M. King George VI.

At the December general meeting of the Society, it was unanimously agreed, on the proposition of the President, to submit to our new King the expression of loyalty which is recorded on page 135 of this issue. We have all watched with anxiety the chain of events which finally led to the abdication of another well-beloved and democratic monarch, and our welcome to King George VI and his Queen is intensified by sympathy for the circumstances of their accession. His Majesty, as Duke of York, was well known for his lively interest in the hygiene of industry, in cancer research and in the welfare and physical fitness of youth. We are doubly assured, therefore, that he will show the same disposition as his predecessors to forward all movements likely to improve the public health and happiness. In such activities he will have always the loyal support and goodwill of the members of our Society.

The Report of the Chief Medical Officer for 1935

Sir Arthur McNalty, in presenting his second annual statement* on the work of the Medical Department of the Ministry of Health, points out that the former detachment between preventive and curative medicine has disappeared or is fast disappearing, and that the advances in public health made during the reign of George V have gradually brought all agencies for promoting national health into closer and more helpful concord.

The vital and mortal statistics for the year are reviewed, and attention is drawn to the smallest number of infant deaths ever recorded, resulting in an infant mortality rate of 57 per 1,000 births.

The rise in the average age of the population, which has continued, has resulted in a fall since the beginning of the century of nearly 25 per cent. in the proportion of persons under 25 years, and striking increases in the middle age and old age groups. Sir Arthur remarks that if, as appears likely, the change in age-distribution continues

*On The State of the Public Health, 1935. H.M. Stationery Office, 3s. 6d.

the altered needs will lead to some regrouping of health services.

The report reviews recent work in the application of the experimental method to the study of epidemiological problems, and gives a useful, though necessarily brief, presentation of the work of Greenwood, Topley and their associates.

In recording the striking fall in the death rate from measles, the acceleration in decline since the child welfare services came into being is noted, and details are given of the use of convalescent serum, adult serum and placental extract in prevention. There was a slight reduction in the incidence and fatality rate of diphtheria, and in this connection it is reported that facilities for artificial immunisation now exist in about two-thirds of the county boroughs, and in the great majority of the metropolitan boroughs, as well as in many smaller sanitary districts. Mention is made in the paragraphs on scarlet fever of the fact that a high incidence of the disease among adults has been noted in certain districts, and of the work of the Ministry's pathological laboratory which suggests that the accidental reinfection with a second strain of streptococcus of the convalescent while in hospital is commonly the reason which gives rise to a return case after he goes home.

In recording the present position in maternal welfare with a slight reduction in the maternal death rate from 4.6 to 4.11, the report remarks that the problems of maternal care may have tended of late years to have obscured the steady work in connection with the welfare of the infant and young child, which is both progressive and successful.

In the section on the Insurance Medical Service, which provides medical benefit for nearly sixteen million people in England and Wales through some 16,600 medical practitioners, attention is again drawn to the great increase in the number of prescriptions issued, an increase which is not accounted for by any known fact relating to the incidence of disease in the country. Not only is there no contention that the expenditure of some two and a quarter million pounds on the provision of medicines is necessary or desirable, but on the contrary it has been repeatedly stated by representative practitioners that a very large proportion of the present physicking of the population is wholly unnecessary, and that if all doctors felt themselves free to order only such medicinal treatment as in their unfettered professional judgment they considered necessary, the total cost of prescribing would at once fall spectacularly—as far, some assert, as to half its present dimensions.

The pages dealing with tuberculosis draw attention to the main functions of the care and after-care organisations which should be associated with the tuberculosis work of local authorities. This section discusses the difficulties in explaining the

considerable variations in mortality from tuberculosis in different parts of England and Wales, and concludes with a note of the very large increase in the use of X-ray examinations in diagnosis, and of the necessity for carrying out contact examinations upon definite and systematic lines.

There has been a continued decline in the incidence of syphilis and gonorrhœa, and there is increasing resort to the use of serum tests for syphilis, cultural tests for the gonococcus, and gonococcal complement-fixation tests—all evidence of steady improvement in the methods employed at treatment centres.

The Ministry of Health keeps in close touch with cancer work. There is still, unfortunately, no sign of any decline in cancer mortality, the number of deaths certified from the disease being 64,507 in 1935, or 1,244 in excess of the previous year. Sir Arthur McNalty says that when, however, the increasing longevity of the population (cancer being a disease of the later ages) and the more accurate diagnosis of the disease are taken into account, it is probably fallacious to assume that the increased frequency of the disease connotes "a correspondingly greater prevalence of whatever factors are concerned in causation." Recent researches into causation seem to indicate connecting links between the virus theory and that of carcinogenic substances, and the conclusion of the report is that research has reached a promising stage. It would, however, the report continues, be extremely unsafe to assume that if and when it provides an explanation of the way in which malignant change is brought about in the cells, it will necessarily furnish a clue to a means of prevention or bring about a radical change in methods of treatment.

Rheumatism again receives notice in a special chapter, and there are sections concerning the relation of food to health and disease, which record the progress made in several studies being pursued in conjunction with local authorities, studies dealing with dietaries of working class families, the state of nutrition of individuals as determined by measurement and test, and the effect of dietary supplements on the growth and health of children.

Other sections of the report deal with miscellaneous points such as the working hours of nurses, the great increase in the deaths of young men from accidents, the progress of research in diabetes and in pernicious anæmia, and the best means of eradicating bed bugs.

Sir Arthur McNalty concludes his report with the reflection that "despite increasing population increasing urbanisation and the aftermath of a world-wide war, the standard of national health has been raised to heights undreamed of when Chadwick and Simon started their beneficent work. So rapid has been the progress in the past

that at times impatience is manifested that further improvements in national health do not become generally apparent with the same dramatic suddenness of earlier days. It is not appreciated how many years of toil and endeavour were spent in preparing for the triumph. It is often not realised how much labour is involved in consolidating and maintaining the victories won over death and disease . . . Some understanding of the toil and pains inseparable from progress in public health and medical work may be gathered from the pages of this report."

"Open-Choice" Domiciliary Medical Services

The duty of local authorities to provide medical attention for those members of the community ineligible for National Health Insurance medical benefit and unable to pay the fees of private practitioners has led to the formation in certain areas of panels of doctors, from whom a choice of medical attendant may be made by such persons when sick. It is clear that this "open-choice" method of providing domiciliary medical assistance substantially reduces association with the machinery of Poor Law, and it is desirable that full examination shall be made of the experience of their working which is now being gained. Accordingly attention is drawn to the valuable report which Dr. J. A. Charles, Medical Officer of Health for Newcastle-on-Tyne, has presented dealing with such a scheme as operated in seven of the ten relief districts of the city during the year ended February 29th, 1936. The report covers the period during which payment by capitation rate has replaced the method of payment from a fixed pool which had obtained during the first ten months of the operation of open-choice methods.

Under the scheme, a patient requiring treatment presents to the panel practitioner of his choice the relieving officer's order, together with a medical record card which is valid for a period of three months from the date of issue. At the end of that period the record is forwarded to the Health Department, and if the treatment of the patient has been completed, the practitioner is credited with a fee of 5s. If, in the opinion of the doctor, treatment is still necessary, a note to that effect is made on the record card, and the Public Assistance Officer is instructed by the Health Department to issue a renewal of treatment card, valid for a further period of three months. The amounts payable to members of the Panel are based primarily on the number of three-monthly record cards which they send to the Health Department, each card being valued at 5s. Practitioners are also credited with one shilling in respect of every medical certificate issued by

them at the request of a Relieving Officer, with the fees payable for confinements and other special services, and with the actual cost of emergency drugs dispensed by them to patients.

In the year under review, 8,193 persons were attended, of whom 611 were "long period," or chronic, patients receiving treatment for three consecutive quarters or for the whole year; the remaining 7,582 were "short period" cases, where treatment was required for periods of varying duration, but never throughout three consecutive quarters.

From the data in his possession, Dr. Charles submits:—

(a) That the remuneration per unit service, which amounted to 11.38d. per unit, is twice the previous rate of 5.656d.

(b) That the services rendered to both long and short period cases appear to be reasonable in number. The typical "short period" case in which treatment is complete within three months (and frequently in a much shorter period) had 4.5 visits or attendances. The typical chronic case received 26.4 services during the nine months or year during which it was under medical attention; this can be regarded as equivalent to a fortnightly visit or attendance.

(c) That there was an attendance-to-visit ratio of 1.7 to 1, and this tendency to replace domiciliary visiting by the easier process of surgery consultations cannot be regarded favourably as a whole.

In this connection, however, we note that there appear to be wide variations in the practice in different parts of the country, inasmuch as the corresponding ratios in similar schemes in Warrington and in Bootle have been 3 to 1 and 8 to 1 respectively.

The expenditure in respect of medical practitioners' services averaged 8s. 1½d. per patient treated; in respect of prescriptions dispensed (from Central Dispensaries) 5.7d. per prescription and 3s. 7½d. per patient treated; and in respect of administration charges 9.5d. per patient treated, making in all a cost of 12s. 6d. per patient treated. Dr. Charles remarks that, even when allowances have been made for the extended duration of the second review period and the larger number of patients treated, there is an actual increase in the number of prescriptions dispensed of at least 40 per cent. No satisfactory explanation of this increase can be offered, but it is obviously a matter which will require close supervision. He further states that although the clerical section has been considered by some too costly, yet it is a key point of the scheme, for through it is maintained a close liaison between the panel practitioner on the one hand and the municipal hospitals, the statutory health services,

the domiciliary nursing services and the public assistance department on the other. The liaison work is in addition to its primary statistical and financial functions.

The report considers the possible weaknesses of Public Assistance Medical Services worked through a panel of practitioners, and states that in respect of certification of fitness it is the considered opinion of the Public Assistance Department that the members of the "open-choice" panel discharge this duty even more conscientiously than did their predecessors, the salaried part-time district medical officers. The view expressed in the previous report that the danger of excessive recommendations for medical extras had been exaggerated has been substantiated during the past year.

Dr. Charles points out that the Domiciliary Medical Scheme provides an opportunity for studying sickness and invalidity amongst one large section of the population including males and females of all ages. The importance of such data is only now beginning to be understood, and with proper statistical methods it should be possible to correlate the effect of bad housing conditions, low income levels, etc., upon the health of the public assistance community.

The conclusion justified by the report is that no other scheme of domiciliary medical service has ever achieved so large a measure of acceptance and popularity amongst those members of the community whom it is intended to serve.

An Extension of Health Education

The Ninth Annual Report of the Central Council for Health Education, and the first since its incorporation, shows a continued increase both in the services which it provides or organises and in the use made of them by local authorities and insurance committees. The financial support accorded to the Central Council by local authorities was likewise increased but not, we regret, in proportion to the Council's growing responsibilities. A special appeal is being made this year to remedy this lag between achievement and financial resources. Medical officers of health will recollect that the Central Council is a child of the Society and will, we hope, do their utmost to ensure that their authorities realise the usefulness of the C.C.H.E. and give it tangible support.

The Chairman of the Central Council, Dr. James Fenton of Kensington, has already outlined the year's work in his speech to the Health Education Conference reported in the December issue of PUBLIC HEALTH, and the only comments called for are on points of particular interest. First, the Central Council is now providing a really first-class Health Week Exhibition and

Campaign for local authorities who desire to employ this form of propaganda. Secondly, the supply of excellent posters for use on the former Empire Marketing Board frames is now being supplemented by an offer (set out in an advertisement page of this issue) to provide frames free of charge to authorities which will purchase monthly poster sets for two years. Third, a Health Education Year Book giving full information of the materials which can be supplied by the Central Council and its affiliated bodies, is shortly to be issued to local authorities and others. And last, the Central Council has had under consideration for some months the preparation of a National Health Campaign, with the particular object of gaining a better backing from the general public for the health services provided by local authorities.

There are some medical officers of health who have never been convinced of the usefulness of health publicity and who have adduced sound arguments to show that the education of the public is best effected by the day-to-day work of sanitary inspectors and health visitors. This view is a reasonable one but we venture to think shows a limited understanding of the possibilities of a more direct appeal for active interest. The figures quoted by Dr. Fenton were conclusive evidence that certain public health services are *not* being used to anything like capacity. Public utility companies, the B.B.C., the Post Office, the Ministry of Health itself, have seen that well directed publicity, it may be in the form of a Public Relations Officer, is an indispensable part of the services which they provide, in that it secures the co-operation of the public which is being served. The public health services, though they are organised in a unitary form, are just as much a public service as any of those mentioned above, and we submit that the Central Council for Health Education is in the position to be the "Public Relations Officer" for the public health services. But, in the first place, the support of the local authorities who provide these services is essential. We trust that the support will be forthcoming, especially in view of the opportunity for progress afforded by the present governmental and general interest in national fitness.

Iodine and Endemic Goitre

Endocrinology has made dramatic progress during the past decade, advances that are fascinating yet almost bewildering to any but the scientific mind of the research worker. And, whatever its rôle in the endocrine orchestra, the thyroid gland plays a sufficiently important part to make any contribution welcome which helps to elucidate its physiological or pathological states.

It is now some time ago since the relationship

between environmental iodine deficiency and the occurrence of thyroid disease was considered probable; but it was soon found that this relationship was not as simple as it appeared, and a further study* has just been published in which an attempt has been made to obtain more definite information. The problem of the accurate determination of minute quantities of iodine, such as are to be found in water and in foodstuffs, is one of great difficulty; but after much research, the results of which were embodied in a previous report,† an adequate method was evolved and this has proved eminently satisfactory.

The present survey was directed towards a possible explanation of the remarkable difference in the incidence of thyroid enlargement among school girls in English Counties; for it is striking that while only 3 per cent. of the girls between six and fourteen years of age in certain Suffolk villages are affected, the figure for part of Somerset is 56 per cent. Twelve villages in each county were selected for investigation; samples of water and milk consumed by the school children in these villages were analysed for iodine content, and a further study was made of the amount of iodine contained in the pastures on which the milch cows were grazed. The analyses revealed a definite consistent deficiency of the Somerset waters as compared with those of Suffolk; the milk and pastures showed no significant differences.

The results point to the conclusion that while the recognised relation between environmental iodine deficiency and the incidence of goitre is again demonstrated, there is no conclusive proof that such deficiency of iodine is the sole cause of the thyroid abnormality. Work carried out in New Zealand appears to indicate that there is not necessarily a direct relationship between the iodine content of soil and that of plants grown on it; and it may be that the absolute content is less important than the mode of combination in which the iodine occurs—a conclusion which is in keeping with parallel considerations in the case of other elements.

It is evident that further work on this is necessary, although, unfortunately, it will involve analytical problems of great complexity. But meanwhile, the authors of the present survey are to be congratulated on a very able piece of research, well-planned and diligently executed.

*The Relationship of the Iodine Contents of Water, Milk and Pasture to the Occurrence of Epidemic Goitre in Two Districts of England, by the Committee on Iodine Deficiency and Thyroid Disease, with sections by Matthew Young, and M. G. Crabtree and E. M. Mason. H.M. Stationery Office, Special Report Series, No. 217.

†Special Report Series, No. 201. Medical Research Council.

Obituary

SIR JOHN ROBERTSON, C.M.G., O.B.E., M.D., LL.D., B.SC., EDIN.

It is with deep regret that we record the death, in his 75th year, of Sir John Robertson, C.M.G., O.B.E., a Past-President of the Society, at Birmingham on Wednesday, December 16th, 1936. Sir John Robertson had a distinguished career at the University of Edinburgh where he graduated M.D. (Gold Medal), and B.Sc. in Public Health. More recently he was awarded the Honorary Doctorate of Laws of the University.

During his undergraduate career and in his early days as a graduate he took a great interest in biological science, to which he gave much of his time. He also devoted himself to research in bacteriology and some of the earliest published works were on this subject. He entered on his public health career at the age of 28, when in 1890 he was appointed Medical Officer of Health and Public Analyst to the County Borough of St. Helens, Lancashire. Seven years later he became Medical Officer of Health of the City of Sheffield and Professor of Public Health and Lecturer on Bacteriology at the University College, Sheffield. In 1903, he was appointed Medical Officer of Health for the City of Birmingham, which appointment he held until he retired at the age of 65 in 1927.

During the whole of this period of 37 years, Sir John Robertson expanded the original conceptions of public health and gave to the world new ideas for the improvement of the health of the people. In St. Helens, he introduced an infants' milk depôt, which was the first established in this country and which has ultimately led to the vast work for the reduction of infant mortality which is being carried on to-day. Even in the establishment of this milk depôt Sir John Robertson had before him the relationship of milk to tuberculosis in which he took an interest through his whole life. His early work in this field and his strenuous endeavours to eliminate tuberculosis from milch cows were preludes to the various enactments dealing with tuberculosis in cattle and the designation of milks which are familiar to the medical officer of health of the present day. Apart from milk, Sir John Robertson was particularly active in the campaign against tuberculosis, and in Birmingham the first municipal sanatorium was established in 1909. This again was a pioneer movement and heralded the work for tuberculosis which began on a much larger scale in 1911 under the National Health Insurance Act of that year. Housing in its relation to health was another subject in which Sir John Robertson took the lead.

His methods of dealing with the housing problem in Birmingham were watched with the greatest interest by the whole country. As the outcome of this pioneer work in Birmingham the Housing and Town Planning Act of 1909 was passed, followed at intervals by the various Housing Acts under which public health departments now work. It is true to say that no man of his time has exerted greater influence in the development of public health than Sir John Robertson.

Sir John was a member of the Consultative Council of the Ministry of Health established under the 1919 Act and was also of great service to the Government during the War when he acted as Sanitary Adviser. He was an Honorary Lieut.-Colonel of the R.A.M.C. Sir John was awarded the C.M.G. in 1918, the O.B.E. in 1919 and was created a Knight in 1925.

Sir John Robertson was held in the highest esteem by his colleagues in the public health service and was elected President of the Society of Medical Officers of Health in 1916. The public health service will miss his impressive figure and sound advice at their meetings; his remarks were always stimulating and helpful. It is correct, too, to say that the junior members in the public health service who came under his influence were encouraged and assisted by him along many fields of work and research. Those who have been his immediate colleagues in the departments he has controlled as well as those others who have been his more indirect colleagues in the wider field of British public health are deeply grateful to him for all that he has done for them personally and for public health generally and deeply deplore his loss.

Sir John leaves a widow and two daughters. The loss to his family can only be appreciated by those who knew his home life. His home was a real home where everyone who entered took part in a happy family life. His family may be assured that the whole public health service mourn with them the passing of Sir John Robertson, and that the service and the nation will always remember him as a good and kindly man and a great man in his day and generation. G. F. B.

ALFRED GREENWOOD, M.D., D.P.H.

We regret to record the death, on December 4th, of Dr. Alfred Greenwood, lately Medical Officer of Health for the County of Kent. He was born in 1873, and qualified from Owen's College, Manchester, in 1895, taking his D.P.H. in 1897 and M.D. in 1900. After entering public health, his first appointments were as M.O.H. of Blackburn and of Crewe, and in 1913 he was appointed County M.O.H. of Kent where he served until his retirement through ill-health in 1936. Amongst

the many schemes which he organised in Kent were those for the voluntary medical services in the hopfields, and for the sanitation of the hoppers' encampments; and that for annual post-certificate courses for midwives. He was keenly interested in the cancer campaign.

Dr. Greenwood was for many years an active member of the Society of Medical Officers of Health, and had been president of both Branches, the North-Western and the Home Counties, in whose areas his work lay. Many friends in the public health service will mourn his passing.

JAMES TYSON KITCHIN, M.D., C.M., D.P.H., EDIN.

The death occurred on November 25th of Dr. J. T. Kitchin, for some 33 years Medical Superintendent of the Bradford City Isolation Hospital. Dr. Kitchin was born in 1866 and graduated from Edinburgh University in 1887, having also had part of his education at Guy's Hospital.

Dr. Kitchin was for some years a Fellow of the Society of Medical Officers of Health and carried out work of a high quality at the Bradford Isolation Hospital, both as an administrator and as an authority on the infectious diseases. He retired in 1931.

RECENT APPOINTMENTS IN THE PUBLIC HEALTH SERVICE

The following are some recent appointments to the public health departments of various local authorities.

The Editor will be grateful if members of the Society will notify him at once of any new appointments, giving details such as salary, date of taking up appointment, etc.

Barrow-in-Furness C.B.; Deputy M.O.H. & T.O., Dr. F. J. H. Crawford.

Bethnal Green Met. B.; A.M.O., M. & C.W., Dr. Agnes M. Purce.

Birkenhead C.B.; A.M.O.sH., Dr. A. Agnes Muir and Dr. Patricia I. Unsworth.

Boston Borough and R.D.; M.O.H., Dr. Dawson C. Robertson (M.O.H., Boston U.D.C.). Commencing salary, £900 p.a.

Cardiff R.D.; M.O.H., Dr. Graham McKim Thomas (A.M.O.H. and S.M.O., Swansea C.B.).

Croydon C.B.; A.M.O.H., Dr. Donald D. Payne (A.M.O.H., Tunbridge Wells).

Darlington C.B.; Deputy M.O.H., Dr. W. E. Orchard (A.M.O.H., Stockport). Salary £750 p.a.

Grimsby C.B.; V.D.O. and Pathologist, Dr. Douglas J. Campbell (V.D.O. and Pathologist, Southampton).

Lancashire C.C.; A.C.M.O.H., Dr. Austin B. Kettle. Nottingham C.B.; Chief T.O., Dr. J. V. Walker (A.T.O., Salford). Commencing salary, £750 p.a.

Stepney Met. B.; M.O.H., Dr. F. R. O'Shiel (previously Dep. M.O.H. and T.O.). Salary £1,200 rising by £50 p.a. to £1,400.

Surrey C.C.; Deputy C.M.O.H., Dr. W. G. Patterson (M.O.H., Barnsley). Salary £1,250 rising by £50 p.a. to £1,400.

Wakefield C.B.; A.M.O.H., Dr. A. C. Stevenson.

The Doctor as Administrator*

By A. MASSEY, M.D., D.P.H., D.P.A.

Medical Officer of Health, City of Coventry.

Most of you will have read the Linacre Lecture entitled "Truants"† delivered during the current year by the late Lord Moynihan, whose recent death we lament so deeply. A study of the oration in question cannot fail to make a profound impression as, indeed, did every contribution from the same distinguished source. The lecture contains a comprehensive account of the many medical men who have played truant from the ordinary channels of medicine and attained to eminence in other spheres. In a similar tenor, Professor T. K. Monro, of Glasgow, in 1933, added notably to the literature by his book entitled "The Physician as Man of Letters, Science and Action."‡ It is, indeed, interesting to note the number of doctors who have won distinction in such diverse fields as literature, law, discovery, commerce and administration—to mention but a few. It is interesting but not, perhaps, surprising.

It is generally agreed that the medical curriculum provides a liberal education. Certainly it affords the mind an active training. Biology provides an early example. In this connection, Mr. Walter Elliot, Minister of Agriculture—himself a medical "truant"—speaking not long ago at the London Hospital Medical School, expressed the view that "practical biology is in itself an educational training whose value cannot be over-estimated." Then consider the study of anatomy. There can surely be no other subject which better imposes mental discipline or better confers the habit of retention and regimentation of facts. The study of anatomy would almost appear in fact to invoke a similar method to that which forms the basis of a certain more elementary but better advertised proprietary system of mind-training, although you will doubtless think that it has not commanded quite the phenomenal advances in remuneration which are said to result from adoption of the said system! In the clinical part of the medical curriculum, the student is taught constantly to exercise judgment and to practise observation. As a simple example of this, I well remember while engaged on medical out-patients how a certain well-known medical teacher expected his pupils to deduce from available

appearances the vocations of the adult male patients appearing before them.

The doctor has had opportunity such as is afforded to none other for communion with human nature—with its crudities and subtleties—with its frailty and fortitude. As Lord Macmillan admirably put it in his 1934 Maudsley Lecture, the relation between patient and doctor is one which makes a call upon the emotions as well as upon the intellect. In the realm of affairs a knowledge of human psychology is of fundamental value. The equipment of the medical man in this connection may well be expected to exceed the average.

My thesis now stands revealed. It is that the medical qualification implies a wide, general education as well as a specialised one—that the doctor by reason of his training may well be equipped to work successfully in other than clinical spheres. It is with the doctor in the field of administration that I wish particularly to deal.

The medical man engaged in public health administration is partially a truant in that he has deserted the more usual field of clinical medicine for that of administrative medicine. In some quarters it appears to be held that this is by way of a "come down." Such a view, however, is quite erroneous, for it is certain that good administrators are much more difficult to find than good clinicians. The view may arise from the fact that the financial rewards in certain clinical branches of medicine are markedly in excess of those on the administrative side. But the glittering prizes, of which the first Earl of Birkenhead used to speak, are not measured in terms of money alone. If they are assessed in terms of a wide community service, then administrative medicine claims a not insignificant share.

It is needless to say that every doctor is not actually or potentially a successful administrator. Administration entails, for example, the commitment to paper of frequent reports and the routine presentation of facts and figures in the way of completed forms—things which are notoriously anathema to many doctors. But if a doctor has a bent for administration at all—and he who seeks appointment as M.O.H. presumably has this inclination—then it is likely that he will be competent in that sphere owing to the length and nature of his professional education.

This matter has assumed particular relevance in view of the advocacy in some quarters of lay chief administrators in public health departments

*Presidential Address to the Midland Branch, October 1st, 1936.

†"Truants." (Linacre Lecture, 1936.) Lord Moynihan. Cambridge University Press (1936).

‡"The Physician as Man of Letters, Science and Action." Prof. T. K. Monro. Glasgow: Jackson, Wylie & Co. (1933).

and in the general hospitals attached to the said departments. Neither is it unconnected with certain important views contained in the Report of the Departmental Committee on the Qualifications, Recruitment, Training and Promotion of Local Government Officers issued in early 1934 by the Ministry of Health.

Administration in the Central Office of the Public Health Department

Should the central administration of the public health department be vested in an officer with medical qualifications? The answer can only be in the affirmative.

The broad matters of policy which are presented to the public health committee for decision have not unusually a medical basis and only a doctor can thus advise adequately and with authority on them. Each of the major sections of the department—hospitals, infant welfare, tuberculosis, venereal diseases and the like—is necessarily in medical charge and when developmental proposals are put forward from the various sections, a medical administrator alone—bringing to bear both a technical knowledge and a departmental as against a sectional perspective—can properly weigh them against cost and safely advise the committee to accept, modify or reject. A lay administrator at the head would be quite unable to withstand medical opinion emanating from the sections on proposals having a medical basis and consequently he would indeed be a costly item to the department. A lay departmental head, for example, could not sort out the reasonable from the unreasonable in connection with requisitions from the sections for drugs, appliances, instruments and the like. On the other hand, if he applied blind economy without medical knowledge, he might well deny effective treatment to patients and thereby subject them to unnecessary hazards.

There is much talk of the "business man" as a sort of heaven-sent custodian of public affairs. But the inexorable methods of commerce are ill-fitted for routine application to such highly specialised affairs and to such delicate human contacts as characterise the administration of a public health department. In any case, how is the business manager to be obtained? The financial rewards of social administration are unlikely to attract the successful business man and the unsuccessful one is not calculated to do better in a new sphere than he did in the old. In the social services the business man has a most useful place in committee work but not as departmental head.

Then, again, there has to be considered the "trained administrator" as meaning the possessor of a university degree in arts, law or economics who has acquired administrative experience in

public departments. No one can fail to appreciate the administrative ability of such an officer, but his claims in this connection cannot surpass those of the M.O.H. who is also a university graduate and whose time at the university of necessity has been longer than that of the possessor of a degree in any of the other faculties. For the administrative control of a public health department, the medical administrator must clearly take priority, for he alone can claim the triad of necessary qualifications, namely, university training, administrative experience and medical knowledge.

The advocate of the lay administrator system might still (a) urge the view that departmental medical officers would be available to advise a lay head and (b) indicate the success of this system in certain Departments of State. In this connection, however, it is emphasised that a basic point of divergence between a Department of State and a Local Government Department is to be found in the fact that whereas the former is largely advisory and supervisory the latter is in the main executive in function. Thus in the local service prompt executive action must always obtain in order to meet the varying turns of local circumstance. In the case of a public health department, medical emergencies constantly present themselves for decision and immediate action, and none but a medical administrator could confidently meet the position. It would be patently wrong—and on occasion inimical to the community—if delay were to ensue on account of awaiting medical reports to the lay administrator who, if head of the department, could alone take the decision.

So far I have treated only the question of the lay departmental head. There now remains for consideration the matter of the subordinate lay administrator. There is nothing new in this, for in every major public health department there has long been an officer—whether he be called secretary, lay administrator or chief clerk—who has been immediately responsible for office method and secretarial work and who has assisted materially in the scrutiny of departmental expenditure. Incidentally such officers render a very great service to the department and warrant a better scale of salaries than they generally enjoy. To this system of subordinate lay administration no objection can be raised. But, as an editorial in *The Lancet* of February 3rd, 1934, aptly puts it, "it would be a retrograde step if these officers acquired such a status that lay committees would look to them for guidance as to policy in matters affecting the preservation and promotion of the public health."

The wider spheres of local public health administration, that is to say, the evolution of medical policy and the formulation of advice to

committees, must reside with the medical administrator as head of the department. In this connection an extract from a leading article in *The Lancet* of August 10th, 1935, well summarises the matter thus: "... If administration means more than mere business management, handling correspondence, record keeping, filing, supervision of lay staffs and a close scrutiny of expenditure, if it means the application of scientific knowledge to the betterment of the lives of the people, the guidance of technically qualified assistants, the conveyance of a department's collective experience to those who determine policy, and the application of such policy to the day-to-day work of the department, a professionally qualified head is surely best fitted for the purpose."

Administration in the Municipal Hospital

A marked weakness in the institutional system under the Poor Law prior to the operation of the Local Government Act, 1929, was the fact that the master of the institution (to which the hospital was usually attached) was the administrative head, although necessarily his salary and external status were less than those of the medical superintendent of the hospital. This arrangement not unnaturally formed the basis of much friction which in turn conduced to inefficiency. The Local Government Act provided a salutary counter to this state of affairs, for in the appropriated hospital the master of the poor law institution has no status. In most places, the master of the institution has been appointed also steward of the appropriated hospital. In the last-mentioned office, he is, of course, subordinate to the medical superintendent. There is a movement afoot on the part of hospital stewards to regain some of their lost status, and although there is no likelihood of the movement succeeding, it is well to impress the necessity for medical supremacy in municipal hospital administration.

The idea of internal lay administration for municipal hospitals has its advocates, who doubtless visualise for municipal hospitals a system similar to that obtaining in most voluntary hospitals where a lay secretary or manager is in administrative charge. It is unnecessary to point out, however, that the two types of hospital are not at all comparable in this connection. Whereas the municipal hospital has an experienced medical superintendent and other medical staff in permanent residence, the voluntary hospital usually has in residence only temporary medical staff who are there purely to gain post-graduate experience. It is thus clear that, while in the municipal hospital the duties of administration devolve most naturally upon the medical superintendent, in the case of the voluntary hospital no unified and permanent medical control of internal administration is

usually possible. The administrative trend for all hospitals is likely in future to be towards the system which already operates in the publicly-owned hospitals, and, in fact, one or two important voluntary hospitals even now employ the said system.

The appointment of lay administrative heads in municipal hospitals would entail higher salaries for them than for permanent medical staff. This would mean either the frank reverse of economy or the lowering of medical salaries to compensate. The latter would assuredly bring in its train the quitting of the municipal hospital service by all well-qualified medical men and the absence of suitable candidates for the vacancies arising. Such a policy, in fact, would quickly nullify all that has been done under the provisions of the Local Government Act, 1929, in the matter of advancing the municipal hospital to the status of a first-class general hospital.

Just as in the central public health department, there is a place for the subordinate lay administrator, there is a rightful place in the municipal hospital for the steward, but he must be subordinate to the medical superintendent, who alone can decide the major points of internal administration, based as they usually are on medical considerations.

Relevant Points from the Report of the Departmental Committee on Qualifications, Recruitment, Training and Promotion of Local Government Officers

The Departmental Committee in their 1934 Report rightly emphasised administrative ability as being the first essential in the equipment of principal officers in the Local Government Service. They held the view, for example, that in the case of town clerks, proven administrative ability should transcend in importance the legal qualification, and that for town clerks of large local authorities a legal qualification should not be a condition of appointment.

These views are indeed arresting. They mean that any of the principal officers of a local authority, given proven administrative ability and presumably a liberal education, should be eligible for a town clerkship. In this connection, the medical man of administrative ability holding office as M.O.H. to a major authority—and having as he has, a liberal education and a long university training to his credit—might well be a not unsuitable candidate.

In regard to principal officers other than town clerks, the Departmental Committee again give the view that the technical qualification is of secondary importance in large departments where assistant technical staff is employed, and they actually instance the office of M.O.H. in this con-

nection. The Committee went on, however, to state the difficulty of dispensing with technical qualifications in the case of such officers as the M.O.H., the chief engineer, treasurer, etc., and were forced to the following conclusion:—

"On the whole, we are not prepared to say at present that any radical change in the existing system of appointing technically qualified officers to the principal positions (apart from what we said in the preceding section with regard to clerks) is desirable or practicable."

It is notable that the office of M.O.H. stands alone in that technical qualifications for the post are required by law.

In the Hadow Committee's conclusion quoted above, the words "at present" may or may not be significant. In any case, it may well behove those who aspire to be the M.Os.H. of the future to acquire some demonstrable qualification in administration. In this connection, I may say from experience that to take a Diploma in Public Administration is at once instructive and stimulating.

There is much that savours of inconsistency in the Hadow Committee's report. On the one hand they suggest the entry of more university graduates to the Local Government Service in order to create a stronger administrative personnel, and on the other, in connection with public health departments, strangely enough they toy with the idea of superseding the medical administrator who is himself a university graduate of long and appropriate training.

But the relevant conclusions of the Hadow Committee which I quoted above, although apparently drawn with some reluctance, are undoubtedly sound. Surely the solution is to obtain, as principal officers in the Local Government Service, men who possess administrative ability plus technical qualifications. I have endeavoured to show that, at any rate, in so far as medical officers of health are concerned, there can be no essential incompatibility between the two.

known to the crews of vessels arriving at the Ports of the local facilities available for the treatment of V.D.

Circular 1576.—Public Health Act, 1936. Addressed to Town Councils, Urban District Councils, Rural District Councils, Joint Boards, Joint Committees, Port Sanitary Authorities and County Councils inviting attention to the more important changes in the law brought about by the new Act which comes into operation on October 1st, 1937, e.g., liability for sewers, building bye-laws, temporary buildings and moveable dwellings.

Circular 1580. Price 1d. net. By post, 1½d. (encloses Memo 139/Foods) Price 3d. net. By post, 3½d.—*Milk Special Designations Order, 1936.* Forwards to County Councils and Sanitary Authorities a copy of a revised edition of Memo. 139/Foods which prescribed the method of carrying out bacteriological tests in samples of graded milk taken on and after January 1st, 1937.

Report. Price 5s. net. By post, 5s. 4½d.—*Seventeenth Annual Report of the Ministry of Health, 1935-36.*

MINISTRY OF HEALTH PUBLICATIONS.

The subjoined notes regarding recent Ministry of Health circulars, memoranda and reports are made available by courtesy of the Ministry. Readers are reminded that priced documents should be obtained not from the Ministry but from H.M. Stationery Office, Adastral House, Kingsway, W.C.2, who will open deposit accounts and receive subscriptions for the regular supply of publications of a specialised nature. Documents which are not priced in the following list are not obtainable from the Stationery Office, and if any reader wishes for a copy of one of these, it is open to him to apply to the Ministry direct.

Circular 1568 (encloses Form M.C.W. 99).—*Maternity and Child Welfare.* Forwards to Maternity and Child Welfare Authorities a questionnaire relating to the supply of milk during 1935-36 to expectant and nursing mothers and young children.

Circular 1569. Price 6d. net. By post, 6½d. *Midwives Act, 1936.* Draws the attention of Local Supervising Authorities under the Midwives Acts to the provisions of the Midwives Act, 1936, and explains the general scope of financial arrangements of the Act.

Circular 1572 (encloses Forms 298/127, 298/128 and 298/129).—*Out Relief and Cost.* Requests Clerks of County Councils and County Borough Councils to forward in due course monthly returns, for the quarter ending in December, 1936, of the average number of persons in receipt of out-relief and the cost of such relief.

Circular 1574.—Nursing Homes Registration Act, 1927. Draws the attention of Local Supervising Authorities under the Nursing Homes Registration Act, 1927, to their responsibilities under that Act and suggests steps for bringing to light the existence of unregistered Homes.

Statement. Price 6d. net. By post, 6½d. *Poor Relief.* Statement showing the number of persons in receipt of Poor Relief in England and Wales in the quarter ending June, 1936, with some particulars as to the number of "Unemployed" persons in receipt of such relief.

Form H. 211.—Housing. Requests Clerks to Local Authorities outside the Metropolitan Police District to forward a Return showing the number of houses (not being houses provided under the Housing Acts of 1925, 1930 and 1935) entered on the rate book during the half-year ended September 30th, 1936.

Form H. 211a. Housing. As in Form H. 211, but within the Metropolitan Police District.

Form H. 256.—Housing. Requests Clerks to Local Authorities to furnish a return of the progress made up to September 30th, 1936, under the Housing Act, 1930, with respect to Unhealthy Areas and Insanitary Houses.

Form H. 256a.—Housing. Requests Clerks to Local Authorities to furnish a return of the progress made up to September 30th, 1936, in their programmes under the Housing Act, 1930.

S.R. & O. of 1936. No. 1017. Price 1d. net. By post, 1½d.—*Housing, England.* Abatement of Overcrowding.

I.C.L. 917 & 923. Send to Insurance Committees further lists of amendments to the British Medical Association's List of Ophthalmic Consultants.

Circular 1561.—Reports of Medical Officers. Circular as to the contents and arrangement of the Annual Reports of Medical Officers of Health for 1936.

Circular 1577.—Venereal Diseases. Forwards to the Clerks of Port and Riparian Sanitary Authorities a form of return to be completed by the Medical Officers of Health relating to the arrangements made for the making

(Concluded at foot of preceding column.)

Modern Methods of Diphtheria Prevention*

By W. A. MURPHY, M.B., B.CH., B.A.O., D.P.H.

Medical Officer of Health, Ogmere and Garw, U.D.

It is, I suppose, because of the failure of the isolation hospital to control to any extent the prevalence of infectious diseases that search has been made for some alternative methods.

This has been exemplified more particularly in the case of diphtheria, since the discovery of the Schick test in 1921 has placed at our disposal a means to measure the success or failure of our efforts to produce at any rate individual immunity to this disease. How far these efforts have been successful in protecting the community has, in my opinion, yet to be decided.

I commenced to practise artificial immunisation against diphtheria in January, 1928, and I have continued this work up to the present time, so that a short account of my experience may be of interest.

At the outset I did not think that any useful purpose would be served by excessive propaganda: my district is a small one, and the individual members of the public health staff are known to the majority of the residents, so that I depended more or less on their personal efforts to make this new protective method known to the parents: at the same time I made every effort to interest the teaching profession in the process.

It is thanks to the ready help which I have received from the sanitary inspectors, health visitors, and teachers that I have attained some measure of success.

4,282 cases have been dealt with: of these, 1,572 were pre-Schick tested: 776 were Schick-negative and 796 were Schick-positive: 763 of the positive reactors were immunised: the remaining 33 failed to complete the immunising course. In addition to these cases, 2,710 children, the majority of whom were under 7 years of age, were immunised without a primary Schick test.

Types of Antigen Used

At first I made use of toxoid-antitoxin mixture in three injections, each of 1 c.c., at intervals of one week: with this antigen I obtained reasonably good results—83 per cent. were post-Schick negative after one course of injections, and a total of 88 per cent. were negative after a further injection had been given to the positive reactors.

It will be noted that there is no question of 90 per cent. or 95 per cent. found to be immune with this antigen.

*Presidential Address to the Welsh Branch, October 9th, 1936.

After some years experience with T.A.M., I considered it advisable to endeavour to make a trial of some other type of antigen for two reasons. In the first place, I had had experience of serum sickness occurring in immunised patients after the administration of antitoxin and I was of opinion that this was more severe than in the case of unimmunised patients: it is, of course, now well known that this tendency can be controlled almost entirely by the injection of 5 c.c. of a 10 per cent. solution of magnesium or sodium thiosulphate simultaneously with the serum and that any late reactions quickly clear up with oral administration of sodium thiosulphate crystals in a dose of 5 to 15 grains according to the age of the patient. I now use this solution as a routine measure in the course of serum administration. In the second place, I found that the repeated injections tended to frighten small children, and as I was particularly anxious to extend immunisation to children under five, I decided to make trial of an antigen that would produce immunity in one or two injections.

At first, I tried formol-toxoid in two injections of 1 c.c., but the reactions which resulted were somewhat intense and the results on post-Schick testing gave no grounds for belief that this method could be regarded as reliable.

On consideration, therefore, of the experience gained in the United States, I decided to give a trial to alum-precipitated diphtheria toxoid.

I have immunised 704 children with this antigen, of whom 518 were under 6 years of age.

The preparation was first issued as a single dose of 1 c.c. and 133 children were immunised with this dosage; later it was issued for use in a single dose of 0.5 c.c., and the remaining 571 children were immunised with this.

There is, of course, much more tendency to local reaction with this antigen as compared with T.A.M.; in practically every instance a small induration appears at the site of injection, which persists for about a fortnight and gradually disappears; in some instances the reaction is more intense, as is evidenced by a red areola surrounding the induration: in four cases in my series abscess formation occurred at the site of injection.

There was no constitutional disturbance in any of the children. On the whole, the local reaction is negligible and there is much less tendency to severe reaction with the concentrated antigen in a dose of 0.5 c.c.

There remained, then, the question of whether the immunity conferred by the single injection

was equal to that conferred by the three injections of T.A.M. Post-Schick tests were carried out in 325 children and of these 293 or 90 per cent. were found to be Schick-negative.

These results seem to me sufficiently satisfactory to justify the continued use of this antigen. I am aware that my results are at variance with those of other workers, but these are my findings.

I am not in a position to offer any evidence as to the persistence of the immunity conferred by this method.

Whatever method of immunisation is adopted, it is inevitable that some cases of diphtheria will occur amongst those supposedly immune.

I have had 23 cases in my series of 4,282, and it may be of interest briefly to set out the details of these: two cases occurred in pre-Schick negative children; these were cases of simple diphtheritic tonsillitis and exhibited no toxæmic symptoms whatever; eight cases occurred in post-Schick negative reactors; one of these was found Schick-positive at the time of infection, the immunity having waned some 7 years after immunisation; six of the other cases had fairly severe local conditions but showed no evidence of toxæmia in the course of the disease; one child had a severe attack of diphtheria with toxæmic complications (her unimmunised brother died of diphtheria); five cases occurred within a few months of immunisation; one case occurred within a week of receiving an injection of 0.5 c.c. alum-toxoid, and presumably was infected in the negative phase following the injection; one case occurred twelve months after receiving an injection of 0.5 c.c. alum-toxoid but before a post-Schick test; the local condition here was severe but there were no toxæmic complications; six cases occurred in children who were Schick-positive after immunisation and were, therefore, not protected.

It is essential to emphasise the necessity for post-Schick testing whatever antigen may be used for immunisation; without routine post-Schick testing it is impossible to know for certain whether immunity has or has not developed and the occurrence of cases of diphtheria in supposedly immune persons may tend to throw the practice into disrepute.

In conclusion, I plead guilty to confining myself to details of modern methods of diphtheria prevention, but I have done this deliberately because I consider that in this case it is possible to check the results obtained, and on the success or failure of diphtheria immunisation to control this disease in the community will depend our line of attack on other infectious diseases in the future.

Dr. J. Greenwood Wilson (Cardiff), proposing a vote of thanks, mentioned that 98.7 per cent. of the cases treated with T.A.F. antigen in Cardiff had been proved

to be immune amongst those who had been post-Schick-tested and that a whooping cough vaccine was being used in a children's institution in the city with the object of preventing the spread of whooping cough.

Dr. T. D. Llewellyn (Port Talbot), supporting, stated that he had used alum-precipitated toxoid in a large number of cases and in his experience the reactions were hardly worth calling such.

Smallpox and Scarlet Fever Outbreaks

The Ministry of Health have recently issued the following announcements:—

Smallpox at Oldham.—Four cases of smallpox (variola major) occurred in early December at Oldham. The first case was that of an unvaccinated married woman who worked in the cardroom of a cotton mill in Chadderton.

The other three cases are those of the woman's husband, who was vaccinated in 1916; her son, aged 15, who had never been vaccinated; and an unvaccinated woman who had been in contact with the original case. All these patients have been removed to hospital.

The diagnosis of smallpox in the first patient was not established sufficiently early to ensure the successful vaccination of contacts, of whom there were at least 98 in the woman's place of work and 12 at her home. The medical practitioners and public vaccinators in the districts concerned have all been notified of this outbreak, and arrangements have been made to keep all the known contacts under daily supervision until the period of danger has passed.

The original case has not been traced to any human source of infection, and it appears not improbable that the infection was conveyed in the raw cotton which this patient handled. Cotton as a vehicle of infection of smallpox has frequently been suspected in the past, and in 1913 cases of this disease were reported in Oldham which were probably caused by infection from cotton.

Scarlet Fever at Doncaster.—An outbreak of scarlet fever is reported from Doncaster, 152 cases having occurred up to date (December 21st) in the county borough and in the neighbouring rural district. All these patients had consumed raw milk from the same source, and it is reported that a milker on the farm in question has been found to be suffering from illness which is probably of scarlatinal origin. The local authorities have arranged for all milk from this source to be pasteurised before delivery, and a Medical Officer of the Ministry has visited Doncaster to give any necessary advice or assistance. It is probable that the majority of the primary cases have now been accounted for.

Notices of Group Meetings.—The programmes for meetings of the Fever Hospital, Maternity and Child Welfare and Dental Officers Groups to be held this month appear on page 135.

The following members of the Society have satisfied the examiners in the recent examination for the degree of Mastery of Midwifery conferred by the Society of Apothecaries of London:—*Désirée Muriel Barbara Gross, M.D. (LEEDS), D.P.H. (LOND.)* (Assistant M.O.H., Ilford); and *Katherine Mary Hirst, M.B., B.S. (LOND.), D.P.H.* (Assistant M.O.H., Birmingham).

Domiciliary Midwifery with Reference to the Midwives Act, 1936*

By T. PEIRSON, M.B., CH.B., D.P.H.,
Medical Officer of Health, City of Plymouth.

I have chosen as the subject of my address, "Domiciliary Midwifery," because of the attention which is at present being given to this service by all local supervising authorities with a view to giving effect to the provisions of the Midwives Act, 1936. A great amount of consideration will be required before the new service envisaged in the Act can be put into operation and no doubt the various authorities will decide upon widely differing types of arrangements at the commencement. The new service will have to be developed gradually and after a period of trial many of our initial details will probably require alteration.

Domiciliary midwifery in this country is carried out by several agencies. There is the district work of maternity hospitals and of voluntary nursing associations, and domiciliary service is provided also by private independent midwives and by doctors with a maternity nurse.

During recent years several factors have contributed to the diminution of the private practice of midwives. Chief amongst these are the falling birth rate, the increasing demand of women for an institutional confinement and the extended scope of work by nursing associations. This increasing tendency of women to seek institutional confinement is largely because of the greater convenience and often less cost involved and it is also a result of the great publicity given in recent years to the subject of maternal mortality. Women feel, perhaps naturally, that there are better facilities for treatment in a maternity home or hospital should anything go wrong.

As a direct result of this, very many midwives have had to struggle to earn a livelihood. Some of them have been doing only a few cases per year and could not possibly keep themselves competent in the practice of their profession.

There has been much controversy as to whether the domiciliary midwife would have a place in the future maternity service, or whether maternity institutions and doctors working with maternity nurses should oust the domiciliary midwife. I think the reply is that granted a normal confinement and reasonably suitable home conditions and a properly trained midwife, the patient's own home is the safest place, and the passing of the new Midwives Act shows that this is in fact the view of the Minister. It remains to be seen whether the

* Presidential Address to the West of England Branch, December 4th, 1936.

new midwifery service provided for in the Midwives Act will receive sufficient confidence and support from the public to check the increasing demand for institutional confinement.

In many localities the private midwife has not attempted to work in co-operation with the Maternity and Child Welfare service of the local authority, or to induce her patient to make use of this service.

This is not unnatural whilst the midwife has known that the municipal maternity home or hospital has taken so many of her former patients and often at a very low charge. When the private independent midwife has been absorbed into the Public Health Service, as she will be as a result of the new Act, and she has become a unit of the Service, a new spirit of co-operation between the midwife and the Maternity and Child Welfare department will of necessity be acquired.

The midwife will need considerable training and experience before she can adapt herself to her increased responsibility in the new service. She will carry out the ante-natal supervision of her patient both in the patient's home and under the direction of the Medical Officer of the ante-natal clinic. She will readily induce her patient to take full advantage of the services provided at the ante-natal clinic and by undertaking the ante-natal visiting at present done by the health visitor, another fruitful source of friction between the midwife and the local authority should be obviated.

About three years ago an attempt was made to improve in one respect the domiciliary midwifery in Plymouth. As you are aware, under the Midwives Act, 1918, the midwife in charge of a case is required to call in a doctor for certain emergencies specified in the rules of the Central Midwives Board, the doctor's fee being paid by the local authority. It was noticed that the frequency with which any particular doctor was so called in by midwives bore no relation to the doctor's capabilities as an accoucheur.

In fact it was thought that some doctors who did not appear to be very reliable maternity attendants and who, for instance, were known to resort to the use of forceps more frequently and more readily than others, were receiving far more calls from midwives than other doctors who were regarded by those in a position to judge as more capable in dealing with these cases.

Although it is supposed to be the patient or her

husband who chooses the doctor to be called in, in actual practice the midwife can and does influence them in their choice. The suspicion was that the midwife tended to summon a practitioner whom she knew would be likely to put on forceps and finish off the case quickly for her.

In order to try and prevent this, with the backing of the medical practitioners, a scheme was put into operation whereby a weekly rota of doctors in the several districts of the City would be available for calls from midwives and the midwives were informed that unless the patient expressed a definite wish for a particular doctor, the doctor on duty for that district must be summoned.

The scheme ran for about nine months and then had to be abandoned because in too great a proportion of cases, according to the midwives' explanation, the patient or her husband insisted upon some particular doctor. I still think that the midwife continued to influence the patient's choice of doctor contrary to the rota scheme.

I am citing this instance to stress the point that up to the present time it has been extremely difficult to exercise any adequate control over the work of the independent midwives.

In the words of the Minister, the principal object of the Midwives Act, 1936, is to secure the organisation throughout the country of a domiciliary service of salaried midwives under the control of the local supervising authorities as an important step in the improvement of the maternity services and in the campaign for reducing maternal mortality. At the same time, the whole status of the midwifery profession will be raised by providing adequate salaries and secure prospects for those midwives who enter the new service, and by compensating those who retire within a specified period and so reducing the present over-crowding in the ranks of the profession.

The Act requires each local supervising authority under the Midwives Acts to secure the whole-time employment of a sufficient number of midwives for attendance on women in their own homes, not only as midwives, but also as maternity nurses during childbirth and from time to time thereafter during a period not less than the "lying-in-period," as defined in the rules for the time being made by the Central Midwives Board under Section 3 of the Midwives Act, 1902. Local supervising authorities may either themselves employ salaried midwives or secure their employment by voluntary organisations, *i.e.*, organisations which are substantially supported by voluntary subscriptions.

The first decision to be made is to determine the total number of whole-time midwives required to cover the domiciliary midwifery in the district. The Ministry has suggested that a midwife should

be capable of dealing with 100 cases per annum although the consensus of opinion seems to be that with the increase in the amount of attendance which the midwife will be required to give her patient, she will be able to take not more than 80 cases.

When deciding the number of midwives to be employed in the new service, it will no doubt be assumed that the service will provide for the whole of the domiciliary cases with the exception of the few patients who will still engage private midwives probably as maternity nurses residing in the patient's home. It has been suggested that the number of these cases will not exceed 5 per cent. of the domiciliary cases.

Herein lies a possible difficulty. If a few of the existing independent midwives who are doing well in private practice decide to remain outside the local authority's service, they may easily continue to keep a lucrative practice with a consequent lack of work for the local authority's midwives. This will be more likely to occur if the local authority makes such arrangements or employs such midwives as do not prove acceptable to the mothers.

For this reason, it is most important that the change-over from private to municipal midwifery should be effected with as little hitch as possible and that everything possible should be done to make it as easy for the mothers to book their midwives as it was before the change. At the beginning at any rate, it will probably be best to allow the midwives to book their cases themselves up to, of course, the limited number. Once the service has been accepted by the women folk, alterations and improvements can be made without danger to the scheme.

The midwife will be required to undertake the ante-natal supervision of her patients both at the patient's home and at the ante-natal clinic, or when she is attending as a maternity nurse, in association with the doctor booked for the confinement. Each midwife will, no doubt, be required to insist upon the patients booked by her being examined ante-natally either at an ante-natal clinic or by a private doctor. This will probably be made another opportunity for a request by private medical practitioners for payment to them by the local authority of fees for ante-natal examinations of non-insured women.

In the case of the counties, probably the most satisfactory plan will be to make arrangements through the voluntary nursing associations. In the county boroughs there is a much stronger case for the establishment of municipal midwifery services. In Plymouth there are already two voluntary associations carrying on domiciliary midwifery and at the present time, between them, they deal with approximately 40 per cent. of the

domiciliary cases. The question which has yet to be decided is whether the local authority is to ask these associations to engage additional midwives to cater for the remaining 60 per cent. or whether the local authority itself is to employ sufficient midwives to deal with the 60 per cent. and arrange for the voluntary associations to continue with their present service.

In the case of areas where both a municipal and a voluntary midwifery service are to operate, it is important that the number of midwives which the voluntary association is to employ should be regarded as both a maximum and a minimum figure. The salaries paid to the midwives and the fees charged for their services should be the same in both municipal and voluntary service.

The voluntary associations should also be required to agree not to book a greater number of cases than that which the Council considers the voluntary association's midwives, having regard to their number, are able to attend efficiently.

It will probably be wiser, in an urban area, to allow the municipal and voluntary midwives to serve jointly the whole district.

The Ministry points out that it is important that as many as possible of the independent midwives at present in practice should be absorbed into the new service and, when making the first appointments of salaried midwives, preference should be given to the most efficient of the independent midwives practising in the area. The only qualification required for these posts is the certificate of the Central Midwives Board. Nearly all the independent midwives in Plymouth possess only this certificate, only one or two being general trained as well. For future appointments after the initiation of the scheme the employment only of general trained midwives should be required. Some distinction of salary should be made between these two classes of midwife.

The services of a suitable supervising midwife experienced in actual domiciliary midwifery will be indispensable to the Medical Officer of Health. In addition to the usual duties of an inspector of midwives, she will arrange their work, their off-duty and reliefs. This post will be one of very considerable importance to the success of the midwifery service, for hers will be the main burden of educating the municipal midwives in their added responsibilities and their place in the Public Health Service. The midwives will no doubt work in groups so as to be able to relieve each other and to allow a certain amount of free choice of her midwife by the mother.

I have already suggested that County Councils will probably find that the most satisfactory scheme is by arrangement through the voluntary district nursing associations, where such associations are already providing services. To establish

a County Council midwives service alongside the district nursing association service in a rural area would manifestly be wasteful and cumbersome. However, there may be districts in a county which cannot be covered by a nursing association and it is conceivable that the County Council may be compelled itself to provide in these districts a whole-time service. The task of the County Medical Officer is going to be a very complex one.

In many respects, the problem facing the County Borough is a good deal simpler. Where there is no existing domiciliary midwifery provided by voluntary nursing associations the local supervising authority will establish a midwifery service to serve the whole of its district.

Where there is already a district nursing association serving in the County Borough the question to be answered is—To what extent is this association to take part in the scheme? If the association is at present serving by far the greater part of the needs of the area, and provided that its work is efficient and the association is well administered, many authorities may with advantage make arrangements for the needs of the whole of their areas to be met by the voluntary association.

In cases other than these, the local authority will establish a municipal midwifery scheme, probably making allowance for the continuance of any existing voluntary service with the number of midwives it at present employs.

One of the principal arguments which will be brought forward in support of the use of the existing voluntary associations will be that such use will be less costly to the authority than the establishment of a new scheme. This argument will be negated unless the association can satisfy the authority that its affairs are well administered by an efficient committee of management. Whether a committee composed of ladies and gentlemen with no responsibility to an electorate can be considered a satisfactory body to control a service which is of such an essential character to the public as domiciliary midwifery is a matter of considerable doubt to many people.

However, it is to be expected that where a voluntary association is to provide the service either wholly or partially, the local authority will require representation by it upon the committee of management.

No doubt all these difficulties will be overcome in varying ways throughout the country by the usual British method of compromise, both parties contributing something towards a settlement. With goodwill on both sides and the burning of much midnight oil on the part of the Medical Officer of Health, the act should attain its avowed objects of improving the standard of domiciliary midwifery and of raising the status of the midwifery profession.

Speech Defects in Young Children*

By E. J. BOOME, M.B., M.R.C.P., D.P.H.

Principal Assistant Medical Officer, London County Council.

Statistics

In 1913, referring to the London County Council Schools in North Hackney, where the social conditions are distinctly good for the most part, Dr. Lawson Dick stated that among 6,216 children he found 111 children suffering from definite defects of speech, a percentage of 1.8. Of these, sixty cases were stammerers—54 per cent. of the defective, *i.e.*, 0.9 per cent. of the total. In Battersea, after the War, while investigating the amount and degree of deafness, I found 2 per cent. of speech disorders, half of whom were stammerers, *i.e.*, 1 per cent. of the total.

One is frequently asked whether stammering is on the increase. I cannot help feeling that it is. Present-day stress and strain, and the speed at which we travel, all tend to act deleteriously on the nervous system. This is happening, not only in our country but all over the world. Some years ago I was informed by a leading Japanese public health authority, that stammering was formerly almost unknown in his country. A recent report returns 2 per cent. stammerers in the Japanese army.

Seth and Guthrie, in their book "Speech in Childhood," give 3 per cent. speech defects for Scotland.

The Association of Teachers of Speech and Drama engaged in remedial speech training, use the terms "organic," "functional" and "psychogenic" for the purposes of classification of speech defects in the following manner:—

Organic Disorders of Speech.—Those due to injury, malformation, disease and degeneration of the organs of speech.

Functional Disorders of Speech.—Those due to imperfect perception of speech or imperfect control of the process of utterance, in spite of normal organs of speech.

Psychogenic Disorders of Speech.—Those due to "nervous" disturbances.

Simple Classification of Speech Defects

I propose only to touch on the more common disorders. It is convenient to include under "lipping" several speech disorders which are essentially defects of enunciation:—

(1) *Negligent lipping.*—A number of consonants are affected by what is called a "lisp," *viz.*,

(a) the substitution of one of the sounds of "the" for the sibilants—s, z, sh, ge, ch, j; (b) the distinction between "th" and "j" (c) the sound of "r."

Lalling or "babbling" is a form of imperfect pronunciation or baby talk which consists of substituting the letter "l" for "r."

(2) *Organic Lipping.*—Cleft palate speech; malformed palate; velum defects; atrophy, paralysis or paresis of the velum (after diphtheria); tongue defects; lipping from jaw and tooth defects; post adenoid speech.

(3) *Cluttering.*—Hurried jumbled speech sounds, syllables and words jumbled together. Cluttering must not be confused with stammering although with wrong treatment the "clutterer" may easily become a stammerer. The clutterer speaks better the more he thinks about his speech, the stammerer speaks better the less he thinks about it. Cluttering is a symptom of nervous haste, stammering a nervous fear.

(4) *Neurotic lipping.*—A very serious condition needing most careful handling. A lateral lisp is caused entirely by nervousness, the tongue or even the jaw is twisted sideways.

Blurred slovenly speech.—This is usually accompanied by dull, lifeless tone and general slackness of speaking. This type of speech is often found in mentally deficient cases.

Functional Aphonia.—Complete loss of voice—it is sometimes a symptom of hysteria, or the result of a severe nervous shock—in which case a second shock may restore speech.

Dysphonia.—Partial loss of voice.

Aphasia.—Is a disorder of speech resulting from lesions of special speech centres in the cerebral cortex and of association fibres deep to those centres and also from lesions of the motor cortical centres and paths connecting them with the muscles of articulation. *Types of aphasia:* (1) motor aphasia—lesion of speech and writing centres; (2) sensory aphasia—lesion of auditory and visual centres; (3) anarthria, aphasia, etc.—lesion of the motor tract to the muscles concerned in articulation.

Echolalia.—The repetition in a meaningless way of words and phrases—occurs in nervous disorders and low grade mentally defectives.

Dyslalia.—An entire lack of co-ordination of the muscles governing speech. This type of speech can be so indistinct as to be almost unintelligible.

Idio-glossia.—The pronunciation is so faulty that

no one but the patient's own relatives can understand him. The child appears to have a language of his own.

Stammering.—Is a nervous disorder which affects speech, so, therefore, should not be considered as a pure speech defect.

Stammering versus Stuttering

Formerly authorities tried to differentiate between stuttering and stammering by saying that:—

(1) Stuttering was a physical and stammering a psychological defect.

(2) Stuttering was a rapid repetition of any one sound (c-c-c-at) and stammering an inability to produce voice.

(3) Stuttering was a halt on consonants and stammering a halt on vowels.

Since it may be said that no two patients exhibit a precisely similar stammer, each individual's particular form, on this basis, would require a label of its own.

It is not advisable to differentiate between the terms, and "stammering" is preferable as representing all forms of this disorder, being much older and used long before "stuttering." I believe it is in English literature for 500 years, whereas "stuttering" is Low German and has only been used for the past 100 years.

Prophylaxis

There are about 1 to 1½ million children of pre-school age. I feel that the medical profession as a whole has not given this important subject the recognition it deserves. We have been content to leave it to others to make or mar these children with speech defects, and often the latter. All these cases should be under medical supervision but the routine treatment is as you know carried out by speech therapists with special training.

The parents of a young child, especially when a first child is in question, are naturally immensely thrilled with his first utterances. But they seldom if ever realise the tremendous expenditure of nervous energy required to learn new sounds. While in the meaningless babble stage the sounds produced presented no difficulty, but so soon as intention comes in great concentration is required to ensure the correct co-ordination. You must have noticed the absorbed concentration with which a child will watch and listen to a new sound combination. You repeat the word several times and he moves lips and tongue in imitation at first and finally produces, as nearly as he can, what he has seen and heard. If parents realised the amount of concentrated work required, they would be less inclined to force the child, and would allow him to develop this new talent at his own pace. It is a great temptation to show off your child to friends and relations, to prove his

superiority to all other children by making him go through his linguistic paces, but it is a temptation that should be resisted. We should be very patient with the early attempts at speech. The critical adult who insists upon repetition of difficult sounds and "say it again, dear," may very easily make the child speech-conscious and be the means of fixing a faulty speech sound or of inducing hesitation that might grow into a stammer.

At home, the mother can do much more than is generally realised to prevent stammering at its very inception. Unfortunately, she is, more often than not, instrumental in fixing the trouble by making too much of the purely physiological stammer with which so many young children begin speech. When a baby is learning to walk he has many a fall before he acquires the co-ordination and control necessary for movement in the desired direction, and at the desired rate of progress. Learning to talk presents the same problem in a much more complicated form. The mechanism used in talking requires infinitely finer and more delicate adjustment than that used in walking.

At the initial stage of speech development, the mental process is in advance of the powers of muscular control, and the resulting lack of muscular co-ordination often produces a temporary stammer. If the child is worried and nervous during this period of adjustment, he will become conscious of his speech and of the difficulties surrounding its acquisition, and at once the second stage is reached—that of fear or dread of speech—unconscious probably, but none the less potent. Too much attention to the initial difficulties and constant correction or ridicule are usually the cause of this second stage, for which the parents are responsible, either by applying the "remedy" themselves or by allowing others to do so.

Stern's conclusions are that the child approaches speech along three paths:—

- (1) The active expression of childish babble;
- (2) Unintelligent imitations;
- (3) Understanding what is said to it.

When these three actions, originally quite independent of each other, work together, real speech has begun. Sir Richard Paget says that speech is, in fact, the replacement of the muscular movements of expressive gestures by the specialised action of the laryngeal muscles.

Man has an inborn instinct for some form of articulate expression, as is seen in Stern's first stage of childish babble, but he does not speak by instinct. Articulate speech has to be learnt. The process of learning this is mostly by imitation. It is from this moment that speech disorders may arise. The least anxiety as to correct speech at this stage may produce a disturbance of the speech mechanism.

*Paper read to the Maternity and Child Welfare Group, October 22nd, 1936.

Treatment

For pure speech defects we have a list of exercises for the child to do at home. Instructions are given to the parent after the child has been treated by the therapist.

I will briefly enunciate the principles involved without giving you too much detail:—

All movements connected with speech must be
(1) easy—no strain; (2) smooth—no jerks;
(3) purposeful—under control of the will.

In order to obtain control, complete muscular relaxation is necessary.

The aim of all exercises is:—

- | | |
|------------------|------------|
| 1. Flexibility | } Control. |
| 2. Rhythm | |
| 3. Co-ordination | |

For complete muscular relaxation the child is told to:—

1. Lie down on a bed or couch and relax as you have learnt to do at the centre.
2. Close the eyes and try to relax all muscles of the body.
3. Remain in this position for as long as a feeling of ease persists.
4. Do this in bed at night, and at least once during the day.

Flexibility.—Exercise for tongue, lips and jaw.

Breathing exercises.

Press exercises.

Blowing exercises.

Special exercises for soft palate.

- (1) Open mouth and breathe in through nose and out through mouth.
- (2) Sing "ung" as you breathe in and "ah" when breathing out.
- (3) Yawn very widely (useful in cases of excessive nasality, cleft palate or in post-adenoid cases).

Difficult sentences such as "Six thick thistle sticks."
"Round the rugged rock the ragged rascal ran racing royal rabbits."

Rhythm.—(1) Whenever possible, mark rhythm of exercises by clapping left hand on right. (2) Counting slapping and stepping. (3) Jingles, nursery rhymes, marking rhythm by stepping and clapping.

Brief Summary

Delayed speech.—For young child; good pattern; encouragement; co-operation of parent; older; very careful adapted speech training in infants; speaking games; singing games; regular practice of speech sounds as part of ordinary class routine. (Importance of teachers' own speech.)

Lisp.—Speech training based on phonetics and common sense.

Organic.—Should be left to speech therapist.

Cluttering.—Exercises to help rhythm and co-ordination; encourage to speak more slowly; encourage to reduce excitement; do not draw undue attention for fear of developing into stammer.

Stammer.—Psychological and environmental investigation with muscular relaxation.

Don'ts—

Don't draw attention to it particularly in "one-to-fives."

Don't give deep breathing (faulty breathing cause not effect).

Don't use the expression "say it again."

Don't use trick treatment.

Voice Production.—There are two common faults I wish to call to your notice, *e.g.*, throaty and husky tone, which are very common in children. Seth and Guthrie have an excellent chapter on this subject. You must meet these conditions quite frequently. We do in our centres. In many instances where there is a great deal of tension, as the patient becomes relaxed, these difficulties right themselves. Seth and Guthrie say:

"One should adapt school singing to the functional capacity of the voices of children and that vocal range of the songs employed should be within the compass of the average child. Neglect of this important rule is one of the chief causes of hoarseness in children."

Many promising voices are spoilt in this way. However, I do not wish to be too morbid about these conditions because the speech of the elementary schools in London is definitely improving. I see cases in our centres from all over the county and the standard is very much higher than ten years ago.

Normal and Mentally Defective Children

Initiative is one of the most strongly marked characteristics of the normal child; he must do things for himself, his early efforts are not always crowned with success but he learns to discriminate by experience. He learns that coal is not a staple form of diet, but he also learns that legs are meant for walking and that the constant falls he endures in trying to walk are because he is not sufficiently experienced in the exercise. He knows that his kind are meant to walk on two legs and he practises until he is proficient and the action automatic. In the same way he practises all kinds of sounds with mouth and tongue and provides himself with a strong foundation upon which to build his speech. He uses his lips and tongue and finds that by placing them in various positions they produce pleasant sounds, he practises and as he does so he gets the sensation of power over these organs and they obey him. He acquires the habit of correctly placing his sounds and his speech becomes his servant.

The mentally defective child is without this desire to be master of himself. Slowly his body acquires a certain proficiency of action, but the central force being imperfect there can be no real co-ordination. There is also a curious insensitivity which appears in strange ways; often these children seem to feel little pain when they are

hurt, they can eat things which would make a normal child ill for days even perhaps kill him, yet they themselves may die from illnesses which the normal child hardly feels. The mentally deficient child has no fighting power, and this lack of responsibility underlies everything he does. If helped and looked after, he can often produce good work, but he cannot be left to initiate, he cannot plan his actions and carry them out.

As a baby, the higher grade mental deficient probably made much the same sounds as his more fortunate brothers, also his inherited instincts probably led him along the right lines, but that lack of faith in himself gave him no impetus to practise in the way the normal child does. The child will master simple words easily and be able to carry on a conversation, but he will avoid any difficult combination of sounds whenever possible. In many cases these children cannot read and their knowledge of words is from ear alone; the sound has to pass through a faulty brain before it can be brought out in speech. The wonder is, not that the child makes a poor attempt at it, but that he achieves anything approaching the actual word.

The lower grade child is in a still more unfortunate position for speech. He has, more often than not, little control over his limbs, his walk is awkward and his power over his hands is inadequate; also, he gets easily tired. It may be argued that one of these children will sit for an hour or more unravelling canvas or doing some constructive work such as cross-stitch, and that, therefore, his powers of concentration are good; this fact only proves that the action is so simple that it quickly becomes a habit. The habit acquired, the action becomes automatic and his conscious brain is not required to operate; he is also able to see a quick return for his work and this gives him pleasure. It is not real concentration but apparent.

Now, what happens in speech? He is expected to produce sounds with a faulty instrument; the speech organs themselves may be formed correctly, there usually is no organic defect, but the child as a baby was able to make no use of those periods of practice and is now asked to put language on to an inadequate basis.

"Speak the speech, I pray you—trippingly on the tongue." Let anyone of you count the number of movements of the tongue alone required for that line and you may be slightly surprised. The mentally deficient child has never attempted to concentrate on his tongue movements, he is now expected to make this unruly member move a fraction of an inch at a time and in so doing, form different sounds; the child cannot see what he is doing, he is trying to produce half-heard sounds with an insensitive tongue. He does not

appear to feel the difference between the back of his tongue and the tip, he also feels it unnecessary to make two consecutive movements with the tip, so that if a word ends in LD he makes the L or the D, but rarely both; he employs endless substitutions, the commonest being K for T and G for D and *vice-versa*; he can often make these sounds separately but when asked to say "cat" will revert to "tac" or "tat"; this is probably due to an attempt to reproduce the last heard sound first, and in a bad case the speech is almost unintelligible.

Relaxation.—There can be no doubt of the value of relaxation for mental defective children, and for every case where the patient is tense and nervously unstable. Sometimes a speech defect will entirely disappear after the child has been taught to relax even before the speech treatment has begun.

An interesting case was that of a girl of 14, who was sent up from one of our country homes to London in September, 1934, for speech correction. Her articulation was particularly bad and her vowels were nasalised. "S" sounded like the German "ich," and "k" and "g" were like "t" and "d." This girl was treated at one of our London Centres. When she came she was terribly tense and there was a good deal of psychological difficulty—she had reached the age of 13½ before she even knew that she had had a mother.

She used to relax with the class of stammerers and then go into an adjoining room for her special remedial work and join the class again for the game. After the second visit she said that she so enjoyed her treatment that she would like to come every day.

The relaxing and the games with the other children helped her considerably in her re-adjustment and she became very anxious to remedy her speech defect. She practised for hours and relaxed every day, and by the end of October she was ready to be discharged. We kept her another month and then allowed her to return to her country home.

I am convinced that a great deal of the therapist's success depends upon the power to inspire a wish in the patient to be cured. In this case, the driving force came from outside. The child was homesick for the home that she had known from childhood. Moreover, there was some special Open Day that she was particularly anxious to return for and take part in—and she was determined to be cured. I would give all credit to the girl herself for this speedy cure.

A girl of 15 who had a cleft palate came to us from one of our training homes and in this case there was a good deal of superimposed tension on top of the organic defect. Added to this she had been abandoned by her mother in infancy—a fact that she attributed to her physical handicap. The Secretary of the Home took a personal interest in the case and came to see us several times. Everything was done to facilitate our work. Arrangements were made to keep her a year longer in order to improve her speech and adjust herself psycho-

logically. She was in a very hysterical state when she came and was inclined to weep when one looked at her throat. However, we soon gained her confidence, taught her to relax and join in the games with the other children. Stammerers are extraordinarily sympathetic and no surprise was shown at her nasal tone and cleft palate speech. At the end of a year she was satisfactorily placed in domestic service at a seaside place where I believe she is very happy.

Another very difficult case is that of a girl of 14, who is a lisper and laller. These two conditions were so severe and showed such a lack of all co-ordinated movement that I would diagnose them as dyslalia. An only child, educated at a private school—the mother rather elderly and old-fashioned, thought the child had tongue tie. When entering a Junior Technical School, she was nearly refused because of her speech and general appearance. I saw her and suggested that she should have treatment. On her first visit to the Centre she seemed even to find walking across the room difficult and any attempt at finger movement was pathetic. She was terribly tense and for some time we relaxed her and talked to her to endeavour to gain her confidence, and found that her speech difficulties were mixed up with all kinds of fears—fear of water, traffic, crossing the road, and her attitude during a thunderstorm last summer revealed much.

As she was not educated at an elementary school, it was difficult to get a proper early history; but no doubt over-coddling alternated with nagging correction in the home at a time when a little wholesome neglect would have been most beneficial did not help.

When visiting her school, I was not surprised to learn that she was slightly above the average in intelligence and was doing well in all her written work. She made good progress—from the last account I have of her she is doing well.

One's first duty towards a stammerer, then, is to help him to relieve the mental strain under which he lives, to tell him that by practising deliberately muscular relaxation he will gradually acquire greater ease of mind, which will, in turn, restore self-confidence, self-respect, and will by degrees eliminate the fear of speech. This also brings about a reconditioning and control of the neuro-muscular system.

I would again emphasise the fact that the basis of all treatment for stammerers, whether individually or in a group, should be relaxation and psychological adjustment. It is impossible to insist too strongly upon these points.

The curative value of relaxation is, unfortunately, not as yet sufficiently realised. It looks so easy when a group of children is seen practising it, that many people are still inclined to think that time is being wasted, and that some form of exercises, elocutionary gymnastics, etc., would at least mean that something was being done.

Relaxation is deceptively simple, but the true technique can be extremely elusive, and can be successfully imparted only by those who have

themselves been through the whole process and who can themselves relax.

It is not only the stammerer himself that derives benefit from relaxation; in fact, it is often the last symptom to yield to treatment. In the earlier stages of practice the patient usually shows improvement in general health; he finds himself able to face life more confidently; he worries less over trifles. Children very often show a marked improvement in school work or in games, with the gradual increase of confidence, concentration and co-ordination. It is remarkable, too, how they will lose the habit of enuresis which has perhaps been chronic for years. Some have been known to cease the habit after the first week of attending at a centre for stammerers. However frequent the enuresis may have been in the past, it always clears up long before the patient has cured himself of stammering.

I hope that I have said enough to stimulate your interest in a subject the importance of which is only now being recognised.

Miss M. A. Richardson, senior speech therapist, London County Council, has kindly consented to give us a demonstration of muscular relaxation which is used in all the London County Council centres.

[Miss Richardson then gave a short demonstration of muscular relaxation. Four boys had been kindly sent for this purpose by Mr. Clements, Headmaster of Exmouth Street L.C.C. School. The boys were tested without any previous knowledge of what was expected of them. These boys did not give evidence of nervous—and consequently muscular—tension that stammerers would have shown but Miss Richardson was able to give the audience some idea of the rudimentary stages of muscular relaxation and thus illustrate Dr. Boome's thesis on this point. As Miss Richardson said, it was quite impossible in a short demonstration of this kind to show the deeper levels of relaxation or to give any indication of its therapeutic value.]

REFERENCES.

- Boome & Richardson. *The Nature and Treatment of Stammering*. Methuen, 1931.
 Fogerty, Elsie, Miss. *Speechcraft*. 1930.
 Harries, Mrs. *Speech Defects amongst the Mentally Defective*. Twenty-third Educational Conference, January, 1935.
 Menzies, Sir Fredk. *L.C.C. Annual Reports*. 1934. 1935.
 Seth & Guthrie. *Speech in Childhood: Its Development and Disorders*. Oxford University Press, 1935.
 Stern, W. *Psychology of Early Childhood*. London, 1924.

At a sessional meeting of the Royal Sanitary Institute in the Castle, Shrewsbury, on January 22nd and 23rd, there will be discussions on "Shrewsbury's new water supply," "School heating," "Administrative units of local government," and "The Housing Act," 1935."

Papers and Discussions in Brief or Abstract

AIR RAID PRECAUTIONS AND THE M.O.H.

At a meeting of the Home Counties Branch, held on December 4th, Dr. A. M. WATTS (East Kent (No. 1) United District) opened a discussion on "Air Raid Precautions." The following is a summary of his remarks:—

He said that he much regretted the absence through illness of Dr. A. B. McMaster, who had been due to speak that afternoon, and who was keenly interested in the subject and had drawn up a very exhaustive scheme for the Borough of Dover.

The subject of "Air Raid Precautions" was a very important one from the point of view of the M.O.H. The central department which dealt with this matter was the Home Office, and under it the county councils had duties to perform. Kent C.C. had considered the matter, had divided the county into 21 areas and had appointed a retired Colonel, late of the R.A.M.C., as County Organiser, who visited the various local authorities and gave them advice in the drawing up of schemes.

The M.O.H. was responsible for the control of the medical services in his district, and thought it was very necessary first of all to get in touch with the local medical and dental practitioners: he had had meetings with the practitioners in his area, some of whom were connected with the St. John Ambulance Brigade and the British Red Cross Society, whose members would be required to staff the first aid posts. In this connection he had compiled a series of notes on the subject of "Anti Gas Measures" which he was going to distribute to the doctors and dentists.

He explained that it would be necessary first to arrange for mobile first aid parties and then to obtain the loan of motor vans from local tradesmen, which could be used as ambulances for conveying the casualties to first aid posts. Ordinary ambulances could not be used for this purpose as the wood and other material used in their construction would be damaged by blistering gases and would contaminate other patients.

It would be necessary, in each first aid post, to have a portion for "cleansing" contaminated cases, because no cases contaminated with blister gas could be taken into the "clean" parts of the post unless previously freed from contamination. The ordinary wooden stretchers were in some ways unsuitable for contaminated cases and the question of the provision of a special stretcher and fittings for use in the motor vans was under consideration. The ordinary ambulances would be available for conveying cases from casualty clearing hospitals to the base hospitals, which would be provided by the county councils.

Dr. Watts described the way in which the "cleansing" portion of the aid post would be equipped and used, and stated that he thought sanitary inspectors might be put in charge of these sections, arranging for the supply of hot water for the baths, for the removing of contaminated clothing to the laundries, etc. He explained how bleach powder could be used in the shape of an

ointment, and he said that chlorine was a neutraliser of mustard gas, the most convenient substance providing this being chloride of lime.

As regards first aid posts, one local authority in Kent had arranged for doctors' surgeries to be used for this purpose, but this was not thought to be a suitable arrangement. He, personally, was in favour of the use of elementary schools. One reason why he thought they were very suitable was because of their supply of water and the provision of lavatory basins and sanitary conveniences: but the Board of Education had decided that the children's education should not be interfered with in any circumstances. He suggested, however, that in certain areas likely to be attacked in the case of air raids, certain of the schools might be set apart for use as first aid posts.

There would be three kinds of bombs in use, the high explosive, the incendiary and the gas bomb: of these the authorities thought that the incendiary bomb was the most important, as numerous small fires would be started over a wide area, and for this reason it would be necessary for fire wardens to be appointed. Street wardens also would have to be engaged to help the police in the control of the civil population and prevent panic.

In connection with the engagement of fire wardens and street wardens he raised the question of payment and said that nothing had been mentioned in the official circulars on this subject, but those under the age of 30 should not be engaged for these duties.

On the question of communication he said that in the event of the breakdown of the telephone services, various boys' organisations could be employed for the purpose of taking messages. The police would deal with the question of air raid warnings and also that of public lighting during a raid.

He explained that there was so much to be done in connection with this matter, not only in the engaging of persons to perform the various duties which he had mentioned, but the instruction of those so engaged: the arrangements for equipping the posts, etc., that he felt that in a district of any considerable size it was necessary that an organiser should be appointed, who would draw up a scheme in conjunction with the principal officials and take over the work of instructing not only the street wardens and fire wardens, but also the rescue parties which would be employed by the surveyor and others, and the teaching of the public.

Finally, Dr. Watts said that he had only touched the fringe of the subject, but hoped he had said sufficient to indicate the heavy responsibility which had been placed upon the District M.O.H.

Dr. N. W. HAMMER spoke on behalf of Major H. S. Blackmore, R.A.M.C. (ret.), of the Medical Section, Home Office Air Raid Precautions Department. He said that Dr. Watts had very ably and fully dealt with the aspects affecting M.O.H. and that he would merely supplement him on a few points.

The Government regarded the position of the medical profession generally in the A.R.P. Schemes as extremely important. The A.R.P. Department had appointed 16 Medical Instructors who would instruct medical

practitioners, nurses, students, etc., through the various medical organisations, teaching hospitals, etc. The Government would be responsible for the supply of certain technical stores, *i.e.*, bleaching powder, protective clothing and respirators, and financial help would be given towards the *augmenting* of medical supplies needed by the casualty clearing and base hospitals.

The M.O.H. must be regarded as responsible for the casualty service and as the casualty service executive for his district, and the department would give all help possible to the M.O.H. in drawing up his schemes. With regard to the question of beds, the department could supply figures as to the approximate number that would be required in any given area.

And posts included a "cleansing" portion (it has been decided to refer to the decontamination of the human body as "cleansing," while "decontamination" is to refer to that of clothes, materials, buildings, roads, etc.).

Persons would be dealt with at the A.P.s in its three "Sections"—Section A for the wounded and/or gassed but not contaminated; Section B for the wounded and/or gassed and contaminated, and Section C for the simple contaminated who would need cleansing only.

The difference between the casualty clearing hospital and the base hospital was that the former was normally a general hospital situated in a town. Those requiring immediate surgery would go to the casualty clearing hospital direct. Cases would be cleared from the casualty clearing hospital as soon as possible, *e.g.* at 48 hours or at the most not longer than one week, and sent to the base hospital, in semi-rural or rural areas where there was not such great danger of repeated attacks. These would also have to have a cleansing section. In some towns not so liable to attack, the casualty clearing hospital and the base hospital could be in the same building.

The remainder of the meeting consisted mostly of the addressing of questions to Dr. Hammer and of his replies.

After Surg.-Capt. H. E. R. Stephens, R.N., Director of Medical Service, Royal Naval College, Greenwich, had spoken on the effects of poison gases and on the arrangements being made at Chatham Naval Hospital, Dr. Hammer replied to some questions from Dr. E. Grundy (A.M.O., Willesden). He said that air raid precaution schemes should be prepared at once as there would be little time for preparation on the approach of an emergency. The Department's Handbook No. 3 was now being prepared and would be published shortly. Major Blackmore had also written a general handbook on the subject of first aid treatment in chemical warfare.

Dr. Hammer said that he could not foretell what would be the exact form of air attacks if they eventuated. The actual attacking wave would obviously pass quickly over but there might be further raids.

In reply to Dr. W. J. Cox (Watford), Dr. Hammer said that the number of persons to be employed at first aid stations, as set out in A.R.P. Handbook, was approximately 28 male and 28 female, and shifts must be allowed for. Even in a "Small Aid Post," the minimum number should be 30, he thought.

Dr. E. H. T. Nash (Heston and Isleworth) said that in his scheme he had insisted on the use of *senior*

elementary schools as first aid posts. Also, there were no other buildings in many towns which could be so rapidly converted for temporary hospital purposes and which had kitchen and hot water supplies available.

Replying to some questions by Dr. A. F. Adamson (Hendon), Dr. Hammer said that the Joint Council of the Order of St. John and the Red Cross Society had agreed to supply the personnel for the first aid stations and that they were now recruiting an auxiliary corps. Regarding the question of organisation, circumstance differed, but it would be best in any case if the M.O.H. himself had produced the casualty service part of the scheme, or worked in close conjunction with the Organiser, if any.

Replying to Dr. A. A. Turner (Finchley), Dr. Hammer said that schedules had been drawn up of the equipment necessary for first aid posts and the items mentioned were cheap and readily obtainable from local sources. The Government had not yet given any promise to assist financially in the equipment of first aid posts. Regarding stretchers, the Home Office had recommended as a temporary measure oilskin covers and "handle-sleeves" for use on the present stretchers.

Dr. R. W. Tannahill asked whether isolation hospitals should be used as casualty clearing hospitals in the event of war. Dr. Hammer said that in his opinion the use of isolation hospitals should, for a number of reasons, be avoided where possible.

In reply to Dr. F. T. C. Linton (Tunbridge Wells), Dr. Hammer said that those who held the Department's Instructor's certificates were being issued with "teaching units" and respirators, and in reply to a further question, he said that the Home Office scheme did not envisage that there should be a doctor on duty at the first aid posts.

SOUTHAMPTON MIDWIVES SCHEME

At a meeting of the Southern Branch on December 11th, Dr. H. C. Maurice Williams spoke on the Midwives Act, 1936, and on the scheme recommended by the Southampton Health Committee.

The following is an abstract of his remarks:—

In considering the scheme to be adopted for Southampton under the Midwives Act, 1936, my Committee were unanimous in their recommendation for the employment of whole-time salaried midwives.

In 1935 the total births in Southampton numbered 2,696. Of this number 1,112 were confined in hospitals and institutions, leaving 1,684 domiciliary births, of which 1,400 were attended by midwives alone and 284 by midwives as maternity nurses.

As the majority of patients admitted to the Borough Hospital (160) were sent in as emergency cases, I advised the Committee to add this number to those attended by midwives in domiciliary practice, as most of these cases had been attended by midwives prior to admission to hospital. Thus, the total number of births for which we have to provide is 1,844.

The Minister in his memorandum recommended that a midwife could attend 70 confinements and also 30 cases as maternity nurse per annum. It is felt that this figure is rather on the high side and that a total of 80 cases a year is as many as a midwife can undertake.

In my recommendation I did not take into account the number of independent midwives who would continue to practise. There are bound to be some and, that being so, I estimated that the number of confinements which would require to be attended by each Municipal Midwife would be approximately 80.

Regarding the distribution of the midwives, the suggestion accepted was that one midwife should reside in each of the 17 Wards of the town and that they should be arranged in groups of three so that a midwife would be available for duty in any of the three Wards and could carry on relief duty, etc., in another's absence.

The midwives are to be allowed to practise from their existing homes if suitable, but where a Ward is not at present catered for a Council house will be provided, the midwife to pay the full economic rate. The Council will cover the cost of telephone, cycle allowance of £5, laundry of uniform and provision of bags, dressings, equipment and drugs. The Midwives' Association urged the provision of domestic help and a house allowance, but this seems an exaggerated claim, for under the new proposals a midwife is to receive a salary of £200 to £250 per annum, and most of them will be better off than they have ever been before.

My Committee suggest an age limit of 60, with annual extensions to the age of 65 in exceptional circumstances and after a satisfactory medical examination.

Thus, in Southampton, with one midwife resident in each of 17 Wards, and allowing for wages, illness and post-certificate course in the Maternity Unit of one month each year for each practising midwife, the total number of midwives for adequate service is estimated at 20.

I also recommended the appointment of a senior or superintendent midwife to work under the Inspector of Midwives and to arrange holidays, relief duties and so on.

The rules recommended regarding sick leave, and payment of salary, are as follows:—

(i) Any midwife absent from duty through illness shall on or before the third day submit to the M.O.H. a certificate signed by a medical practitioner certifying that she is unable to follow her employment owing to illness.

(ii) That full salary be payable during the first 28 days of any illness, and half salary during the second 28 days. After a period of 56 days' continuous illness, the M.O.H. to report the circumstances to the Committee with a view to special instructions being given regarding the continuance or otherwise of any portion of the midwife's salary.

The following salaries for midwives have been recommended:—

The commencing salary for all midwives who, at the date of appointment, have completed three years in practice from the time of taking the Certificate of the Central Midwives Board, shall be £200 per annum, rising by annual increments of £10, to a maximum of £250.

The commencing salary for certified midwives who do not come within the above-named group shall be as follows:—

(i) For those who have practised for less than one year from the date of receiving the certificate of the Central Midwives Board, £170, with annual increments of £10, to a maximum of £250.

(ii) For those who have been in practice for more than one year, but less than two years from the date of taking the Central Midwives Board Certificate, the commencing salary shall be £180, with annual increments of £10, to a maximum of £250.

(iii) For those who have been in practice for more than two years, but less than three years from the date of taking the Central Midwives Board Certificate, the commencing salary shall be £190, with annual increments of £10.

I recommended that the commencing salary for certified midwives, who are also State Registered in General Nursing, should be £200 per annum, rising by annual increments of £10 to a maximum of £250 per annum.

There has been much diversity of opinion regarding the booking of midwives, and, personally, I feel that the central control of booking is the only solution to the problem. The applicant herself can go to a midwife, and the midwife reports to the central bureau. If we do not have the central booking, I feel sure that the whole system will result in a state of muddle and there will be endless difficulties in off-duty times, etc.

The scale of fees recommended to be paid to the Council for a Midwives Service are as follows:—

	As a Midwife.		As a Maternity Nurse.	
	Primi-para.	Multi-para.	Primi-para.	Multi-para.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
If the patient's or husband's annual income, or the combined annual income, exceeds £200 per annum	2 7 0	2 5 0	2 5 0	2 5 0
If the patient's or husband's annual income, or the combined annual income is under £200 per annum	2 2 0	1 15 0	1 15 0	1 12 0

With regard to other services provided by the Council, we have had in existence for a considerable time an Insurance Scheme, whereby women, by paying a fee of 7s. 6d. for the first pregnancy, and 6s. for any subsequent pregnancy, can be insured against the fee of the doctor if he is called in by the midwife. If medical attendance is needed, Form A is sent to the doctor by the midwife, and the local authority accept responsibility for the doctor's fee.

We also pay a considerable amount in covering midwives' fees for necessitous cases.

This so-called insurance scheme has resulted in a considerable loss. The title is a misnomer because it has no actuarial basis.

In addition to the insurance scheme, the Council supply other facilities, such as the provision of home helps. During the year 1935, this service was greatly increased, and cost the Borough £214.

We have also made provision for the supply of free

and cheap liquid milk during the ante-natal, lying-in and post-natal periods. These are distributed from the main clinic, and also from the Municipal Welfare Centres.

I am doubtful if the results that will obtain after the establishment of a Midwives Service, such as are adumbrated under the new Act, are going to be as good as anticipated in some quarters. However, it is one consolation that this Act will do away completely with quackery, for in the words of Carlyle, "Quackery gives birth to nothing, gives death to all things."

THE JOINT TUBERCULOSIS COUNCIL

A meeting of the Joint Tuberculosis Council was held at the house of the Society of Medical Officers of Health on Saturday, November 21st, 1936.

The following members were present: Dr. Lissant Cox (President), Dr. Ernest Ward (Hon. Secretary), and Drs. Blackmore, Esther Carling, Chapman, Neville Cox, Goodbody, Gilchrist, Peter Edwards, Heaf, Hebert, Jessel, McDougall, Vere Pearson, Powell, Sutherland, Tattersall, Traill, Trayer, Tytler, Jane Walker, Watt and Burton Wood.

(1) The Minutes of the last meeting were read and confirmed.

(2) *Motion to Modify the Constitution of the Council.*

Dr. Blackmore proposed an alteration in the constitution and moved that "The Chairman shall be elected for two years and may be re-elected for a further period of one year." This was seconded by Dr. Vere Pearson.

An amendment, moved by Dr. James Watt (that the Chairman be elected annually, but may be re-elected for two further years after which he shall not be eligible for re-election until the lapse of one year) and seconded by Dr. Goodbody, was lost. When the vote on the original motion was taken, it was supported by a minority of members and lost. The constitution thus remains unchanged.

The Hon. Secretary said that he had reason for hoping that the President of the Society of Thoracic Surgeons of Great Britain and Ireland would become the representative of the Society on the Council.

(3) *Appointment of Officers for 1937.*

The following appointments were made:—

Chairman.—Dr. S. Vere Pearson.

Vice-Chairmen.—Dr. Lissant Cox, Dr. D. A. Powell.

Hon. Secretary.—Dr. Ernest Ward.

Temporary Assistant Secretary.—Dr. Burton Wood.

Hon. Treasurer.—Dr. G. Jessel.

Hon. Auditor.—Dr. D. P. Sutherland.

A letter was read from Manitoba expressing appreciation of the Memoranda and Reports issued by the Council.

(4) *Report of the Infection Committee.*

Dr. Esther Carling introduced the report of the Infection Committee on Tuberculosis Infection among Nurses, and recommended its adoption. The report was considered by paragraphs and special attention was given to the undesirability of allowing girls under 19 years of age to nurse consumptives, the use of masks by nurses or patients, the disinfection of infected material, the wearing of overalls in wards, the use of ward

kitchens by nurses as mess rooms, the desirability of a fixed programme for duty periods, serial radiograms of the chests of nurses engaged in tuberculosis work and facilities for social enjoyment outside the sanatorium. Certain alterations were made in the wording of paragraphs, but no essential changes were made. Dr. Carling and her co-workers were thanked for their services, and it was resolved that a copy of the corrected report should be sent to the College of Nursing. It was also resolved that the two reports provided by the Council on this subject should be combined and issued as a complete report at a later date. The College should be informed of this.

(5) *Report of the Sedimentation Committee.*

The discussion on this report was postponed to the next meeting.

(6) *Cultural Investigation of Sputum.*

Dr. Tytler explained that he had had difficulties in collecting adequate data on this subject from English sources. Further information was required, e.g., of the results of foreign investigators, and he hoped to be able to obtain this before the next meeting.

(7) *Report of the Milk Committee.*

Dr. Hawthorne wrote to apologise for his absence, but he hoped to be able to report to the next meeting.

(8) *Report of the Pneumothorax Committee.*

The Hon. Secretary reported that the Medical Research Council had suggested that this report should be published in *Tubercle*, and that they were prepared to be financially responsible for expenses in connection with this.

(9) *Post-Graduate Study.*

A letter from Dr. Brand was read stating that the following courses of post-graduate study had been arranged for 1937:—

(a) City of London Hospital for Diseases of the Heart and Lungs, Victoria Park, E.2. Provisional title, "Diseases of the Lungs with Special Reference to Chronic Pulmonary Sepsis." February 1st to 6th inclusive.

(b) Royal Chest Hospital, City Road, E.C.1. Provisional title, "Radiology of the Chest."

(c) It was hoped that Dr. Peter Edwards would be willing to hold his short intensive courses again next year and a course on non-pulmonary tuberculosis was under consideration.

Dr. Powell suggested that a visit to Russia might be profitable and Dr. Brand's opinion on this subject was requested.

(10) *Date of next Meeting.*

The date for the next meeting of the Council was fixed for Saturday, February 20th, 1937, at 10 a.m.

A CONFERENCE will be held at the Royal Sanitary Institute on Thursday, January 28th, 1937, at 2 p.m., to discuss "The Administration of the Milk (Special Designations) Order, 1936, with respect to Accredited Milk"; Mr. Thomas Baxter, Chairman of the Milk Marketing Board will preside, and the following will open the discussion:—Dr. W. G. Savage, Medical Officer of Health, Somerset C.C.; Mr. F. W. Medlock, Chief Veterinary Officer, Essex C.C.; Mr. H. F. Long, Chief Sanitary Inspector, Hereford R.D.C., and Mr. W. T. Price, Agricultural Organiser, Wilts. C.C.

The Society: Reports and Proceedings

NOTICES.

MATERNITY & CHILD WELFARE GROUP.

A meeting of the Group will be held at the house of the Society on Friday, January 15th, 1937, at 8.30 p.m.

A discussion on "Teaching of Parentcraft" will be opened by Drs. Letitia Fairfield, C.B.E. (Senior M.O., L.C.C.), J. A. Scott (M.O.H., Fulham) and John Hunter (Deputy M.O.H., Kensington).

The above meeting will be preceded by a meeting of the Group Committee at 7.30 p.m.

Future Meetings for Session 1936-37.

February 19th, 8.30 p.m.—Paper on "The Economics of Child Welfare Work," by Dr. Peter McKinlay, M.D., D.P.H., Department of Health for Scotland.

April 16th, 5.30 p.m.—Joint discussion with Tuberculosis Group on "Problems Common to the Tuberculosis Dispensary and the Maternity and Child Welfare Centre." Speakers: Dr. Isobel Wright (A.M.O., Middlesex), Dr. Norman Tattersall (T.O., Leeds), Dr. Charles Toussaint (Deputy M.O.H. and T.O., Bermondsey).

May 30th and 31st.—Post-Graduate Course arranged in connection with the English-speaking M. and C.W. Conference to be held in London, June 1st to 3rd.

Sunday, May 30th, 10.30 a.m. to 12 noon.—Visit to Willesden Municipal Fever Hospital; Dr. Arthur Troup, Medical Superintendent, will speak on special points in administration and treatment.

Monday, May 31st, morning 11.15 a.m. to 12.30 p.m.—Lecture (illustrated with epidiascope) on "Common Skin Affections in Infants and Young Children," by Dr. John Wigley, at St. John's Hospital for Diseases of the Skin, Leicester Square. *Afternoon, 2.30 p.m. to 4.30 p.m.*—Lecture-demonstration on "The More Common Eye-lesions in the Pre-school Child," by Mr. Robert Davenport, F.R.C.S., at Moorfields Eye Hospital.

The Minister of Health has sanctioned the expenses of two delegates to the Conference from local authorities in England and Wales, and those of one delegate from local authorities in Scotland and Ireland.

July 1st to 3rd.—Provincial meeting at Cardiff and Rhondda. Programme to be announced later.

MURIEL RADFORD,

Hon. Secretary.

1, Manor Way,
Potters Bar, Middlesex.

FEVER HOSPITAL GROUP.

A meeting of the Group will be held at the house of the Society on Friday, January 29th, at 4 p.m.

There will be a discussion on "Acute Enteritis," opened by Drs. James Anderson (Grove Hospital, L.C.C.), Robert Cruickshank (Group Laboratory, North-Western Hospital, L.C.C.) and M. Mitman (Eastern Hospital, L.C.C.).

A meeting of the Group Council will be held at 3.15 p.m. before the General Meeting.

A. JOE,

Hon. Secretary.

North-Western Hospital,
Lawn Road, N.W.3.

DENTAL OFFICERS' GROUP.

A meeting of the Group will be held at the house of the Society on Friday, January 15th, at 8 p.m., when there will be a discussion on "Uses of Local Anaesthesia

in the Conservative Treatment of Teeth," to be opened by H. H. Kenshole, Esq., M.R.C.S., L.R.C.P., L.D.S.

J. F. PILBEAM,

Hon. Secretary.

Dental Clinic,
Lodge Road, Croydon, Surrey.

ORDINARY MEETING.

An Ordinary Meeting of the Society was held at the house of the Society, on Friday, December 18th, 1936, at 5 p.m. The President (Dr. Ernest Ward) was in the chair and there was a fair attendance of members.

Before proceeding to the business of the meeting, the President announced with great regret the death of Sir John Robertson, a very distinguished Fellow of the Society, who had been its President for the session 1916-1917. The meeting stood in silence to signify their grief at the loss of Sir John Robertson.

The President then proposed that the meeting should send a loyal message to the new King, and it was resolved that the following expression be submitted:—"This, the first meeting of the Society of Medical Officers of Health since Your Majesty's accession, affirms its loyal devotion to our Sovereign King George VI and humbly submits its earnest and sincere wishes for a happy and prosperous reign."

The minutes of the last meeting were then approved and signed and the meeting proceeded to the unanimous election of the following under Article 12 as fully-paid Life Fellows of the Society on the recommendation of the Council and their respective Branches:—

Dr. J. J. Butterworth, formerly C.M.O.H., Lancashire; joined Society 1905 (North-Western Branch).

Dr. A. K. Chalmers, formerly M.O.H., Glasgow; President 1913-14; joined Society 1890 (Scottish Branch).

Dr. S. L. Melville, formerly M.O.H., Middlewich; joined Society 1905 (North-Western Branch), Dr. A. L. Ormerod, formerly M.O.H., Oxford; joined Society 1899 (Home Counties Branch).

Dr. J. R. Prior, formerly Deputy M.O.H. and R.M.O., Isolation Hospital, Hornsey; joined Society 1907 (Home Counties Branch).

Dr. W. Robertson, formerly M.O.H., Edinburgh; joined Society 1899 (Scottish Branch).

The following candidates, having been duly proposed and seconded were then elected to membership of the Society:—

As Fellows:—Cooper, Elsie T. D., M.B., CH.B. (EDIN.); Fraser, Margaret Fowle, M.B., CH.B. (ABERD.), D.P.H.; Garland, Thomas Ownsworth, M.B., CH.B. (CAMB.), D.P.H. (LOND.); Gibson, Winefride Mary, M.B., B.S. (LOND.), M.R.C.S., L.R.C.P.; Jones Ivor John, M.B., B.S., M.R.C.S., L.R.C.P.; Laurie, Edith, M.B., CH.B. (EDIN.), D.P.H.; McFadden, Mary T., M.B., CH.B. (BELF.), D.P.H.; McQueen, J. G. S., M.D. (EDIN.), D.P.H.; Marsh, Mary Lancaster, M.R.C.S., L.R.C.P.; Nield-Faulkner, Samuel Amery, L.R.C.P., L.R.C.S. (EDIN.), L.R.F.P.S. (GLAS.); Thomas, John Mervyn, M.D., B.S. (WA.), L.R.C.P., D.M.R.E., D.P.H.

As Associate:—Gardner, Katherine Louisa, L.D.S.

Several nominations were received for the February election.

A discussion on "The Future of General Medical Practice" was then opened by Dr. Charles Hill (Deputy Medical Secretary, British Medical Association), and Dr. Maitland Radford (Medical Officer of Health, Metropolitan Borough of St. Pancras). After the two excellent opening papers, the discussion was thrown open and the following took part:—Dr. Alfred Cox, Sir Francis Fremantle, M.P., Dr. G. F. McCleary, Dr. E. H. T. Nash, Dr. A. K. Gibson (Hon. Secretary, Metropolitan Counties Branch, B.M.A.) and Dr. W. G. Booth.

The opening speakers having replied to points raised in the discussion, the President asked them to accept a hearty and unanimous vote of thanks for their papers.

A full report of the discussion will appear in a later issue of PUBLIC HEALTH.

The meeting then adjourned.

HOME COUNTIES BRANCH.

President: Dr. R. P. Garrow (M.O.H., Hornsey).

Hon. Secretary: Dr. C. E. Herington, Valence House, Becontree Avenue, Dagenham, Essex.

A meeting of the Home Counties Branch was held at the house of the Society on Friday, December 4th. Dr. R. P. Garrow was in the chair and about 30 members were present. The minutes of the last meeting were approved and signed.

A letter was received from Dr. Herington, Hon. Secretary, expressing regret that he could not be present and reporting that Dr. A. B. McMaster, who was to have opened the discussion, would be unable to attend, but that Dr. Watts, of Broadstairs, was taking his place. It was agreed that Dr. McMaster be sent a letter expressing the Branch's regret at his illness and wishes for his rapid recovery.

Dr. A. M. Watts (East Kent No. 1 District) then opened a discussion on air raid precautions.

He was followed by Dr. N. W. Hammer representing Major H. S. Blackmore, R.A.M.C. (Ret.), of the Medical Section, Home Office Air Raid Precautions Department. A number of members of the Branch later asked questions.

A summary of the opening papers and discussion is published on pages 131 and 132 of this issue.

NORTHERN BRANCH.

President: Dr. S. V. Tinsley (M.O.H., Spennymoor U.D.).

Hon. Secretary: Dr. J. A. Charles, Town Hall, Newcastle-upon-Tyne.

A meeting of the Northern Branch was held at the Medical Institute, 7, Windsor Terrace, Jesmond, Newcastle-upon-Tyne, on Friday, September 25th, 1936.

The President for 1935-36 (Dr. A. F. G. Spinks) was in the chair and 18 members were present.

The Chairman stated that Dr. James McIntyre (C.M.O.H., Durham C.C.) had intimated that he did not wish his name to go forward for the Vice-Presidency of the Branch for next session. It was agreed that the question be discussed at the Annual Meeting of the Branch in October.

It was agreed to invite the Maternity and Child Welfare Group of the Society to hold their 1937 Provincial Meeting in Newcastle-upon-Tyne.

It was decided to discuss the Ministry of Health Circular No. 1550 at an early meeting of the Branch during next session.

On the motion of Dr. J. L. Burn, the Honorary Secretary was requested to circulate School Dental Officers in the Branch area inviting them to join the Society with a view to the possibility of the formation of a Dental Officers' Sub-Group of the Northern Branch.

Dr. M'Gonigle, in opening the discussion on the Memorandum by Professors W. W. Jameson and R. M. F. Picken on "The Appointment of Medical Officers of Health," proposed the following resolution, which was passed unanimously:—

"That the Northern Branch sincerely thank Professors Jameson and Picken for the trouble they have taken in drawing up the Memorandum on 'The Appointment of Medical Officers of Health.'"

The general opinion of the members was that it would be difficult to get local authorities to agree to the establishment of a panel of experts to advise them on making appointments of Medical Officers of Health.

It was thought that the first step to be taken should be for the Society to make representations to the Minister of Health for the subject to be referred to the Standing Advisory Committee which was constituted in 1934.

The Annual Meeting of the Branch was held at the Medical Institute, 7, Windsor Terrace, Jesmond, Newcastle-upon-Tyne, on Friday, October 30th, 1936.

The President (Dr. A. F. G. Spinks) was in the chair and there were also present the President-Elect (Dr. S. V. Tinsley) and 24 other members.

It was decided that the President and the Honorary Secretary approach Dr. James McIntyre regarding the office of Vice-President for the session 1936-37.

In regard to the Memorandum by Dr. Agnes Nicoll on "Facilities Desirable in Order to Improve and Maintain the Efficiency of Medical Personnel in a Public Health Department," the following Minute of the Branch Council, dated October 30th, 1936, was submitted and confirmed:

The above memorandum was discussed and was agreed to in principle, with the following exceptions:—

Para. V.—Special Leave of Absence for Study, etc.

—While it was agreed that this was an idealistic suggestion it was thought that local authorities could not be expected to grant a long period of leave for special study, etc.

Para. VI.—As this would involve in many cases interference with the hours of School Clinics, etc., it was agreed that the clause be deleted from the Memorandum.

The Annual Report of the Branch Council was read by the Honorary Secretary and was unanimously adopted.

The following were elected as the Council of the Branch for 1936-37:—

Drs. G. A. Dawson, E. F. Dawson-Walker, W. H. Dickinson, George Hurrell, G. C. M. M'Gonigle, James McIntyre, A. I. Messer, J. W. H. Morrison, A. E. Raine, A. F. G. Spinks, Edith Williamson, and George Wilson, together with the President (Dr. S. V. Tinsley), the Vice-President, the Honorary Secretary

(Dr. J. A. Charles) and Dr. James Hudson (B.M.A. Representative) as *ex officio* members.

Dr. Tinsley was then installed as President of the Branch by the retiring President (Dr. Spinks), and, in returning thanks, Dr. Tinsley expressed on behalf of the Branch his appreciation of the services during the year of the retiring President.

It was decided to hold the Annual Dinner on Saturday, December 12th, 1936, and that the arrangements be left in the hands of the President and Honorary Secretary.

Dr. Tinsley delivered his Presidential Address on "Some Passing Thoughts of a General Practitioner." Dr. Hebblethwaite moved, and Dr. Jas. Hudson seconded, that a hearty vote of thanks be accorded to Dr. Tinsley for his address.

WEST OF ENGLAND BRANCH.

President: Dr. T. Peirson (M.O.H., Plymouth).

Hon. Secretary: Dr. P. H. Stirk, Hunsdon Lodge, Heavitree, Exeter.

A meeting of the West of England Branch of the Society of Medical Officers of Health was held at the Tuberculosis Dispensary, Beaumont Park, Plymouth, on Friday, December 4th, 1936, at 2.30 p.m. Sixteen members and visitors were present.

In the absence of the retiring President (Dr. Meredith Davies), Dr. Ernest Ward was elected to the chair.

The minutes of the last meeting having been read and confirmed, Dr. Ward, in a graceful speech, asked Dr. Peirson, Medical Officer of Health, Plymouth, to occupy the Presidential Chair during the coming session.

Dr. Peirson suitably responded, and proposed a vote of thanks to Dr. Meredith Davies for his conduct in the chair during the past session; this was seconded by Dr. Ward and carried unanimously.

The Secretary read a letter received from Dr. Peters, on superannuation, pointing out that medical officers, owing to the length of their training, could rarely qualify for the maximum allowance by the age of 65, and suggesting that the Society should make further representations that medical officers should be credited with "added years" in reckoning their retiring allowance. Dr. Peters urged that this should be done before the prospective amending Bill was introduced.

It was decided that the Secretary should be instructed to forward a copy of the letter to Mr. Elliston, and ask that it may be brought before the General Purposes Committee at an early date. This was strongly supported by Dr. Page of Exeter.

Dr. Blackett expressed the opinion that Medical Officers of Health should be allowed to retire at the age of 60 if they so wished. This was considered at some length and received a considerable support, and it was decided to ask that this also might be considered by the General Purposes Committee, separately from Dr. Peters' letter.

It was decided to co-operate in every possible way with the Editor of PUBLIC HEALTH and to refer full copies of all addresses given at Branch Meetings.

A letter was read from the Home Counties Branch nominating Dr. Nash, Medical Officer of Health of Heston and Isleworth, for the Presidential Chair during the session 1937-38. It was decided to postpone con-

sideration of this until a later meeting, as no doubt further nominations would be received.

The Hon. Treasurer presented his report, showing a balance in hand of £94 7s.

The statement was considered very satisfactory, and a vote of thanks was passed to the Hon. Treasurer, Dr. Blackett, for his care in looking after the affairs of the Branch, which was greatly appreciated. Dr. Ward and Dr. Page were appointed as auditors, and found the accounts to be correct.

The Presidential Address was then given by Dr. Peirson on "Domiciliary Midwifery with Reference to the Midwives' Act, 1936." It was much appreciated, and it was decided to send a copy to the Editor of PUBLIC HEALTH.

A visit was then paid to the Co-operative Society's milk pasteurising plant, and a vote of thanks was passed to Mr. Sheenan, who kindly demonstrated the plant.

A further visit was paid to the new nursing home connected with the City Hospital, after which tea was kindly provided by the President of the Branch.

Upon the proposal of Dr. Ward, a hearty vote of thanks was passed to Dr. Peirson and the Matron for their hospitality and for showing them over the new, up-to-date Home, which was for the occupation of 120 nurses and staff.

EASTERN BRANCH.

President: Dr. Irene B. M. Green (Assistant S.M.O. Norfolk C.C.).

Hon. Secretary: Dr. V. F. Soothill, Guildhall, Norwich.

The first meeting of the 1936-37 session was held at the Public Health Department, Norwich, on Thursday, November 12th, 1936, when six members were present. The Hon. Secretary reported:—

(a) The memo. on the appointment of Medical Officers of Health by Professors W. W. Jameson and R. M. F. Picken. Owing to the Annual Dinner following this meeting it was decided to postpone consideration of the memo. until the next meeting.

(b) Proposed visit of the Executive Secretary. It was resolved to invite the Executive Secretary to the Branch Meeting in February, 1937.

(c) A communication from the Council for the Preservation of Rural England. It was decided to contribute for five years an annual subscription of one guinea to the Council's funds, and that Dr. W. B. Christopherson do represent the Branch on the C.P.R.E.

It was proposed by the Hon. Secretary and seconded by Dr. G. L. Leggat that Dr. R. B. Boston do represent the Branch on the Tuberculosis Group Committee. The Hon. Secretary was instructed to notify the County Borough Medical Officers of Health of the proposed County Borough Medical Officers of Health Group. After the meeting the Branch Annual Dinner was held at the Maid's Head Hotel, Norwich. Twenty-six persons were present, 16 of whom were guests. Later in the evening members and guests adjourned to the Theatre Royal. All spent a very enjoyable evening.

INTER-GROUP COMMITTEE.

A meeting of the Inter-Group Committee was held at the house of the Society on Thursday, November 19th, 1936, at 5.30 p.m.

Present:—Dr. Ernest Ward (Chairman), Drs. F. J. C. Blackmore, Louisa Adam, C. I. Wright, E. V. Saunders-Jacobs, E. H. R. Harries and Mr. Gordon Taylor and Mr. Frank Jones.

1. The Minutes of the last meeting were read and signed.

2. Arising out of the Minutes the Secretary announced that he had now been elected President of the Society, and that Dr. Joe had been elected a member of the General Purposes Committee.

3. The Secretary was asked to enquire from the General Purposes Committee the reasons why some Branches are without Bye-Laws, and whether the Society was able to give any lead to members who were consulted about the best lighting power to be used in different rooms and under varying circumstances. The last question had been discussed in the lay press.

4. Dr. Ernest Ward was re-elected Chairman and it was decided to invite Dr. Joe to accept the secretariat, and if he was unable to do so then to invite Dr. Muriel Radford.

5. Improvements in the Society's Journal was next discussed.

(a) It was thought that more dental papers should be published. One especially by Mr. Pitts on children's teeth was mentioned.

(b) More local news was thought desirable. The Secretary pointed out the difficulty which had been experienced in obtaining news from Local or Group Secretaries.

(c) It was suggested that articles on recent advances in the various Branches of Public Health would be useful.

(d) It was also said that at one time a useful bibliography appeared in PUBLIC HEALTH, and a member asked if it would be possible for that to re-appear.

(e) The opinion was expressed that insufficient record is published of recent appointments in the Public Health Service.

6. The Secretary was next asked to send for publication in the Journal of the Society the minutes of the Inter-Group Committee Meetings.

7. The next Annual Meeting of this Committee was arranged to take place at 5.30 on the evening of the day preceding the Society's Annual Dinner.

TUBERCULOSIS GROUP.

President: Dr. N. Tattersall (T.O., Leeds).

Hon. Secretary: Dr. E. Ward, 123, Torquay Road, Paignton, Devon.

The Annual General Meeting of the Tuberculosis Group was held at the house of the Society on Friday, November 20th, 1936, at 11.30 a.m., 26 members being present.

1. The Minutes of the last meeting were read and signed.

2. Dr. N. Tattersall was elected President for the session 1936-37; Drs. H. G. Trayer and T. R. Elliott Vice-Presidents, and Dr. Ernest Ward Hon. Secretary and Council Representative.

3. Dr. Ward raised the question of the appointment of an Assistant Secretary; the matter was referred to the Group Committee.

4. Dr. Peter Edwards was co-opted a member of the Group Committee.

5. Drs. Tattersall, Blackmore and Ernest Ward were elected to represent the Group on the Joint Tuberculosis Council, and the same three also were elected to represent us on the Inter-Group Committee.

6. The Honorary Secretary next gave an account of the year's work.

(a) He had been elected President of the Society.

(b) Through action by the Society Dr. Crowe's superannuation had been increased.

(c) A memorandum on facilities for radiography had been presented to Council and published in PUBLIC HEALTH. Another memorandum on Co-operation with General Practitioners had been passed for presentation to Council.

The question of holiday facilities for Tuberculosis Officers and Medical Superintendents was under consideration.

(d) The Society were now taking active steps to organise Post-Graduate Study for Medical Officers.

7. The value of gold treatment was discussed and referred to the Group Committee.

8. The treatment of tuberculous pregnant women was considered, and Drs. Midgley and T. R. Elliott promised to co-operate in preparing a memorandum on this subject, to be presented to the Group Committee.

MATERNITY AND CHILD WELFARE GROUP.

President: Dr. Agnes Nicoll (A.M.O.H., Willesden M.B.).

Hon. Secretary: Dr. Muriel Radford, 1, Manor Way, Potter's Bar, Middlesex.

Hon. Asst. Secretary: Dr. E. Virginia Saunders-Jacobs (Woolwich).

Annual Dinner-Discussion Meeting.—This was held at the Criterion Restaurant, Piccadilly Circus, W.1, at 7.15 for 7.30 p.m. The President, Dr. Agnes Nicoll, occupied the chair and 51 members and guests were present, including Sir Weldon and Lady Dalrymple-Champneys, Dr. Isabella Cameron (Ministry of Health), Dr. and Mrs. Hamilton, Drs. Boome, Laura Hutton, Alice Hutchison, Grace Calver, and Mr. G. L. C. Elliston.

After an excellent dinner, the discussion was opened by Sir Weldon Dalrymple-Champneys, Bart, M.D., B.CH. (OXON.), F.R.C.P., D.P.H., of the Ministry of Health, who read a very interesting paper entitled "Why Do Infants Survive?" Dr. Maitland Radford, Dr. Stella Churchill, Miss Nora March, Dr. Virginia Saunders-Jacobs, Dr. Nash, Mr. Elliston, Dr. Agnes Nicoll, Dr. Boome and Dr. Sibyl Goodwill took part in the discussion and Sir Dalrymple-Champneys replied. Dr. Smithard moved a very hearty vote of thanks to the opener for his instructive paper, and to Lady Dalrymple-Champneys and the other guests for gracing a most enjoyable evening.

It is hoped to publish the paper and discussion in full in a subsequent number of the Journal.

Week-End Post Graduate Course.—A week-end devoted to psychological problems of interest to Maternity and Child Welfare workers again proved highly popular and was attended by no less than 47 members of the Group.

Saturday, December 5th was spent at the Institute of Medical Psychology, Malet Place, where four lectures on the "Psychology of Family Life" were kindly given by members of the staff of the Institute and were followed by lively discussions.

The first was a helpful paper read by Dr. Emmanuel Miller, M.A., M.R.C.S., L.R.C.P., D.P.M., on "The Cause of Disharmony Between Parents (Irrespective of the Child)." Drs. Agnes Nicoll, Stella Churchill, Wallace, Lydia Leney and others took part in the discussion.

After an interval for coffee Dr. Grace Calver, M.B., CH.B., spoke on "Parent-child Relationships" and illuminated many difficult problems. Dr. Nicoll and Dr. Grundy took part in the discussion.

In the afternoon Dr. Alice Hutchison, M.D., M.R.C.P., read an interesting paper on "Common Psychological Mistake of Parents," and Drs. Lydia Leney, Nora Smith, Odley-Smee, Freeman, Grundy, Agnes Nicoll and others took part in the subsequent discussion. Finally, after tea, Dr. Laura Hutton, M.A., M.R.C.S., L.R.C.P., spoke on "The Parent and the Adolescent," and Drs. Agnes Nicoll, Nora Smith, Macgregor, Grundy, and others took part in the discussion.

The President then expressed the gratitude of the Group to the lecturers for their stimulating papers, and a very hearty vote of thanks was passed with acclamation.

On *Sunday morning, December 6th* a visit was paid to the Institute of Child Psychology, 26, Warwick Avenue, W.9. On arrival the members were taken to the play-rooms and the materials and methods used for diagnosis and treatment were demonstrated. Afterwards Dr. Margaret Lowenfeld, M.R.C.S., L.R.C.P., explained the principles on which the Institute methods are based and their application in a talk entitled "A New Outlook in Children's Medicine," which was enjoyed by 45 members of the group and of the staff and students of the Institute. Questions to which Dr. Lowenfeld replied were asked by Dr. Nora Smith, Dr. Freeman and others. The President then expressed the thanks of the Group to Dr. Lowenfeld and to the other members of the staff for the generous way in which they had devoted their Sunday morning to us, and for the trouble they had taken in demonstrating and explaining the methods of the Institute.

Thus ended another successful post-graduate week-end, which all who had the privilege of attending greatly enjoyed, and which had supplied much material for thought and many practical suggestions.

It is hoped to publish an account of the above papers and lectures in a subsequent number of the Journal.

MIDLAND MATERNITY AND CHILD WELFARE SUB-GROUP.

Chairman: Dr. A. Hamilton Wood (C.M.O.H., Warwickshire).

Hon. Secretary: Dr. Agnes Young, 25, Leam Terrace, Leamington Spa.

A meeting of this Sub-Group was held on Saturday, November 28th, 1936, at 8 p.m., in the Mary Stevens Maternity Home, Stourbridge, Worcestershire, by kind permission of Dr. Wyndham Parker, County M.O.H., Worcestershire. Dr. Hamilton Wood presided and seven members attended. The Minutes of the previous

meeting were read and adopted. In the unavoidable absence of Dr. Meldon (Deputy Medical Superintendent) the members were welcomed by Dr. Eccles Smith and Matron. A tour of the Home was made and the excellent arrangement, bright and airy wards, up-to-date and luxurious equipment were greatly admired. The labour ward appeared ideal, and the isolation building most practical in its arrangement and fittings. Dr. Eccles Smith gave a brief survey of the work and administration of the Home, and explained that it was gifted to the County of Worcester by Mr. Stevens, of Stourbridge, for the use of women who resided in that county.

Tea was then served by Matron and her staff, after which Dr. Lena Walker, in a few eloquent remarks, expressed the appreciation of the members of an exceedingly enjoyable and instructive visit.

Book Reviews

Snow on Cholera; being a reprint of two papers by JOHN SNOW, M.D., together with a Biographical Memoir by B. W. RICHARDSON, M.D., and an Introduction by WADE HAMPTON FROST, M.D., Professor of Epidemiology, The Johns Hopkins School of Hygiene and Public Health. New York: The Commonwealth Fund; London: Humphrey Milford, Oxford University Press. 1936. pp. 191. Price \$2.50.

The pioneers of modern epidemiology appear at last to be coming into their own. Six years ago the first English translation of Fracastor's *De Contagione* (1546) appeared—and Fracastor may be reckoned amongst the moderns by reason of his views on the agents of contagion and their relation to epidemics; a year later William Budd's classical work on typhoid fever (1873) was republished; and now we have a reprint of John Snow's equally classical book on the diffusion of cholera by specifically contaminated water (1855). These resuscitations, be it noted, have occurred in the U.S.A. ! Snow first put forward his views in a pamphlet published in 1849, but his book of 1855 has been wisely selected for reproduction because not only does it contain almost in the same words the work of 1849 but also much valuable additional evidence, including the account of the famous outbreak due to the pump in Broad Street, Soho. Snow's arguments for water-borne infection were much disputed for some years after he had first announced them, but subsequent investigation showed them to be correct; and, as Professor Frost writes in his excellent introduction, "it is instructive to turn back to arguments which have been tested by the subsequent course of events; to cultivate discrimination by the study of those which the advance of definite knowledge has confirmed." All exponents of hygiene and epidemiology—and every Medical Officer of Health should be one—ought to be acquainted with the history of those departments of medicine and the republication of Snow's work and of others such as have been mentioned above, leave no one with excuse for ignorance on the score of inaccessibility of the records.

The other paper here reproduced is Snow's Medical Society Oration (1853) "On Continuous Molecular

Changes," in which he discusses the nature of the agent of infection, spontaneous generation, and what was then known as "contingent" contagion.

The value of this volume is enhanced by the inclusion of the story of Snow's life by his personal friend, Sir B. W. Richardson, reprinted from *The Asclepiad* of 1887; a list of his principal writings, an introduction by Professor Frost, and a portrait of Snow.

Snow died two days after his forty-fifth birthday. All his voluntary and laborious researches into the epidemiology of cholera were carried out during the last nine years of his life, and almost entirely by himself alone, while he was earning his daily bread and butter as an anæsthetist, a specialisation in which he gained a high reputation. He must, in order to pursue his epidemiological enquiries, have sacrificed much of what most men deem the good things of life. It is well that the lives and works of men such as he should be commemorated in a volume such as this.

The Management of the New-Born Baby: A Guide for Midwives. By ALAN MONCRIEFF, M.D., F.R.C.P., Physician, Children's Dept., Middlesex Hospital; Cons. Paediatrician, British Post-Graduate Medical School and L.C.C. London: The Association of M. & C.W. Centres. 1936. pp. 48. Price 9d.

For the small outlay of ninepence, a midwife can now purchase for herself a valuable mine of information concerning the care of the new-born infant. Dr. Alan Moncrieff's little pamphlet will, however, be read with advantage not only by midwives, but also by medical students, general practitioners, medical officers in charge of maternity hospitals, and all interested in the welfare of the very young. Recognition has only recently been given to the usefulness of the paediatrician's services in maternity hospitals, but this is a branch of his work which is certain to assume increasing importance, particularly as it appears likely that the Central Midwives' Board will shortly recognise the necessity for including paediatric training in the course approved for pupil midwives, and experienced teachers will be needed to give this instruction.

In simple language, Dr. Moncrieff discusses the general hygiene, feeding and common disorders of the new-born, prefacing his remarks by some hints as to the method of dealing with departures from the normal which can be anticipated before birth; such as prematurity, toxæmia from drugs administered to the mother, or cerebral injuries. Clear directions are given as to the best methods of establishing breathing, and the importance of warmth and gentle handling is stressed. Every detail of the routine of the infant's life is systematically described and the suggestions made are sound, and in most cases, not controversial. Some difference of opinion may be expressed as to his treatment of the baby's eyes. Silver nitrate, even in 1 per cent. solution, is a definite irritant, and will produce discharge from the eyes. A midwife using it, as routine, would therefore in every case be bound to send a medical aid form to a doctor for "discharge from the eyes, however slight," as laid down in Rule E, 12(b). The routine use of silver nitrate would appear to be unnecessary, especially in districts where venereal disease is uncommon and the mother has had adequate ante-natal examination, and ordinary surgical cleanliness should

be sufficient to prevent any inflammation of the eyes, except in cases where there is suspicion of gonorrheal infection. Another point which may not be accepted by all is the preparation of the nipples by scrubbing, even though a *soft* scrubbing brush is used. Surely this delicate skin should not be subjected to such treatment, though if inclined to be dry, inunction with lanoline is useful.

But these are only minor criticisms, and do not detract from the value of the book. This publication, if intelligently read and followed by the midwives of this country, should have a most beneficial effect in reducing neo-natal mortality.

The Toxaemias of Pregnancy. By DAME LOUISE MCILROY, D.B.E., M.D., D.S.C., Consulting Obstetrician and Gynæcological Surgeon, Royal Free Hospital, etc. London: Edward Arnold & Co. 1936. pp. 355. Price 14s. net.

In this book Dame Louise McIlroy gives a survey of the varied and frequently conflicting views of the causes, prevention and treatment of the toxæmias of pregnancy. She quotes the views of numerous authorities and leaves her readers to form their own opinion of their merits. As so much attention has centred recently on the importance of nutrition in pregnancy, and its possible relation to toxæmia, the author's views on this subject have a special interest. A whole section of the book is devoted to describing the teachings on nutrition that have gained so much popularity of late, but the author is very guarded in expressing any opinions regarding their value. For example, she quotes Professor Mellanby who states that "there is no clinical evidence that eclampsia is due to malnutrition, but there has been very little investigation into diets in pregnancy"; or again: "In discussing the subject of diet deficiencies one has to go very warily in the expression of definite opinions as our knowledge of nutrition in pregnancy is so limited." The book is full of interest, and as a wide survey of views should prove of great value to those seeking the solution of what the author describes as one of the most baffling problems of obstetrics.

Maternity and Post-Operative Exercises. By MARGARET MORRIS, C.S.M.M.G., in collaboration with M. RANDELL, S.R.N., S.C.M., T.M.M.G. London: William Heinemann (Medical Books), Ltd. 1936. pp. 152. Price 7s. 6d. net.

The value of exercises to restore the function of muscles that may have been weakened or damaged by labour or operation is well recognised. This little book is a practical manual for masseuses, midwives and nurses who may be engaged in teaching these exercises. The author states that they cannot be learned from a book and that her aim is to help those who can take a course of instruction in the subject. With regard to the maternity exercises the author stresses the importance of the physiological attitude towards labour. It is a muscular feat, and as for any other physical undertaking the mother should train herself to accomplish it successfully. Exercises that should prove of value in carrying this out are fully described. The book, coming from such a well-recognised authority, should be a valuable asset to those for whom it is intended.

PUBLIC HEALTH

THE JOURNAL OF

THE SOCIETY OF MEDICAL OFFICERS OF HEALTH

No. 5. Vol. L.

FEBRUARY, 1937

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

"Public Health" is the Official Organ of the Society of Medical Officers of Health and a suitable medium for the advertisement of official appointments vacant in the health service. Space is also available for a certain number of approved commercial advertisements. Application should be made to the Executive Secretary of the Society, at 1, Thornhaugh Street, Russell Square, London, W.C.1.

Contents

Editorial

	PAGE
The Health of the School Child, 1935	141
Working Class Diets... ..	142
Acute Poliomyelitis	143
Contributions to "Public Health"	143
Diet and Dental Caries	144
Tuberculosis: Wales and Papworth	144

Special Articles

The Future of General Medical Practice. By Charles Hill, M.A., M.D., D.P.H.; and Maitland Radford, M.D., D.P.H.	145
The Mantoux Test in Tuberculosis Dispensary Practice. By P. D'Arcy Hart, M.A., M.D., F.R.C.P.	151
The School Dental Service—Retrospect and Prospect. By Jeffrey Fletcher, L.D.S.	153
Southampton Maternity Unit. By H. C. Maurice-Williams, M.R.C.S., L.R.C.P., D.P.H.	156

Summaries and Abstracts

Current and Terminal Disinfection	158
The Newcastle Dietary Investigation	159
Orthodontic Treatment of School Children	160
Lead Toxæmia	161

News, etc.

Obituary	150
Recent Appointments in the Public Health Service	150
References to Scientific Literature... ..	152
Ministry of Health Publications	155
Vital Statistics: England and Wales, 1936... ..	166
City of Oxford Health Week	169
The Influenza Epidemic	169
The Central Midwives Board	169

Society of Medical Officers of Health

Branch and Group Reports... ..	163
--------------------------------	-----

Book Reviews

Food and the Principles of Dietetics	167
What is Wrong with British Diet?	167
Drainage and Sanitation	168
A History of the Public Health Department in Bermondsey	168

Correspondence	170
-----------------------	-----

Editorial

The Health of the School Child, 1935

It was Ruskin who reminded his generation that the great cry which rises from our cities, louder than their furnace blast, is all in very truth for this—that we manufacture everything there except men; and, among the different factors which have attempted in the twentieth century to remove this reproach, none is more important than the school medical service. The publication of *The Health of the School Child* has indeed provided year by year an invaluable survey of the organisation which has gradually been evolved, and of the achievements which have been attained, in the efforts to ensure that the growing boy and girl are fit to enter with confidence a more exacting and a more complex civilisation.

The report* for 1935 emphasises as a central theme that a general policy of health and of physical education is inseparable from the whole education of the child; a system of education has to ensure proper school accommodation, playgrounds and playing fields, it has to reinforce home training in the hygienic way of life which is the basis of health, it has to provide for medical inspection and for the treatment of defects. Moreover, it has to ensure that the nutrition of the body is such as to enable the child to take advantage of the mental and physical education provided, and that the body is trained to proper condition through a complete physical education: there is still room for greatly increased facilities on the lines of the Board's circular 1445.

But physical education will be of little use and it may have adverse effects, unless sound nutrition is guaranteed; and the subject of nutrition is rightly given considerable prominence. It is gratifying to notice that the reports of School Medical Officers throughout the country generally do not suggest that there has been any deterioration in the nutrition of schoolchildren; although it will scarcely be contested that undernourishment does exist in certain special areas, in which severe

* The Health of the School Child. Annual Report of the Chief Medical Officer of the Board of Education for the year 1935. H.M. Stationery Office, London. Price 2s. 6d.

industrial depression over many years must leave its mark on the growing child. The new classification of nutrition has, on the whole, been well received, although it has (and what system has not?) some imperfections; but the tentative conclusions show that while comparability is obviously still imperfect, some improvement has been effected and more may be attained in future years. The composite picture afforded by the total returns probably approximates to the truth, and this also applies to the larger areas although to a less extent; it would seem that children in London and the South show a higher level of nutrition than those in the industrial cities in the Midlands, and still more than those in the North of England and in South Wales.

Routine medical inspection, which has remained substantially unchanged since its inauguration in 1908, has recently been subject to criticism; and the report for 1935 perhaps sets a precedent in discussing the whole subject and in replying to the criticisms raised. There are experienced Medical Officers who consider that the present system has to some extent outlived its usefulness and who would like to see some or all of the routine inspections abolished, substituting a different type of supervision; there are other Medical Officers, no less experienced, who consider that the present system (possibly with a fourth inspection) is satisfactory, or that it requires to be supplemented by other measures designed to remedy the weakness of any scheme which permits intervals of several years between consecutive inspections.

Routine medical inspections may indeed degenerate into a mere cataloguing of defects; but this is probably the result of unfortunate staffing or of imperfect monotonous organisation. For "if school medical work is to attract and retain the best type of medical practitioner it must be varied in scope and there should be reasonable opportunities for promotion." Moreover, the crux of the matter probably lies in the clinical aspects, and it would seem unwise to deny any of the children the benefits of routine clinical examinations, however imperfect clinical methods may at present appear. Given the necessary scope and variety of work for maintaining clinical skill, and given the time and facilities for research into methods of assessing and improving physiological efficiency and of detecting the earliest deviations from health, a first-class clinician will indeed make school medical inspection evolve along the best possible lines.

The school dental service is seriously incomplete in most parts of the country, and the report refers to Circular 1444 which sets out the administrative programme of educational development;

authorities should aim at securing an annual dental inspection for each child, and at providing that the dental staff does not fall short of the requirements of their areas. The standard of staffing is, moreover, a minimum, which should be attained without delay; for although it may be possible to make bricks without straw, it is impossible to make bricks without men. With existing staff it is almost a task of Sisyphus to attempt the amount of conservative dental work at present required; and it is to be hoped that there will be a rapid expansion of personnel and facilities, together with unremitting education of the public as to the value of the work, so that the dental service may travel more hopefully. The importance of this section of school medical work it is almost impossible to over-estimate.

In regard to the subject of mental deficiency and its diagnosis there is a full and helpful summary of the examination of the child, and of the interpretation of the results; this feature of the report will be of great practical assistance to certifying officers.

The report concludes on a note of optimism, cautious perhaps, but nevertheless entirely justified; it is a worthy successor in a series portraying with no small literary skill, as we have become accustomed to expect, the notable achievements which school medical work has wrought in the manufacture of future men and women.

Working Class Diets

The City health committee of Newcastle-on-Tyne was responsible for the issue in 1934 of a valuable report by Dr. J. C. Spence on the health and nutrition of certain city children between one and five years. Miss Rogers, of the Newcastle Dispensary, and the M. & C.W. section of the health department carried out further investigations of dietary in employed and unemployed families, which led the health committee to promote a more ambitious and thorough investigation. The result has now appeared in a report entitled *A Study of the Diets of Sixty-Nine Working Class Families in Newcastle upon Tyne*, which forms a most valuable addition to the store of really detailed information which is slowly accumulating.

One lesson that is immediately to be learnt from the report is that these investigations require intensive effort and the co-operation of many people. Dr. J. A. Charles (M.O.H. of Newcastle) points out that "from the collection of the basic data to their final analysis, this report has been the work of many hands." The data were collected by Miss M. L. Clark and three specially-selected Health Visitors; the statistical work was done by Dr. A. Bradford Hill, of the London School of Hygiene; Dr. R. A. McCance and Miss Widdowson, of King's College Hospital; the City Analyst

and the Ministry of Health Foods laboratory all assisted with analyses, and many others participated in various ways.

The result is a model of what such a report should be, and, believing that it is of general interest and might not otherwise be seen by our members, we have printed the summary and conclusions on pages 159 and 160 of this issue.

Acute Poliomyelitis

Previous pronouncements have been made by the Ministry of Health on poliomyelitis, and the recently issued Memorandum 166/Med.* brings these up to date in the light of information which has accumulated since 1932. The whole subject is dealt with clearly and concisely, and as it stands the publication could well be included in any modern text-book as a short authoritative article.

After a brief historical note the two main conceptions of the pathogenesis of the condition are set out. The known facts regarding prevalence, transmission, natural immunity, age and sex distribution, mortality and incubation period are summarised. The clinical features of the initial, pre-paralytic and polioencephalitic forms of the disease are outlined, together with the special clinical signs which may be elicited. Especially valuable is the tabulation of the characterisation of the cerebrospinal fluid shown side by side with those found in other infections of the central nervous system with which poliomyelitis may be comprised. In this, however, we note no reference to the condition which has been termed acute aseptic meningitis.

Under the heading of treatment two main considerations are put forward. The first draws attention to the necessity for bringing the patient under the care of the orthopaedic surgeon at the paralytic stage, and to the proceedings which he is most likely to find useful in the various types of deformity are mentioned. The other gives an account of the present status of human convalescent sero-therapy and tactfully avoids giving an official imprimatur to either one side or the other in the most debated question as to whether or not this reagent is of value in treatment. The reader of the memorandum is left in no doubt, however, that if human serum is to be employed it should be given early and that the treatment should be in the hands of an experienced physician under hospital conditions. With regard to precautionary measures an isolation period of six weeks is recommended along with a strictly surgical standard of nursing. Prophylactics for which claims have been made, in the shape of nasal sprays of potassium permanganate, sodium alum or tannic acid, and

* "Acute Poliomyelitis." Ministry of Health Memorandum 166/Med. H.M. Stationery Office, 2d.

picric acid are described. A period of school exclusion for three weeks is laid down for contacts, and the Ministry adheres to its well-known recommendation against the closure of residential schools during outbreaks of the disease. The various administrative steps that the medical officer of health may usefully take during prevalence of poliomyelitis are summarised at the end. These consist of the securing of adequate institutional or other accommodation for the patient, the taking of the necessary steps for the prevention of spread from cases or carriers, and the making of the usual epidemiological investigations.

Propaganda should be undertaken by all available means to apprise the public how to avoid infection and as to the precautions to be taken when the disease occurs. The M.O.H. should also advise his authority on the facilities necessary for early diagnosis and as to what arrangements are possible for adequate orthopaedic care to prevent muscular weakness or deformity. It is pointed out that the latter is particularly important in the case of children below the age of five years.

Contributions to "Public Health"

The new style of "make-up" and the use of a slightly smaller type for some sections of our journal since October last have made possible the publication of a greater volume of material, page for page, than in the former series. We have thus been enabled, aided often by the unselfish acquiescence of contributors to the editorial "blue pencil," to accept for inclusion every paper or discussion which the Branches and Groups have submitted as worthy of record. This has been in accordance with the policy of the Journal Committee that PUBLIC HEALTH should present as complete a picture as possible of what members have been saying and discussing with their colleagues at Branch or Group foregatherings.

Individual medical officers can, however, help us with a different type of contribution for which we will gladly make space. In every public health area there must be from time to time some occurrence of epidemiological interest, some new departure in administration or some experiment in organisation. Such matters are doubtless recorded in due course in annual reports, where they may be buried in the mass of other details; but they would often be of immediate interest to other members of the public health service. We invite members therefore to send in to us succinct accounts of such topics as they think likely to interest or to inform their colleagues.

There is one other matter in which we ask the co-operation of contributors. Since the beginning of this year the *British Medical Journal*, whose new format we much admire, and the *Lancet* have

adopted the Harvard system of giving references to scientific literature and both these journals included an explanation of the system in their issues of January 2nd. We propose to follow their example, and prospective contributors to PUBLIC HEALTH are referred to the résumé of the system on p. 152 of this issue. The supplement to the *Lancet* of January 2nd included also some wise suggestions on the writing of "medical English" which we humbly commend to our readers.

Diet and Dental Caries

The final report* of the Committee for the Investigation of Dental Disease has been awaited with interest by all who have followed the controversies on the problem of the prevention of dental caries. The problem of the difference between man and animals in the field of nutrition is recognised as of great importance at the present time when so much work on nutrition in animals has been done and the application of the results of M. Mellanby's experiments on animals are in the forefront in importance.

The aim of the investigations described in the report was to find whether a daily addition of cod liver oil or vitamin D to the diet could diminish the incidence of caries. To this end three groups of children living in different institutions were given a daily addition of cod liver oil, olive oil and treacle respectively, and their teeth regularly inspected over a period of three years.

The difficulty of carrying out carefully controlled experiments on human beings similar to those carried out by M. Mellanby on dogs were naturally considerable. For example, although the total number of children observed was approximately 1,550, only a small proportion were under observation for the whole period of three years. Much wastage of material occurred on account of sick leave, the temporary discharge of children, or the therapeutic administration of cod liver oil for other purposes. It was unfortunately not possible to secure a sufficient number of children in a single age group, and so the total number of children varying from 5 to 14 were taken. This caused much difficulty on account of the shedding of the temporary dentition during this period.

The greatest increase in caries was found in the group receiving treacle, less in the group receiving olive oil, and least in the group receiving cod liver oil. In the comments on these results attention is drawn to the onset and spread of caries in the two control groups, that is, those receiving treacle and those receiving olive oil, as it is often contended that the prevalence of dental decay is due to the excessive consumption of sugar. It

is pointed out that extraneous factors may have influenced the results as the olive oil and treacle additions were made in different institutions and, not in the same one. It appears that the cod liver oil additions was also made in another institution and that presumably these extraneous factors may also have been at work; however, the report concludes that the investigations described show conclusively that a relatively high vitamin D content of the food can do much to diminish the incidence of caries.

Tuberculosis: Wales and Papworth

The report for 1935 of the Welsh National Memorial Association gives a comprehensive account of a year's work well done. How well done can only be appreciated by those who understand the special economic, geographical, and psychological difficulties which complicate what is, even in its simplest form, one of the most serious problems of public health.

The report is planned so as to be at the same time both a general survey of all the activities of a vast organisation and also a detailed account of each individual department. There is to be found in its pages something of importance to all who are interested in the anti-tuberculosis campaign.

The Association may well be proud of its new hospital at Sully. It is pleasing to observe how well the amenities for the staff have been borne in mind when the institution was planned.

The utilisation of specialised staff and equipment for the diagnosis and treatment, medical and surgical, of pulmonary conditions not necessarily tuberculous, is a natural development in any organisation whose committee is far-sighted, and whose personnel is keen. Recognition of this aspect of the work is evidence of the virility and continued leadership of the Welsh service.

The Papworth Annual Report for 1935 makes stimulating reading. No sooner has one scheme of development or improvement been completed than another seems to be already on the way. The completion of the new surgical unit and the commencement of a hostel for tuberculous nurses are mentioned almost in the same breath. This is indeed a shining example of seeing the need, having the will, and making the way.

In his report the Medical Director lays stress on the value of adequate after-care, if tuberculous persons are to maintain the improvement in health brought about by treatment. The recognition of the value of after-care is no new thing, but its importance merits reiteration, especially by one who has himself built up, and is now beginning to see the fruits of, an after-care organisation second to none. It is refreshing to find so much space devoted to the social side of institutional life, which is so vitally important to the success of a sanatorium and the welfare of all its inhabitants.

The Future of General Medical Practice*

By CHARLES HILL, M.A., M.D., D.P.H.,

Deputy Medical Secretary, British Medical Association; and

MAITLAND RADFORD, M.D., B.S., D.P.H.,

Medical Officer of Health, Metropolitan Borough of St. Pancras.

Dr. Charles Hill

If I show prophetic vision in anticipating the observations which my friend Dr. Radford proposes to make it is because he was courteous enough to show me his script. In reply I was able to refer him to that valuable grey book, *Proposals for a General Medical Service for the Nation*, whose author, in the form of Dr. Cox, is here with us this afternoon. My observations will be based on two main assumptions:—

- (1) That there should be available to all members of the community a complete medical service, preventive and curative;
- (2) that the pivot of that complete medical service should be the general practitioner.

Few will, I imagine, challenge this statement of essentials.

Twenty-three years of National Health Insurance has convinced all who understand it that it has been of inestimable value to the community. Whatever bricks may have been cast at it in its early days (and the medical profession cast not a few) it stands to-day as a tried and experienced system. I do not care what doctrinaires may think—or even what Dr. Radford may say—in support of a State Medical Service on different lines and inspired by a different philosophy, for I hold that for practical purposes existing National Health Insurance will be the basis upon which a more complete National Medical Service will be constructed. As administrators of experience you will probably agree that that is inevitable.

If I do not attempt to convince you of the wisdom of the free choice principle, it is not because I think it is unimportant but because I know the public will demand it. If the G.P. of the future is to fill the rôle of general family adviser, the patient must not be attached by arbitrary authority to a practitioner he does not like or does not trust. He may be content to allow Dr. Radford to organise his environment to administer his health services. John Citizen has confidence in his doctor; he chose him, rejecting another. I am simple enough to believe that the confidence he reposes in him, after the exercise of his own free will, is an important factor in that relationship. I put it no higher than that.

* Opening papers read at an Ordinary Meeting of the Society, December 18th, 1936.

Inevitably, the existing system will be amplified to include specialist and allied benefits and its scope will be extended so as to bring in dependants and others within the same wage group.

At the present time the general practitioner service is limited in two main ways. It is undeniable that many dependants of poorly paid insured persons are not receiving adequate medical attention because they cannot pay for it. Local authorities have stepped in in an endeavour to contribute to a solution of the difficulty by making contributions which they are less well equipped than the general practitioner to make. On the other hand the medical profession is making an increasingly vigorous attempt to bring their services within the financial capacity of these people by voluntary insurance schemes or public medical services. I frankly admit that what are commonly called encroachments are often well intentioned efforts to solve a difficult problem. But that is by no means the whole story. Local authorities have commonly rejected the opportunity to utilise the services of general practitioners for work for which they are well equipped. They have often preferred what appears to them to be an effective extension of their own activities regardless of the continuity of the medical care of the sick person. Public medical services are a contribution but the real solution lies in the extension of National Health Insurance; then there will be no excuse for ill-co-ordinated efforts which seem to be directed to competition.

When that day comes the general medical practitioner, in so far as he is allowed by the one-sided and defective medical education that he receives, must be intimately linked up with local authority public health services as part of one large health machine providing a service which is environmental and personal, preventive and curative. I want to stress the urgent need for reform in medical education for it is fundamental.

This is the second limitation. Medical education is a poor equipment for general practice. We are brought up on the rare and the tragic to treat the common and the trivial. I qualified in medicine without ever having seen a case of measles or having undertaken a refraction. Indeed, so defective was my medical education that I soon decided to join the public health service. It is fashionable to talk about the biological approach to disease but

*"The Influence of Diet on Caries in Children's Teeth" (Final Report), by The Committee for the Investigation of Dental Disease. H.M. Stationery Office, 1936. 2s.

it is difficult to escape from an education which is fundamentally pathological. Clinics may replace surgeries, teams may replace individual units—but this separation of the profession into two camps, preventive and curative, must disappear.

The public health service can, if it will, help there. In so far as it advises the removal of pieces of preventive and curative work from the sphere of the general practitioner, it makes general practice less efficient and damages the interests of the community. For example, it is unfair to attract normal confinements to an institution from which a general practitioner is barred and then maintain that because of lack of experience he is unfit to undertake midwifery.

General practice, reorientated and extended, should become part of a unified health service. I believe it to be inevitable that the authority for such a unified preventive and curative service should be the county council and the county borough council: environmental services can remain with small authorities. Many insurance practitioners are apprehensive of such a development. Under National Health Insurance there is a definite medical committee recognised by statute. Panel Committees have learnt to expect co-operation from insurance committees. In many areas they have seen no sign of such co-operation from local authorities. Insurance practitioners hope that local authorities and medical officers of health will pay more regard to the views of the profession on health matters.

Things are improving. General practice is understanding, in an increasing measure, the problems of the public health man and *vice versa*. Unfortunately, the M.O.H. is brought into contact only with the failures of practice. They, like Desdemona's mole, are there to show the beauty of the rest!

I am a little unhappy about one thing. The unified service will cast a heavy responsibility on medical officers of health. There will be wanted not small men who maintain their standards of omniscience by never listening to the other man's point of view, but men capable of giving and taking advice and managing at the same time to advise their authorities faithfully and to co-operate with their medical colleagues in practice. The calibre of men entering the public health service must be of the first order.

In conclusion, I would say just this. The various sections of the medical profession have learnt the art of compromise. The machinery of the B.M.A. has enabled public health officers and private practitioners to integrate their views in a form acceptable to most. It is due to that attitude of give and take that the relations between these two sections are as harmonious as they are to-day.

There is still room for Dr. Radford to preach his odd little notions and his funny little philosophies! But the real solution of our difficulties lies in moulding general practice in the direction of increased efficiency and an almost complete availability to the public and in linking together two forms of medical practice which have been too long mutually divergent and too often mutually destructive.

Dr. Maitland Radford

As a guide to the disjointed and ill-assorted remarks that follow, I wish to state that in my opinion all roads lead to a whole-time salaried Medical Service.

Throughout my professional life general medical practice has been under constant discussion, sometimes philosophic and sometimes extremely heated, and the safest thing to say about its future is that it will be contentious but that the ending will be happy.

The problem presented by general medical practice would be very much more simple than it is if every one had enough money to pay the doctor of their choice such fees as would enable him to live in such manner as he was persuaded he had a right to expect. In fact, however, it is all quite otherwise.

People who cannot afford motor cars go without and no problem arises unless they get in the way of those who can afford them. Medical service, however, is one of those things to which everyone is considered to have a right irrespective of ability to pay. Recognition of this right, coupled with the great difficulties that stand in the way of the provision of such service, has resulted in the strange confusion in which general medical practice now finds itself.

The key to this confusion is to be found in the fact that present arrangements represent an uneasy and unhappy compromise between two conflicting concepts regarding the relation in which the general medical practitioner stands to his patient. The whole medical service of the country wobbles between these two concepts like some huge logan stone that has wobbled for so long that it looks like wobbling for ever.

Some twenty-four years ago the National Health Insurance Act was passed. I had just hatched from the professional egg at that time and I remember the terrific tumult that accompanied the passing of that Act. Thunder and lightning, defiant heroes in last ditches, packed meetings, speakers shouted down, boycott, compromise, uneasy peace. They were trying to sing "Good-bye, private practice, farewell, *laissez faire*," but they did not get beyond the first verse.

Everyone was then exhausted. To-day the

general medical practitioner still attends the dependants of the insured upon the old private practice basis.

The next verse is all important. When these dependants are included in a statutory scheme the State Medical Service will have come very much nearer and the bargaining position of the profession will have been vacated. Twenty-four years delay has added greatly to the difficulty of the position of the general practitioner.

Broadly speaking, dependants of insured persons cannot afford to pay adequately for the medical attention that public opinion demands. Utilising the machinery of local government, public opinion arms itself with statistics and frames schemes that are financed from the rates, and in this way the medical services of the country have been steadily supplemented and extended during the years since the passing of the National Health Insurance Act.

I submit that the longer the next step is deferred the greater will be the number and the more daring the character of the encroachments upon his sphere that the general practitioner will have to lament. He is, as it were, by reason of the limitations of the National Health Insurance Act, not in mesh with contemporary developments. It is an illogical and unfair position.

And herein lies a most grave danger. The danger of schism, the danger of a split in our profession between those engaged in the ever increasing activities of public authorities and those engaged in private practice, the danger even of fratricidal strife between the two branches of the profession for access to patients. How unseemly it is that there should have to be talk of encroachments when we all know that there is a vast amount of untreated and perfunctorily treated illness!

I hope you are all members of the British Medical Association and know that spacious hall in which frugal meals can be enjoyed in exclusive company. High on the wall there hangs a tiger. The tiger is very angry indeed. His eyes flash. His teeth are bared. He is in strictly private practice. You have, of course, already diagnosed this tiger as one of those projections from the unconscious dear to the new psychology. You are right. No simple tiger this. He is the nineteenth century; free trade; free competition; Adam Smith; Herbert Spencer and Uncle Dick Cobden and all. And, of course, he roars in fury at those noble, placid, gregarious cattle, bison, gnu and what not, that adorn the opposite wall. You have already recognised the latter as not unworthy emblems of the public health services.

And between these two mighty opposites sits Dr. Hill. The future is with him and so I will try to tell you how I think he is shaping his course.

He has a very difficult problem. Disloyalty to the tiger cannot be tolerated; implacable opposition to the inevitable is silly. Now watch how it is done.

Dr. Hill directs his army to keep its gaze fixed upon the tiger, and while continuing in the main to talk about the tiger he contrives by virtue of a certain subtle power of suggestion to induce a backward movement in his troops who as a result, and contrary to what they themselves believe, are seen to be receding from the tiger and to be approaching the flocks and herds. Those of you who are administrative officers, with experience of handling committees, will readily understand this manoeuvre. Frankly, others are advised to skip this part of the course.

It is true that marching backward as it is this great army is somewhat at a disadvantage in respect of precision and rapidity of movement. The fact that it does not see where it is going, however, prevents nervousness and in any case it probably would not move at all if it could not see the tiger.

But we have barely left the present—what of the future? Will Dr. Hill's army rebel and double back to the tiger? Will it get tired and want to sit down? Will it even turn round and march briskly to the Town Hall?

Will it run back to the tiger? No, that tiger is as dead as mutton. Will it want to sit down? It is always wanting to. The question is, "Where?"

As already stated, the National Health Insurance Act created a gap in the general medical practice services of the country. The continued existence of this gap is an evil that calls aloud for a remedy.

I will refer briefly to two well-known proposals relative to this gap. The first is more than a proposal—it is a service—the Public Medical Service. As you all know, this service is based upon a scheme of voluntary insurance. I hope that information regarding it will be forthcoming during the discussion. It appears that in some districts the Public Medical Service has many members and is doing most excellent work while in others little or no headway is being made.

Those who believe that this service is destined to play a large part in the future of general medical practice fail in my opinion to interpret correctly the trend of economic tendencies. It becomes every day more obvious that the incomes of the poor are inadequate to maintain those standards of living upon which public opinion increasingly insists. This disparity is likely to increase. Witness—housing, overcrowding, nutrition. In these circumstances it is highly unlikely that a service financed solely by the payments of members will provide even a temporary solution of our problem. It is more likely that as club practice prepared the way for the National Health Insurance Act, so the

Public Health Services are preparing the way for the proposals of the British Medical Association.

The British Medical Association's *Proposals for a General Medical Service for the Nation* are based upon eight fundamental principles.

Let us consider these as a guide to possible future developments, but let us consider them rather in the order in which they are likely, if ever, to achieve practical application than in the order in which they are printed. To save time only summarised versions of these principles are given:—

(vii) Medical benefits of N.H.I.A. to be extended to include dependants.

(ii) Provision for every individual of a general practitioner or family doctor.

(iv) No third party between doctor and patient so far as medical attendance is concerned.

The future verdict is, I think, likely to be that these three proposals are unsatisfactory for the reason that, while the cost of paying the piper is largely transferred to public funds, the patient and the general practitioner between them are to be left so far as possible in undisputed possession of the right to call the tune. If we are agreed that the tune is a good tune what does it matter who pays and who plays. But are we?

The insistence upon the sacrosanct immutability of the G.P. that finds expression in these three principles is the very thing from which we hope the future will deliver us.

The doctor working by himself with all the limitations in regard to equipment, study, professional consultation that are implied by the condition that each practice must be financially self supporting does not appear to be likely to hold his own indefinitely. One hopes he will not. Admitted at once that splendid work is being done by general practitioners, the fact remains that professional and economic individualism are not the principles that it is most necessary to preserve when preparing the general practitioner for whole-hearted co-operation in a National Health service.

The smile of the tiger is very plainly to be seen in these three proposals.

(vi) The organised profession to be consulted from the outset by those responsible for financial and administrative control.

Yes, but remember that in the B.M.A. horoscope the profession will at this time still be divided between the whole-time salaried and those in private practice and that the words "those responsible" refer to individuals who will be responsible to Parliament in respect of public expenditure upon the National Health. The situation will want very careful handling indeed.

(iii) Consultant service to be available for individual patient through agency of family doctor.

(viii) Home hospitals to be provided in which family doctor may treat his own patients.

These two principles are interesting in that they recognise the need for improving the facilities available to the general practitioner. It will be noted, however, that the latter is still undissolved in the stream of time.

(i) That a satisfactory system of medical service must be directed to the prevention of disease no less than to the relief of individual sufferers.

(v) As much responsibility as possible for professional administration should be placed on the organised medical profession.

These two principles belong to a different order of thinking to those already discussed. They herald changes of the greatest possible importance and their application will mark the dawn of a new and better era.

It must be mentioned in passing, however, that the other six principles considered all seek to impose conditions calculated to place difficulties in the way of the realisation of the promise contained in these two.

It is impossible to exaggerate the importance of this recognition of preventive medicine. In the past the universality of private practice has had the effect of hampering the social benefits that should have flowed from the application of medical knowledge to prevention.

No benefit to individuals has resulted from this undue preoccupation with individual suffering—far from it. The diseases from which individuals suffer and die during the first two-thirds of life are largely diseases that are cured by time or not at all, but that could be prevented by social measures directed to that end.

Just as the power tax has influenced the design of the motor car engine, so has the private patient bias of the Teaching Hospitals set its mark on the teaching of medicine. Regarded from the preventive standpoint of the future our present curriculum will, I suggest, appear strangely detached from realities—resembling, as someone once said of a stupid person, "a dog in a picture gallery, interested in smells in corners."

But this vital change in the orientation of medical teaching will be impossible so long as general medical practice is conducted on a private basis. Would Dr. Hill agree that the full realisation of B.M.A. principle No. (i) will only become possible when we have a salaried State Medical Service?

Principle No. (v) suggests that a State Medical

service could be administered without marching the profession into the Town Hall. I hope that Dr. Hill will tell us as much as he can about this auto-administration by the profession itself.

Though I may have seemed to offer nothing but criticism of things as they are, I know that our profession is the proud possessor of a fine tradition. This is not the monopoly of any branch of the profession but is fostered by all who understand it.

A State Medical Service covering the whole field of preventive and curative medicine and organised largely by the profession itself to give its best and to extend its knowledge is, I think, my idea of the millennium. And then the only encroachments of which we should hear would be those of illness and suffering on the sphere of wellbeing.

DISCUSSION.

Dr. Alfred Cox, who was warmly welcomed, said that he had sometimes wondered whether there was any future for the general practitioner. He reflected, however, that the ordinary human being was distinctly an individualist when he was ill and that the G.P. was bound to be a part of any medical system. He agreed that the new orientation towards preventive medicine had not yet had much effect on the young practitioners of to-day. The clinic system, on the other hand, was isolated from the homes of the people. While the present general practitioner system was only interested in people when they were ill, he felt that National Health Insurance had done something to change this attitude. He felt that (a) medical practice must be based on some form of contract; (b) the patient must be able to call the doctor when he needed him; and (c) there must be no watertight compartments for the doctor. Finally, Dr. Cox urged the desirability of getting the general practitioner interested in preventive medicine. He suggested that the Society of Medical Officers of Health should show the way to bridge the gap between the two sections of the profession and show the general practitioner how to take part in preventive work.

Sir Francis Fremantle also urged the importance of promoting the preventive side of medicine. He agreed with Dr. Cox that the sick socialist, like any other sick man, wanted free choice of doctor and not a paid official. Discussing the question of how far a State Medical Service would go, Sir Francis said that since the institution of free education private education had developed and increased. He thought that the National Health Insurance system ought to have been an extension of the public health service, but the Friendly Societies had had too strong a hold. In considering this question we must recognise the serious limitations of all local authorities. Turning to the question of unification of preventive and curative practice, Sir Francis pointed out that whole-time medical officers of health had been advocated by the Local Government Board as far back as 1873 and that the Local Government Act, 1929, had crystallised the cleavage between public and private medicine. He thought that the General Medical Council was responsible for the faults of medical training as it consisted mainly of teachers of curative

medicine. Nearly all teaching of medicine was done in the hospital wards, where it was impossible to show preventive methods. The Medical Acts were for the national welfare; the profession must look to that aspect and make it worth while for practitioners to turn to prevention. He felt that the present Government programme for national fitness was a heaven-sent opportunity for applied physiology and preventive medicine.

Dr. G. F. McCleary referred to the question of the supply of good personnel for the public health service. Public health medical officers would have to undertake still greater responsibilities in future, but he thought that the development of the functions of the M.O.H. would attract many able graduates. He thought also that the public health service and the insurance service would inevitably come together in the course of time and that the G.P. would be well able to look after his own interests. He thought that it would be a great pity if the turmoil aroused by the passing of the National Health Insurance Act, referred to by Dr. Radford, were to be repeated.

Dr. E. H. T. Nash said that he was one of the few present who had had long experience of general practice before entering public health. He was of opinion that the public health service must not interfere with free choice of doctor by a sick person. Referring to the question of recruitment for the public health service, he felt that the quality of man entering was not so high as it had once been and that this was due to the fact that the entrant to-day had now only about a twenty-to-one chance of reaching one of the chief posts, as compared with a twelve-to-one chance about fifteen years ago.

Dr. A. K. Gibson (Hon. Secretary, Metropolitan Counties Branch, B.M.A.), said that the answer to the question, "Why does not the general practitioner go in for preventive medicine?" was that he might be interested in maternity and child-welfare, but he would find that he was not wanted on that side. The financial factor was really the main difficulty, e.g., the fixed overhead expenses of the general practitioner and the limited means of patients. He felt that the new Public Medical Services would meet the need for continuity of treatment. With regard to the future relations between the public and private practitioners, he said that round-table talks would be the best means of clearing the road for future developments.

Dr. W. G. Booth said that his experience was that there was no free choice of doctor in scattered rural areas, as the people had to take the man who was within reach of their homes. He, moreover, believed that G.P.s were not keen to take midwifery cases. Again, in his area, he had tried to work out a diphtheria immunisation scheme of which the general practitioners would be an integral part, but they had not shown any wish to co-operate. In his opinion a good type of entrant was now coming into public health and he found that applicants for appointments held their M.D.s and M.R.C.P.s. Lastly, he felt that the public health clinics had developed an excellent spirit as between the mothers and the local authorities.

The President (Dr. Ernest Ward) referred to some of

the points raised in the discussion and said that personal preventive medicine was easy to talk about but very difficult to carry into practice. He had great pleasure in conveying to the opening speakers a very hearty vote of thanks for their papers.

Replying to the vote of thanks, **Dr. Charles Hill** said that at no time had the private side of the profession been more prepared to submit to the administrative control of the public side. He had two concrete suggestions to offer: one was summed up in the words, "There is another point of view"; local advisory committees had proved of real value for mutual education. The second was that study of "Free Choice" public assistance medical schemes was worth while.

Dr. Maitland Radford felt that the real difficulties had not been faced and that the "bedside manner" would not solve them. He agreed that the best doctors in this high-principled profession were united in their desire for public service. The problem, however, was an economic one. We had to *sell* medical care, to explore the market up to the limits of the available income. He concluded, therefore, that the economic conditions of the people would not support a general practitioner service unless it were to be radically re-organised.

Obituary

We regret to record the following deaths which have recently occurred:—

SAMUEL LIGHTFOOT MELVILLE, L.S.A.—Dr. Melville qualified in 1889, and practised for 45 years at Middlewich, Cheshire. For 30 years he was M.O.H. of Middlewich U.D. He became a Fellow of the Society in 1905 and was recently elected a Life Fellow on the recommendation of the North-Western Branch. He was 72 years of age.

EDMUND FREDERICK ROSE, L.S.A.—Dr. Rose was a student at St. Bartholomew's Hospital and qualified in 1900. He was M.O.H. of Wayland and Swaffham rural districts in Norfolk for nearly 29 years and a Fellow of the Society of long standing.

WILLIAM VERNON SHAW, O.B.E., M.A., D.M., OXON.—The death on January 21st of Dr. W. V. Shaw, through pneumonia following influenza, will be learnt with regret by many M.O.s.H. with whom he came into contact as one of the Ministry of Health's epidemiological experts.

Dr. Shaw, who was 63 years of age, took first-class honours in Natural Science at Oxford in 1897 and qualified in medicine through St. Mary's Hospital in 1900. After a period as M.O.H. of Malton and Norton R.D. he joined the staff of the Ministry of Health, where he did valuable work in connection with outbreaks of infectious disease. One of his last tasks was to investigate the outbreak of typhoid at Bournemouth and Poole last year.

RECENT APPOINTMENTS IN THE PUBLIC HEALTH SERVICE

The following are some recent appointments to the public health departments of various local authorities.

The Editor will be grateful if members of the Society will notify him at once of any new appointments, giving details such as salary, date of taking up appointment, etc.

Birmingham C.B.; A.M.O.H., Dr. W. R. Martine (A.M.O.H. & S.M.O., Croydon C.B.). Salary £600 rising by £25 p.a. to £800.

Darwen M.B.; M.O.H., Dr. Gerard McCloskey (A.M.O.H. & S.M.O., Bootle C.B.). Salary £800.

Edinburgh City Hospitals; Medical Superintendent, Dr. A. Joe, D.S.C. (Med. Supt., North-Western Hospital, L.C.C.).

Essex C.C.; A.M.O.H., Dr. G. G. Stewart (A.M.O.H. Hendon M.B.). Salary £750 rising by £25 p.a. to £937 10s.

London County Council; Principal M.O. on Medical Central Administration, Dr. H. W. Bruce. Salary £2,000 rising to a maximum of £2,200.

Loughborough M.B.; M.O.H., Dr. Reginald C. Holderness (Deputy M.O.H. & S.M.O., Bury). Salary £800.

Maidstone M.B.; Dep. M.O.H., Dr. Sarah B. Harris (A.M.O., Keighley).

Sheffield C.B.; M.O. under Mental Deficiency Acts, Dr. F. J. S. Esher. Salary £750.

Stirling C.C.; M.O.H., Dr. E. N. Reid (Deputy and A.M.O.H., Dumbartonshire). Salary £1,200 rising by £25 p.a. to £1,500.

Swansea C.B.; A.S.M.O., Dr. Idwal Pugh (R.M.O., Hill House Isolation Hospital, Swansea).

Tottenham M.B.; M.O.H. & S.M.O., Dr. G. Hamilton Hogben (M.O.H., Swinton & Pendlebury M.B.). Salary £1,200 rising by £50 p.a. to £1,500.

Tewkesbury M.B., Gloucester & Newent R.D.s; M.O.H., also A.C. M.O.H., Gloucestershire, Dr. M. L. Sutcliffe (M.O.H., Stone U. & R.D.s, A.C.M.O., Staffs). Salary £800, rising by £25 p.a. to £900.

Tunbridge Wells M.B.; A.M.O.H. & S.M.O., Dr. W. G. Evans. Salary £500 rising by £50 p.a. to £700.

Twickenham M.B.; A.M.O.H., Dr. Dora F. Rose (A.M.O.H., Maidstone M.B.).

Warwickshire C.C.; Deputy Med. Supt., Hatton Mental Hospital, Dr. Stephen A. Mackeith. Salary £600 rising by £25 to £700; emoluments £150 p.a.

Welwyn Garden City U.D. & Hatfield & Welwyn R.D.s; M.O.H., Dr. A. T. G. Thomas (Deputy M.O.H. Enfield). Salary £800 rising by £25 to £1,000; £50 car allowance.

West Riding (Yorks) C.C.; Consultant T.O., Dr. Edwin Ratner (T.O., Stockport C.B.). Salary £750 rising by £50 biennially to £1,100.

JOHN WILKINSON, M.D., C.M., EDIN., D.P.H.—Dr. Wilkinson, who died recently at the age of 72, was for some 35 years M.O.H. of Droitwich rural district and a Fellow of the Society. He qualified at Edinburgh in 1886.

The Mantoux Test in Tuberculosis Dispensary Practice*

By P. D'ARCY HART, M.A., M.D., F.R.C.P.,

Assistant Physician, University College Hospital.

The following is a dogmatic statement on the routine uses of the Mantoux Tuberculin Test in English tuberculosis dispensaries under the present conditions of dispensary practice, and with the present method of manufacture of tuberculin. Certain of the interpretations are not strictly accurate, *e.g.*, it is assumed that a negative reactor becomes positive immediately after infection, whereas this change may not occur until after a few months. Nevertheless, the statement should suffice as a practical guide.

(I) Method

(a) *Tuberculin*.—A tuberculin whose potency is approximately that of the International Standard should be used; *e.g.*, Old Tuberculin, Burroughs Wellcome & Co. For routine tests, dilutions of 1/100 and 1/10,000 (sometimes also 1/1,000) are needed. The two important dilutions (1/100 and 1/10,000) are best obtained, freshly prepared, every 2 to 3 weeks in 1 c.c. ampoules or bottles, regularly by a standing order from a central laboratory or commercial firm. The dilutions are usually prepared in 0.5 per cent. phenol-saline. The previous batch should be discarded when the new batch has arrived in order to avoid possible misleading results due to deterioration. The weaker the dilution, and the higher the environmental temperature, the sooner does deterioration occur: hence the dilutions should be kept in the cool, or, if available, in a refrigerator, during their 2 to 3 weeks' "life." (Preparation of the dilutions on the spot from undiluted Old Tuberculin is not recommended, owing to the markedly adherent properties of the undiluted substance—see below.)

(b) *Syringes and Needles*.—One c.c. tuberculin syringes graduated in tenths or hundredths; and short, fine (20–26 S.W.G.), *short-bevelled* needles, (*e.g.* (i) Holborn Surgical Instrument Co., 26, Tavies Inn, E.C.1:—Nimrod 1 c.c. tuberculin syringes graduated in hundredths, and Nimrod 26 S.W.G. $\times \frac{1}{2}$ in. short-bevelled, stainless needles; or (ii) S. J. Owen, 35, Northampton Square, E.C.1:—1 c.c. tuberculin syringes (graduated in hundredths); and specially made (U.C.H. pattern) 20 S.W.G. $\times \frac{3}{8}$ in. short-bevelled needles). Sterilise needles and syringes by boiling. *Never* use syringes for any other purpose, *e.g.*, Schick Test, if previ-

ously used for tuberculin test, since tuberculin adheres even after prolonged washing and boiling. (This adherent property is most marked with undiluted Old Tuberculin—see above.)

(c) *Technic*.—Intracutaneous on front of forearm. A bleb must be raised.

(d) *Doses*.—For first test 1/10 c.c. of 1/10,000 dilution is injected intracutaneously in one forearm. Test is read at 48 (less preferably at 72) hours. Further procedure depends on whether this first test is positive, negative, or doubtful.

(i) Positive:—The test is complete.

(ii) Negative:—Retest in other forearm with 1/10 c.c. of 1/100 dilution and read at 48 (less preferably 72) hours. The test is now complete.

(iii) Doubtful:—Retest with 1/10 c.c. of 1/1,000 dilution and read at usual time. If then negative or doubtful, proceed as for (ii); if positive, the test is complete.

The retests should be made at the time of reading the previous reaction. No control is required for the test.

If for some reason the routine two-dose method cannot be carried out, and a single test only is possible, the 1/1,000 dilution should be chosen. Such a departure is, however, undesirable. (The occasional requirement of a 1/1,000 dilution can be met by diluting the routine 1/100 dilution with normal saline. Owing to the absence of preservative in the diluting fluid, this solution obviously should be discarded after use.)

(e) *Recording*.—Record test as positive or negative to the particular dilution. Any degree of measurable erythema, or of oedema with erythema, is taken as a positive reaction. Erythema alone, if less than 5 mm. in diameter, should be regarded as doubtful. Doubt will be removed by the routine retest with stronger dilution, or, if the 1/100 dilution has already been given, by a repeat with the latter.

(f) *Skin irritation*.—This is liable to occur with certain adults. The best treatment is application of calamine lotion on lint. This can be washed off for reading the test.

(II) Principles Underlying Routine Use of Test

(In the remarks of this and the succeeding sections, "positive" and "negative" are to be taken as applying to tests carried out strictly according to the above method.)

A positive test signifies *only* that infection has

* Paper read to the Metropolitan Tuberculosis Sub-Group.

taken place, and does not distinguish, *e.g.*, by the size of the reaction, between tuberculous infection and tuberculous disease. Since, however, in children under five years of age, the younger the age the more likely is infection to lead to progressive disease, a positive test in such cases has some indirect significance as to tuberculous disease. A negative test is much more important than a positive test, because it signifies that infection and therefore disease is absent. (A test found negative and based upon the use only of a 1/10,000 dilution, without retesting with a stronger dilution, is worse than useless, for it is misleading.)

(III) Examples of Use in Dispensary Practice

(a) *A patient has symptoms suggestive of tuberculosis but bacteriological proof is lacking: a Mantoux test has been performed.*—If the test is negative, it should be assumed that the symptoms are non-tuberculous. If it is positive, no attention should be paid to the result, and the diagnosis of tuberculosis considered in the light of other evidence only.

Since the likelihood of obtaining a negative test under such circumstances is inversely proportional to age, this use of the test decreases with increasing age of the patient. However, it is worth performing under such circumstances in all patients below twenty-five years of age.

(b) *A family of contact children have been brought up for the first time, and Mantoux tests have been performed.*—Some of the children are found to give positive, and some negative, tests. The extent of the examination of those negative can, as a result, be reduced to a minimum on the assumption that they are not infected, and any symptoms present can be assumed to be non-tuberculous. Those positive should be examined in the accustomed manner (clinical, X-ray, etc.), no attention being paid to the positive tests, and conclusions being arrived at in the light of other evidence (*e.g.*, X-ray) only.

(c) *All contact children, whether they have symptoms or not, are followed up by periodic examinations while the source is still present, and for a period after it has been finally removed, Mantoux tests being repeated at (say, six-monthly) intervals on those previously giving negative tests.*—The extent of examination can be reduced to a minimum as long as a child is negative, on the assumption that it has not yet been infected, and any symptoms that develop can be regarded as non-tuberculous. Periodic examinations of children remaining negative could be discontinued, say, six months after the source has been finally removed. If and when a child becomes positive, it should be examined in the accustomed manner (clinical, X-ray, etc.), no attention being paid to the positive test, and conclusions being arrived at in the light of other

evidence (*e.g.*, X-ray) only. Periodic examinations of positive children can, with advantage, be continued for, say, two years after the source has been finally removed.

(IV) Important Exceptions to the Above Interpretations

(a) In children between two and five years of age a positive test should be regarded as suspicious, and in children under two years very suspicious, of incipient progressive disease, even if no other evidence be present.

(b) In measles and scarlet fever a positive reaction may be temporarily suppressed.

(c) A positive reaction may also be suppressed with severe toxæmia from conditions suggestive of tuberculosis.

REFERENCES TO SCIENTIFIC LITERATURE.

Contributors of articles to PUBLIC HEALTH are asked to note that henceforward the Harvard system of giving references to scientific literature is being adopted, as follows:—

1. Numbered references in the text will no longer be used.

2. Each reference in the text should (a), if the author's name or the title of a report is part of the sentence, give the year of publication in brackets, or (b), if the source is not part of the sentence, give both source and year of publication in brackets. For example:—

(a) Stillbottle (1931) has tried to prove
(b) Experiments have been conducted (Visky and Sohda, 1919) . . .

3. The full list of authors or sources to which references are made is placed in alphabetical order at the end of the article. Each reference should give the authors' names and initials, the year of publication (in brackets), the title of the periodical (or of the book: in the latter instance, place of publication also), the volume number and the number of the first page of the paper quoted. Thus the end-references of the apocryphal samples given above would read:—

Stillbottle, A. (1931). *Fish versus Flesh*. London, p. 73.
Visky, Y., and Sohda, Z. (1929). *Arch. Alcoh.*, 22, 575.

THE Seventh English-Speaking Conference on Maternity and Child Welfare will be held in London in the Great Hall of British Medical Association House, on Tuesday, Wednesday and Thursday, June 1st, 2nd and 3rd, 1937, with the Rt. Hon. Sir Kingsley Wood, P.C., M.P. (Minister of Health) as President. The Conference will be organised on behalf of the National Council for Maternity and Child Welfare and its constituent bodies by the National Association for the Prevention of Infant Mortality, in co-operation with the Maternity and Child Welfare Group of the Society of Medical Officers of Health, which will also hold a Clinical Course for Medical Practitioners on Sunday morning, May 30th, and on Monday, May 31st.

The School Dental Service: Retrospect and Prospect*

By JEFFREY FLETCHER, L.D.S., R.C.S. (ENG.),

School Dental Officer, Devon County Council.

In the Annual Report of the Canadian Dental Hygiene Council appears this somewhat snappy couplet:—

"A poor life this if, full of care,
We have no time to stand and stare."

I hardly imagine that when Mr. W. H. Davies wrote these lines on the subject of "Leisure" he was thinking that this life would lose any of its sweetness if we could find no time to stand and stare at someone, say, digging a hole in Piccadilly. This was certainly not the sense in which it was used in the Canadian Report and it is not the sense in which I propose to use it this afternoon. I think it is generally agreed that continuous dental work for young children is an extremely exacting occupation. The average school dental officer is so cumbered about much clinical serving, so to speak, that at the end of the day he has little inclination to stand and stare, to take stock of his position, in fact, to give his mind to the problems of public dental health. This fact is, however, now becoming to be recognised and to my thinking is one of the biggest arguments in favour of the appointment of Senior or Supervising Dental Officers, whose minds would be relieved to some extent of clinical duties so that they might be able to give thought to the administrative problems of the service. So now this afternoon I want to take this opportunity of standing and staring for a moment so to speak at some of the aspects of the School Dental Service as they strike me.

The Status of the Public Dental Officer

A few years after I joined the service there appeared in the *British Dental Journal* of December 15th, 1928, a paper on School Dentistry by the late Dr. Langdon, which I remember thinking at the time extraordinarily good, so good in fact as to be almost in the nature of Holy Writ for School Dental Officers. Re-reading this paper recently I thought perhaps it would not be amiss to review it in the light of our present-day experience. First of all Dr. Langdon referred to the question of status and said that our position was very much what we chose to make it. Now status as I see it is of a three-fold nature, there is the regard in which we are held by the general public whom we serve, our standing in relation to the Medical Officer of Health and lay committees, and finally

our standing in relation to our professional brethren in the sphere of private practice. Societies such as this do much to raise the status of the Public Dental Officer and will anyone deny that the esteem in which we and our work is held has risen greatly during the past decade? Dr. Langdon, doubtless had in mind the single-handed dental officer who was perhaps then more the rule than as now the exception and his words were then, and perhaps still are, very true. Now, however, when thinking of status the first thought probably that comes into our minds is the question of what measure of administrative control we have in Public Dental Health Schemes. Some authorities are very nearly faultless in this respect, and the Dental Scheme is controlled by a Dental Officer, but too many others lag sadly behind. It seems very strange that this should be so when this Group, the British Dental Association and the Board of Education have for many years been pressing for this reform. Listen to these words of Sir Norman Bennett, appearing as long ago as January, 1919, and detailing future aims:—

"Recognition of Dental Science as an essential factor in public health by the inclusion of dentists in the administrative machinery of the proposed Ministry of Health."

"Organisation and administration by dentists of all forms of Public Dental Service in co-operation with Medical Officers and others responsible for the service of which dental treatment forms a part."

Why is it after all this, I wonder, that some authorities and medical officers still refuse to appoint Senior Dental Officers or what is perhaps worse have senior dental officers who are senior only in name or length of service and who are in no sense supervising officers with administrative control? Is it that they fear to release one of their dental officers from even a modicum of clinical work, when as I have said earlier in this address one of the strongest arguments in favour of the appointment of Senior Dental Officers is that it would allow those well acquainted with the difficulties of the public dental service to give time and thought to the administrative problems of the service as they from time to time arise?

Interpretation of the School Dental Scheme

We must now pass on to Dr. Langdon's remarks on the interpretation of the Dental Scheme. He lays down for us two guiding principles. First, that the main purpose of School Dentistry is the

*Presidential Address to the Dental Officers' Group, October 24th, 1935.

preservation of the permanent teeth. And secondly that it is better to give complete treatment to one child than incomplete treatment to two. One would certainly think that there could be little disagreement with these two principles. The intention of the statistical tables required by the Board of Education would seem to be perfectly clear. The Board call for a return of the number of children inspected, the number of those found to require treatment; found to *require* treatment remember, not offered treatment or anything like that, and finally the number of children actually treated. Now in the *Health of the School Child* it has been laid down that the inspection "should be conducted with sufficient skill and care to enable all children in need of treatment to be selected." You should therefore be able to deduce from the figures by taking the difference between the number inspected and the number found to require treatment the percentage of children naturally or artificially sound at the time of inspection. The other figures should give us the percentage rendered sound by subsequent treatment.

Thus, taking the figures for the country as a whole, we find that roughly 70 per cent. of the children examined are found to require treatment and that roughly 60 per cent. of these receive it. We should deduce from this that 30 per cent. of the children are found to be sound and that 42 per cent. of the gross total are rendered sound by treatment and so in all 72 per cent. of children included in the scheme should be dentally sound, which all sounds reasonably satisfactory.

But is this in fact a true interpretation of the figures? It would, no doubt, be true of the figures from some authorities, but when we compare the returns from individual authorities we find some amazing variations in the numbers treated annually by their dental officers. One authority in 1933 showed a figure only a little short of 4,000 children treated per dental officer per annum, quite a number were round about 3,000 per dental officer, many were round about 2,000 and a few below that figure. I should like to say here that all these figures are from reports from county areas, as my experience of school dental work has been confined to such areas. It is also significant to note that among the lower figures for children treated per dental officer were some from areas which I know from personal experience are carefully supervised and administered by capable senior dental officers. It is also interesting to note that the average number of fillings inserted per dental officer per annum in the representative group of counties analysed varied from 500 to 3,000. These figures certainly show a very remarkable degree of variation. And as the condition of children's teeth from the point

of view of any natural immunity or resistance to decay does not seem to vary very greatly from one part of the country to another, the only explanation would seem to be that it is the interpretation of the dental scheme which does the varying.

Now surely this is wrong. There should be some sort of uniformity throughout the country and school dental surgery everywhere should work on the basis of complete treatment for every child accepting treatment following a routine inspection. The aim of dental surgery is to put the mouth in order and to keep it in order by periodic re-examination. Then why is there so much divergence in practice? Some may say that there is so much sepsis that must be eradicated before conservative treatment can be attempted; others may claim that in small rural schools it is impossible to carry out full treatment for all children because for some children more than one appointment would be necessary for this to be done; some may think that they are expected to return such high figures of children treated per annum that they do not give sufficient time to each individual case, and still others say that if they were to carry out for each child all the treatment required each time they would convert potential acceptances into refusals, and that, therefore, it is better to do a little each time and keep the child accepting year after year and hope that at some future time by good fortune the mouth may at last come to be in good order.

Now all these hypothetical reasons which I have put forward to explain the lack of uniformity in school dental practice may seem to have a certain amount of rationality, but, nevertheless, I am convinced they are wrong. The dental scheme, apart from being a health service, is also an educative one, and its aim must be to teach the parents and also the parents of the next generation, that is to say the children themselves, the value of good sound dental treatment followed up by annual re-inspection and treatment when necessary, and unless the highest ideals of dental surgery are maintained this ideal will certainly not be attained. For is it not quite obvious that you cannot hope to popularise dental surgery by not doing it?

To those in rural areas who claim that full treatment is not always possible because of the second appointment difficulty the answer is contained in Dr. Langdon's eight-year-old article. Writing of this difficulty he says: "But I know that it is being surmounted in some such districts, and if in some why not in all?" This passage is also illuminating: "Dentists differ considerably in their estimates of how much a child can stand in the way of treatment at a single sitting, but I am inclined to think that some of you may under-

estimate a child's capacity in this respect." Here is also a passage which I think deserves to be quoted in full:—

"Members of your committee may criticise your work on the ground that Mr. So-and-so can treat twenty children in the time that you have taken to treat seven or eight, and in spite of all you can say you have the uncomfortable feeling that you are suspected of slackness. You have on the other hand the satisfaction of knowing, not only that you have done work that will last, but also that no one who understands the principles of school dentistry is going to measure your work merely by the number of children you have treated."

Standardisation of Aims

Surely an operating policy could now be devised which would tend to standardise, although in not too rigid a manner, the aims of the service and make the statistics less meaningless. I would tentatively suggest that it might read something like this:—

(1) The extraction of all septic temporary teeth together with those which cannot be rendered safe by simple conservative methods.

(2) The filling of all permanent teeth at the earliest stage at which the carious process can be detected, having particular regard to the fissures and pits.

I have said nothing about the extraction of permanent teeth, as this, apart from those extracted for orthodontic reasons, is no part of our policy.

Propaganda

The article then goes on to deal with the question of propaganda and speaks of the help the Dental Board is able to give us in this matter. In regard to the activities of the Dental Board in this respect I have a feeling that many of us do not know exactly what the Board is prepared to do for us. Now perhaps this is our fault for not sending to the Board and asking for particulars, or maybe it is the fault of the Board for not seeking us out and telling us. I do know this, however, we see many more posters in schools issued by the Health and Cleanliness Council than we do issued by the Dental Board. And yet they have the posters and very good ones they are, too.

And as this brings me to the end of the remarks I have wished to make I do not think I can do better than quote the closing sentences of Dr. Langdon's article. He writes:—

"I should like to conclude with the words of one of our well-known School Medical Officers, written this year, as illustrating the position that your service holds in the estimation of one well qualified to know:—'Nobody who has even a rudimentary knowledge of preventive medicine will question that the dentistry of children stands absolutely

first of all measures for the suppression of disease. It is not too much to say that the school dentist performs work for the community more important than that of anybody else, and that the return for the trouble and expense of attending to the teeth of children pays the highest dividend of any form of human industry.'"

MINISTRY OF HEALTH PUBLICATIONS.

The subjoined notes regarding recent Ministry of Health circulars, memoranda and reports are made available by courtesy of the Ministry. Readers are reminded that priced documents should be obtained not from the Ministry but from H.M. Stationery Office, Adastral House, Kingsway, W.C.2, who will open deposit accounts and receive subscriptions for the regular supply of publications of a specialised nature. Documents which are not priced in the following list are not obtainable from the Stationery Office, and if any reader wishes for a copy of one of these, it is open to him to apply to the Ministry direct.

Circular 1582. Price 1d. net. By post, 1½d. *Fees of medical practitioners called in by midwives.* Circular issued to local supervising authorities under the Midwives Acts (England) enclosing Regulations fixing the scale of fees to be paid by such authorities to medical practitioners called in by midwives under Section 14 of the Midwives Act, 1918, and prescribing conditions subject to which the fees are to be payable.

Circular 1583. Price 1d. net. By post, 1½d. *Housing (Rural Workers) Acts.* A Circular to such County Councils and Rural District Councils as are Local Authorities for the purposes of the Housing (Rural Workers) Acts (1911) accompanying a report by the Rural Housing Sub-Committee of the Central Housing Advisory Committee calling attention to the importance of publicity in the administration of the Acts. The Circular expresses the Minister's concurrence in the Committee's views and calls upon the Local Authorities to give careful consideration to the report in their endeavour to secure the utmost possible assistance from the operation of the Acts in the improvement of Rural Housing conditions.

Report.—Price 6d. net. *Report of the Rural Housing Sub-Committee of the Central Housing Advisory Committee.* The report states that in their preliminary consideration of the operations of the Housing (Rural Workers) Acts the Sub-Committee were struck by the importance of adequate publicity and arranged to hear evidence on this question from representatives of the Devon County Council, the East Suffolk County Council and the West Kesteven Rural District Council, areas in which the administration of the Acts had been notably successful. A summary of the publicity arrangements in operation in these areas accompanies the report, together with photographs of cottages before and after re-conditioning, and a statistical statement illustrating the progress made in the various areas up to March 31st, 1936.

Circular 1584.—Health Services, Annual Returns. Encloses copies of the forms to be used by Local Authorities in making the annual health returns for the year 1936, with respect to maternity and child welfare, tuberculosis, venereal disease, cancer and hospital treatment. The relevant forms are M.C.W. 96 (revised), M.C.W. 96a, Hosp. 6, T.145, T.145a, T.145b, T.137/1936. V.D. (R.) (revised), V.D. 5 (revised) and Hosp. 7.

SOUTHAMPTON MATERNITY UNIT*

By H. C. MAURICE-WILLIAMS, M.R.C.S., L.R.C.P., D.P.H.,
Medical Officer of Health, County Borough and
Port of Southampton.

The Maternity Unit nearing completion is situated two miles to the north-west of the centre of the town, adjacent to the existing Borough General Hospital. It has accommodation for 42 lying-in beds, and is capable of dealing with between 700-800 patients per year.

The Maternity Unit is connected with the main General Hospital by means of a covered way, and all the food will be conveyed in electrically heated trolleys from the main hospital kitchen to the two duty rooms for service.

The Unit has been divided into five sub-units, namely, Reception, Lying-in, Combined Labour and Operating, Isolation, and finally the Ante-natal Clinic. The Unit contains 42 beds in the lying-in section, 4 pre-labour beds, and 3 isolation beds, making a total of 49.

The main entrance to the Unit is on the east side, and leads into the Reception Block. On the right-hand side of the entrance vestibule, there is a waiting room for the visitors. Leading out of this, there is a locker room which contains steel cupboards for the storage of the patients' clothes whilst in hospital.

The reception side consists of a patients' waiting room, examination room and bathroom. In the latter there is installed a special pre-natal bath with shower, to obviate the necessity of complete immersion. Adjoining this, there is a Sister's office, and a two-bedded ward, the latter being kept under observation through a window in the Sister's office. There is also a patients' sitting-room, which will be attractively furnished and will be used by the ante-natal cases and by those patients who are fit to get up after the tenth day.

The lying-in section has been arranged in two main wings. Each wing consists of one six-bedded ward, three four-bedded wards, two single-bedded wards, with a duty room at the angle to control each wing, and from this duty room there is direct observation into three wards. The floors of all the wards are of narrow Tasmanian oak strips, and all the wards are fitted with a wash-basin and fixed lotion bowls. All the internal angles are coved. The doors are of polished oak flush pattern, hung on steel frames. The windows in the wards are of steel casement type, with bottom hung opening sashes and fitted to cavity sub-frames. The sluice rooms serving the two wings are opposite the duty room, together with the bathrooms and lavatories. Each sluice room is fitted with a Shank's bed-pan washer, steam-heated bed-pan steriliser, and heated bed-pan racks.

Next to the duty room in the corridor of the East Wing, there is a cold room, fitted by the Frigidaire Company.

Between the two wings, there is a large Nursery, with casement doors opening on to a covered verandah.

The wards are approached by a corridor 7 ft. 6 in. in width, and the walls are finished with a terrazzo dado to a height of 5 ft., leaving the centre of the floor to a

width of 4 ft. to be covered with rubber, for the purpose of diminishing sound.

The building, which is at present one storey, has a flat roof in reinforced concrete, and is so planned and constructed that the whole of the lying-in section can be duplicated on the first floor when such an extension becomes necessary, and in this connection, provision has been made for a bed lift and staircase. It will thus be possible to double the existing lying-in accommodation.

I may say that I am very much in favour of institutional care for confinements. Although the Memorandum accompanying the new Midwives Act indicates that the Midwives Service will tend to reduce the number of institutional births, I feel that this prediction is likely to be erroneous. The ordinary home, in my opinion, is not a suitable place in which a confinement should take place. The same standard of surgical cleanliness is necessary as that which is expected for a major surgical operation, and the facilities for doing this are seldom available in private houses.

Some may contend that the psychological disturbance of moving the patient away from her home counterbalances the benefit, but I feel that in 50 years time the profession and the public will look back upon our present methods of domiciliary midwifery in the same way as we think of surgery in the pre-Lister days.

Further, I am of the opinion that obstetric work should be undertaken by a person who is thoroughly competent, who devotes the whole of his time to this particular speciality, and who is therefore capable of dealing with any emergency that might arise.

Some, in defence of domiciliary confinements, quote that the puerperal sepsis rate is higher in institutional practice, but this is an unfair comparison, as the great majority of cases at present admitted to our maternity homes and hospitals throughout the country are cases suffering from some abnormality, or cases where the home conditions are such that the woman is suffering from a degree of malnutrition which has lowered her resistance to infection during this period.

The provision of institutional treatment would not cost the local authorities very much more than this new Midwives Service, when one considers that each case is going to cost between £4 and £5, taking into account the midwife's salary, equipment, dressings and other expenses.

Some may bring forward the question of removal during the stage of labour as detrimental to the patient, but I would advocate that, whenever possible, the admission should take place at least four days before the expected date of confinement, and even if the patient is removed after labour has commenced, our modern methods of transport, with well-sprung ambulances, should not be detrimental to the patient's condition.

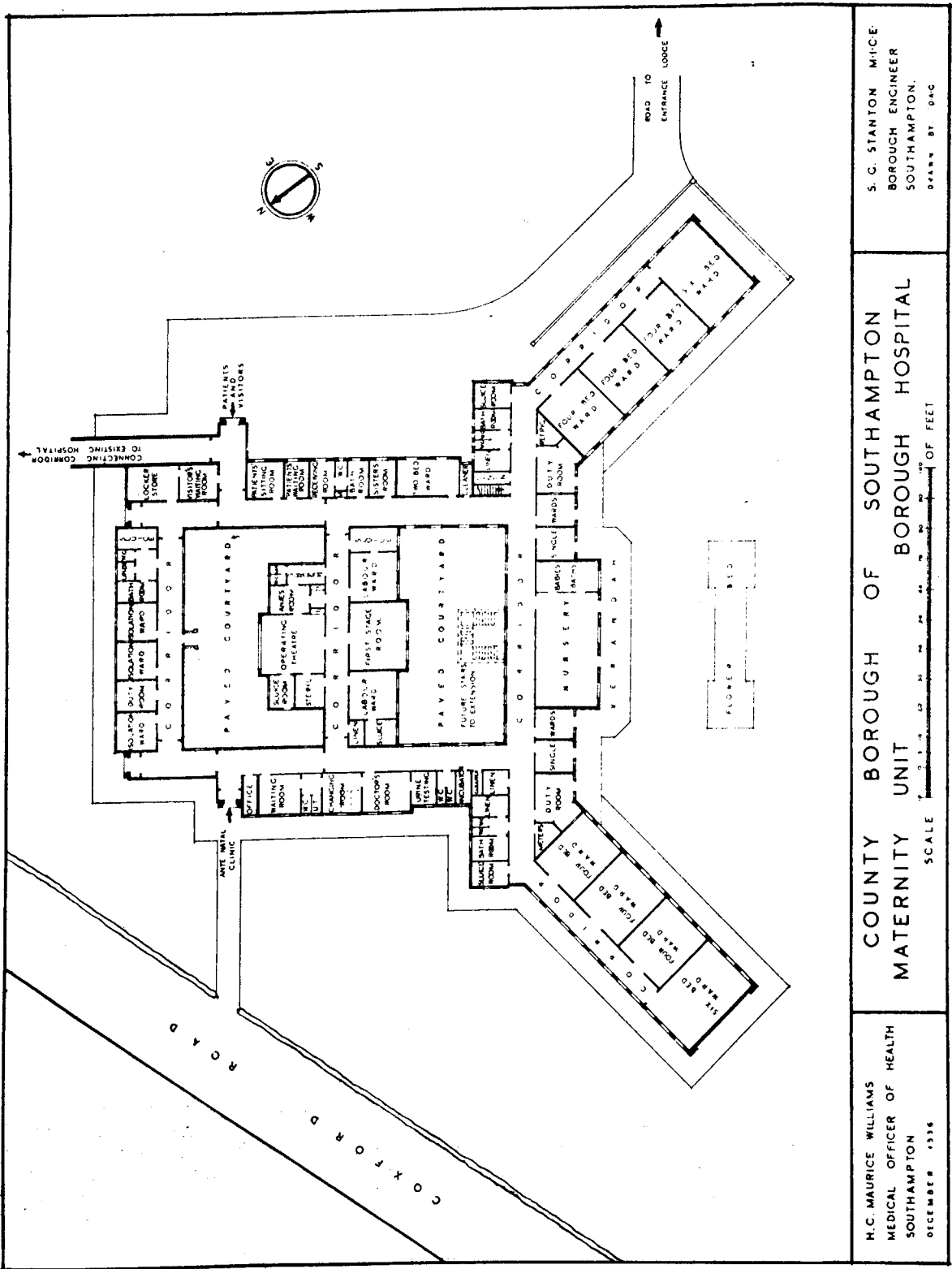
In the lying-in wards we have introduced one or two novelties, such as having night-lights placed near the floor, so that the patient's sleep, as far as possible, will not be interfered with during the night.

Further, we have introduced a special signalling system, operated by two switches placed near the bed, which are connected with red and green lights. These lights are placed over the door of the ward and also in the duty room of the particular wing. This signalling

system has been introduced for the purpose of informing the nurses, with as little inconvenience as possible, of the requirements of particular patients in a given ward. One bell push has been labelled "Bed Pan," and the other "Nurse." Wireless plugs with hand microphones

are also provided at the side of each bed, with a recessed reading lamp above.

The other novelty is in connection with the poison cupboard in the corridor outside the Sister's room. Immediately the door of this cupboard is opened, a red



* Part of a paper read to the Southern Branch, December 11th, 1936.

light and a buzzer operate, and continue until the door is again locked.

The walls generally are plastered and finished in a definite colour scheme. The East Wing wards have been painted pale primrose, and the West Wing pastel blue. The beds in the primrose wards will be blue enamel, and in the blue wards, primrose. The bed lockers and ward furniture, as far as possible, will match the scheme. The Nursery will also be coloured pastel blue, and one side will be partitioned off by means of a glass screen, for the bathing of babies in three special babies' baths, with temperature controls.

There is also a small room which will be known as an Incubator Room, kept specially for premature babies. There is a thermostatic control of temperature on the radiator, and the correct humidity will also be controlled.

Dealing next with the combined Labour and Operating Section, there is a first stage room containing four beds, and the two labour wards with the necessary sluice rooms are placed on either side.

There is a good deal of diversity of opinion with regard to these first-stage labour wards. Some authorities contend that they should be single-bedded wards; others favour multiple-bedded wards. I spent a considerable time consulting various authorities on this matter, and finally came to the conclusion that the four-bedded wards were the most generally accepted from a utility point of view.

Each of the labour wards will be fitted with a shadowless lamp in the centre of the ceiling, and we have introduced trough basins for washing up, which I am informed have proved very satisfactory in the new Surgical Unit at St. Bartholomew's Hospital.

The floors will be of terrazzo squares, with a terrazzo dado to a height of 5 ft.

The Operating Theatre is exactly opposite the pre-labour ward, and adjoining the theatre are the anaesthetising room, the surgeon's lobby, sterilising room and sluice rooms. These also have terrazzo floors and walls.

The two instrument cupboards will be of stainless steel and built into recesses, and the X-ray viewing lamp will also be built into a recess.

The floors and walls will be of a smooth terrazzo surface, and the shadowless lamp will run the whole length of the ceiling on rails. A special ventilating system is to be installed, and heating will be by means of steam-heated panels underneath the terrazzo floor.

The Isolation Unit consists of three single-bedded wards, duty room, bathroom and sluice rooms. This Unit can be completely shut off from the rest in the case of severe infection, and can therefore operate as a separate unit.

The Ante-natal Clinic consists of an office for the nurses in attendance, a waiting room, changing room and a doctor's consulting room, out of which leads a urine testing room. In the changing room a special urinettes for the collection of urine specimens has been provided. The Clinic will have a separate entrance to Coxford Road, for the intention is that the Clinic should serve the new housing estate which the Corporation are in the course of completing.

It is probable that we shall deal with between 700 and 800 cases a year in this Maternity Unit. Approximately 25 per cent. of the beds will be allocated for ante-natal

cases, and it is for this reason that a sitting-room has been provided for the patients and also for those who are up after the tenth day.

With regard to the staffing of the unit, we have at present a consulting obstetrician, who will visit, and it is intended to engage an additional resident medical officer whose main duty will be to act as resident obstetric officer to the unit.

The Council have also decided to appoint a senior sister, who will be under the general supervision of the matron. She will hold the Teacher's Diploma, and be in charge of the teaching and nursing staff.

CURRENT AND TERMINAL DISINFECTION

In a recent Chadwick Lecture on "Modern Views on Infection and Disinfection" (published in the *Lancet*, January 9th, page 102) Sir Weldon Dalrymple-Champneys, Bt., M.D., F.R.C.P. (M.O., Ministry of Health), made the following remarks on the relative values of current and terminal disinfection:—

A great deal of money, time, and trouble has been wasted in the past on applying general methods of disinfection to every kind of case instead of suiting the procedure to the particular circumstances. Disinfection to be rational should surely be founded on knowledge of the infecting micro-organism concerned. For instance, the ultramicroscopic virus which causes measles is a delicate organism easily destroyed by exposure to light and air, whilst the anthrax bacillus is a highly resistant organism. Moreover, the ultramicroscopic viruses are peculiar in their resistance towards chemical disinfectants, being extremely resistant to substances such as carbolic acid whilst being readily killed by permanganate of potash.

In the past reliance has been placed chiefly upon "terminal" disinfection (the treatment of the patient's room, clothes, etc., after recovery or removal to hospital), whilst "current" disinfection (the treatment of infective material in the sick-room during the patient's presence there) has been much neglected. Current disinfection has, however, been shown in recent years to be all that is required in such diseases as measles, whooping-cough, German measles, and diphtheria, terminal disinfection in such cases being confined to the free use of soap and water and thorough ventilation. A recent survey of the practice in regard to disinfection of a large number of countries represented at the Office International d'Hygiène publique in Paris (1934) showed that in the United States and in certain European countries terminal disinfection has been abandoned without any apparent increase in the incidence of infectious diseases. It is disappointing, however, to note that although this changed practice has been adopted in a number of large towns in this country we are apparently far behind the United States and certain other countries in this respect. The effectiveness of current disinfection depends, it is true, upon the thoroughness and intelligence with which it is applied, and is inapplicable in hygienically backward countries, but we should hardly care for our country to be so classified.

Office International d'Hygiène publique (1934), *Bull. Off. int. Hyg. publ.* 26 (Supplement).

THE NEWCASTLE DIETARY INVESTIGATION*

SUMMARY AND CONCLUSIONS.

1. The intake of food of 69 families in Newcastle selected so as to be representative as far as possible of the working class community was determined quantitatively for a week in September, 1934. The bread-winner in 38 families had been unemployed for from six months up to nine years; 24 of these families lived in old houses and 14 on new estates. The bread-winner was employed in 28 of the families of whom 18 resided in old houses and 10 on new estates. There were also 3 widows' families.

2. The average diet of the 69 families supplied, per man-value daily, 2,960 calories, 82 grammes of protein (36 from animal sources), 94 of fat, 445 of carbohydrate, 0.63 of calcium, 1.23 of phosphorus and 15 mg. of iron. The average man-value was 3.6, the expenditure on food per man-value per week being 62.4d. As judged by commonly accepted standards this diet is just about sufficient in all these nutrients, except calcium and phosphorus which are both deficient by about 8 per cent.

3. Wide variations were found in the consumption of nutrients of different families. The ranges in the 69 families were:—calories, 1,846–5,261; protein, 51–161 grammes; calcium, 0.24–1.41 grammes; phosphorus, 0.61–2.44 grammes; iron, 7.2–28.9 mg. per man-value daily. The variations were more marked in the employed than in the unemployed families.

In the frequency distribution of diets according to calories, total protein, animal protein and calcium contents, more unemployed than employed fell below a range of intake within which sufficiency is considered to lie, for calories, animal protein and calcium; more employed than unemployed fell above the ranges in calories, total protein, animal protein and calcium. It is not suggested that all diets below the ranges are necessarily inadequate for the families concerned, because the variations in nutritional needs of individuals are known to be considerable but it is probable that such diets are within the danger zone in regard to the genesis of malnutrition.

Two employed families had less than 1,900 calories; 6 unemployed, 3 employed and one widow's family less than 0.4 gramme of calcium; 3 unemployed and 4 employed families less than 60 grammes of protein per man daily. These diets were therefore deficient in these nutrients.

Four employed families had 4,500 or more calories; 3 employed and one unemployed family had 130 grammes or more protein and one employed family over 90 grammes animal protein daily. These intakes were probably excessive.

4. The average diet of the unemployed was lower than that of the employed in fat and animal protein; the average diet of the unemployed, new estate, families

was lower than that of the employed, new estate, families in calories, fat and animal protein. These differences were shown on statistical analyses to be greater than would be likely to arise by chance. The differences between the other means could have been due to chance; but, since the frequency distribution and the averages showed the unemployed diets to be consistently lower in every particular than the employed diets, irrespective of housing conditions, it is very probable that the diets of the unemployed as a whole were inferior to those of the employed.

5. The amounts of energy and protein obtained per penny of money spent on food were 23 per cent. higher in the unemployed than the employed families. Statistical analysis showed that these differences were unlikely to be due to chance. The unemployed therefore purchased these nutrients at lower cost than the employed. The cost of calcium was the same in both groups of families.

The employed spent 36 per cent. more money on the purchase of food than the unemployed, but there was no indication of markedly excessive purchase of expensive foods to the exclusion of equally nutritious cheaper foods by either group of families.

6. There were no important differences between the average man-values in the different groups.

Rent was 21 per cent. higher in the new housing estates than in the old houses but rent did not appear to be closely related to intake of food.

7. The larger families on the whole had less adequate diets and spent less money on food than the smaller families. The calorie content of the diets gave a rough indication of their composition in the other essential nutrients considered, except animal protein and calcium, the amounts of which did not always vary in the same direction as calories.

8. Significantly more employed than unemployed families consumed cakes, fresh tomatoes, butter, fresh milk, bacon and boiled ham. The differences between the numbers in the two groups is most probably related to the greater outlay on food by the employed families. The new estate families consumed on the average 0.26 pint of liquid milk per man daily, the employed, old houses, families 0.19 pint per day, and the unemployed, old houses, families 0.13 pint per day. Seventy-six per cent. of the unemployed consumed butter and 66 per cent. fresh milk; the figures for the employed were 96 and 100 per cent. respectively.

Only three families consumed liquid skimmed milk, but the majority consumed condensed skimmed milk. One-fifth of the employed but only a negligible number of the unemployed used condensed full cream milk.

9. Nearly all the bread consumed was baked at home. Brown bread was used by 45 per cent. of all families. The average total consumption of bread per man-value daily was 10 ozs. (1,000 calories). Thirty per cent. of families used oatmeal.

The average consumption of sugar by all families, excluding that present naturally in foods or added to prepared foods and dishes such as jams, biscuits and sweets, was 2.4 ozs. (280 calories) per man-value daily; the figure for potatoes was 5.9 ozs. (146 calories).

10. Ninety-nine per cent. of families consumed fresh vegetables and 88 per cent. fresh fruit. Thirty per cent.

* The full report, *A Study of the Diets of Sixty-Nine Working Class Families in Newcastle upon Tyne*, is obtainable from the Public Health Department, Town Hall, Newcastle, price 1s.

of all families consumed canned vegetables and 17 per cent. canned fruits.

11. All 69 families consumed fresh meat, 71 per cent. fresh fish, and 68 per cent. canned or cooked meat and fish.

12. Stewing was the most popular method of cooking meats.

13. The consumption of canned, prepared and cooked foods was higher among the employed than the unemployed.

14. The hæmoglobin content of the blood was determined in 38 of the men, 76 of the women and 138 of the children included in the investigation. Using the Dare hæmoglobinometer, readings below 70 per cent. in the men or 65 per cent. in women and in children below 12 years, were considered to be indicative of anæmia. The average hæmoglobin values were: in the men 83 per cent., in the women 73 per cent. and in the children 73 per cent.

Adopting the definition of anæmia as previously stated, 2 men (5 per cent. of the total), 16 women (21 per cent.) and 27 children (20 per cent.) were found to be anæmic.

Of the 37 women in the unemployed group, 12 or 32 per cent. were anæmic, as compared with only 4, i.e., 10 per cent. of the 39 women in the employed group.

There was, however, no general shift downwards in the hæmoglobin level amongst the unemployed group, slightly more in the unemployed group than in the employed having high hæmoglobin values.

No relation could be found between the hæmoglobin levels and the content of iron in the family diets.

15. No difference was found between the heights and weights of children or women in any of the groupings, but the employed men were heavier on the average than the unemployed men by 13.25 lbs. The possible causes of this difference are discussed; it was probably not due to difference in diet, since a similar difference in weight was not found between the women of the employed and unemployed groups.

ORTHODONTIC TREATMENT OF SCHOOL CHILDREN

At a recent joint meeting of the North-Western Branch and Dental Officers' Sub-Group, Mr. H. BROUGHTON, L.D.S., School Dental Officer, Eccles M.B., opened a discussion on "Orthodontic Treatment of School Children."

Mr. Broughton dealt primarily with the administration side of the problem. He pointed out that while the School Dental Service was a popular one, there was need for extending its scope as a large number of children were found to be suffering from malocclusion for which some treatment was necessary and frequent requests were made by parents for something to be done to remedy the deformity. A scheme for treatment of such defects was commenced in Eccles in 1929, but owing to the necessity for continuing the normal routine treatment the scope of the work was limited to a small number of cases. Many cases were dealt with by the judicious extraction of teeth, to allow the necessary spacing, as part of the ordinary routine treatment. The correction of the malposition of permanent teeth

requires treatment of prolonged duration and retention plates have to be worn for a considerable time after the teeth have been moved into their corrected position. The work, therefore, demands a special amount of patience on the part of the child, and the full co-operation of the parents. He had used both fixed and movable appliances but was of the opinion that the latter were most suitable as they could be removed by the child and the mouth maintained in a clean condition.

He thought that the ordinary routine duties of a School Dental Officer tended to become monotonous and where such specialist treatment could be combined with the routine work it added interest and relieved the monotony. He preferred to arrange for two or three appointments for orthodontic treatment along with the routine cases at each session instead of arranging special sessions for orthodontic work. Since the commencement of the scheme, 59 children had received treatment, making over 2,500 attendances, the average duration of the treatment necessary had been just short of three years. In only six cases had treatment been discontinued on account of the patient or the patient's parents failing to co-operate in the work.

In opening the discussion on Mr. Broughton's paper, Mr. ALLEY, Senior School Dental Officer for Oldham and President of the newly-formed Sub-Group, thanked the President and the members of the Branch for their welcome and assistance in the formation of the Sub-Group. He appealed to Dental Officers to join the Group and to Medical Officers to persuade their Dental Officers to become members. He raised the question of the influence of heredity in the production of malocclusion and also the influence of the calcium metabolism of the mother during pregnancy. He thought a child with normal occlusion was better fitted mentally for the battle of life.

Dr. F. A. SHARPE thought that a number of models shown by Mr. Broughton showed indications of syphilis and wondered to what extent syphilis was responsible for the condition.

Dr. VEITCH CLARK thought that dental defects in children may bear some relation to their environmental condition just as other physical defects. Syphilis also had a profound influence on dental conditions. The general distortion of the dental arcades had a wide significance. Rickets, which was common in urban life, was a manifestation of bad nutrition and environment, and malformation was more common due to acquired conditions than to heredity. He hoped that orthodontics would take its part in the production of a physically perfect nation and thought that conservative dentistry would be the salvation of the country. He advocated the retention of the milk teeth if possible as if they were removed prematurely a good adult dentition would not be possible.

Dr. SPENCE expressed the opinion that owing to the change which is taking place from coarse, rough food diet to soft food requiring no mastication, the massive jaw of prehistoric man was no longer necessary. As a result the jaw showed evidence of progressive diminution in size as evidenced by the fact that in many instances the jaws of present day children were insufficient to accommodate a full set of 32 well-spaced teeth, the result being that overcrowding occurred in the region

of the canines which are now vestigial when compared with those of prehistoric man, and difficulty was experienced in the eruption of the 21-year molar, which tended to erupt at a later age.

In replying to the discussion, Mr. BROUGHTON thought that diet and nutrition were important causes of malocclusion but did not think environment was so important. He thought that children living in poor environment got poorer food which required more mastication. He did not think syphilis played so important a part as some of the speakers had suggested as among his cases a history of syphilis was not common.

LEAD TOXAEMIA

At a recent meeting of the Midland Branch, papers were read on "The Clinical Aspects of Lead Toxaemia," by Dr. H. E. Collier, Reader in Industrial Hygiene and Medicine at the University of Birmingham, and on "Blood Changes in Lead Toxaemia," by Dr. Esther Killick, Director of Research in the same department. These papers are summarised below.

Dr. H. E. Collier

The classical symptoms of lead poisoning (colic, palsy, increasing anæmia, blue line and punctate basophilic stippling of the red cells) were well known. Absorption of lead took place either by way of the lungs or of the gastro-intestinal tract. In modern industry, lead toxæmia was predominantly a problem of the control of dust. The lead oxide was dissolved in the acid phosphate of the blood. It was then carried to the bone-marrow where it exerted its major toxic actions. It was deposited in cancellous bone as tertiary lead phosphate, where it might remain for years, doing little, if any, harm. If, however, a change occurred of such a kind as to release "stored calcium" the deposited lead was freed again into the circulating blood. This release of stored lead from the bones might precipitate a "lead crisis" with dramatic suddenness.

It followed, therefore, that anything which altered calcium metabolism affected positively or negatively the storage of lead in the bones. Thus a man might be engaged for many years upon work which involved a slight lead risk and might come to no apparent harm. If, for any reason, lead was released into the circulation, an attack of frank lead poisoning might result. Such cases were observed in industrial practice. The commonest conditions which determined this change in lead storage were:—

1. Pyrexia (especially influenza, pneumonia).
2. Excessive or chronic absorption of alcohol.
3. Defective dieting (Ca deficiency).

On the other hand, a diet rich in Ca tended to prevent overt lead poisoning and the intravenous injection of suitable Ca salts often rapidly relieved the acute symptoms of it. This was also the rational explanation of the importance attributed to milk in the dietary of all lead workers.

The Clinical Types of Lead Toxaemia were then surveyed, a practical distinction being made on the one hand between cases of "frank lead poisoning" which

showed some of the classical symptoms and on the other, cases of "lead absorption" (or "lead action") which did not show the "classical" symptoms or signs.

Frank lead poisoning could be classified into three types according to the systems which were chiefly affected.

(a) The *lead colics* (painter's colic) in which there was paroxysmal abdominal pain, eased by pressure. The differential diagnosis from appendicular colic should be easy but was occasionally missed; the absence of pyrexia, the slow pulse, a raised blood pressure (if present) and the nature of the occupation should lead to a blood examination being done.

(b) The *palsy type* was important. Whilst weakness or paralysis of the supinators of the wrist were frequently observed, aberrant types also occurred in which the deltoid muscle or muscles of the leg were affected.

(c) The *encephalopathic type* was relatively uncommon. It presented the appearance of being acute, although it was invariably preceded by symptoms of previous "lead absorption." The usual clinical sequence was epileptiform convulsions, followed by acute mania, delirium, coma and death.

If the absorption of the lead was both prolonged and relatively slight at any one time, patients might suffer from a condition of *lead absorption* which is clinically recognisable, but which showed none of the "classical" symptoms. It was moreover a condition which tended to shorten life. The name "lead absorption" (or following the German authorities "lead action") had been given to it. It assumed two forms:—(1) *Early lead action*, which was seen typically amongst workers constantly exposed to atmospheres containing small concentrations of lead, and (2) *delayed lead action*, which was seen typically amongst old "painters." The clinical signs of early lead action or lead absorption were as follows:—

(a) They occur in a patient exposed to a lead risk.

(b) The earliest objective clinical signs were a slight skin pallor (especially observed around the eyes). Repeated medical examination of workers enables this early sign to be recognised with a fair degree of certainty. Pallor of mucous surfaces.

(c) The first subjective symptom is a slight but increasing shortness of breath on exertion. The patient is out of condition. Stair-climbing, walking or cycling uphill, were observed by the patient to cause breathlessness.

(d) At this stage there was definite evidence of alteration in the blood. The most important changes in the blood picture were "a certain kind of basophilic reaction in the erythrocytes," a fall in the Hb. per cent. and a fall in the erythrocyte count. This fall in the numbers of the erythrocytes was never extreme. Even in a case of severe lead poisoning it seldom fell lower than 3,000,000. (An increase in lead excretion in urine and faeces was also observed but no reliable and convenient clinical test for lead and urine and faeces had yet been established. The exact nature and significance of the "Basophilic reaction observed in the erythrocytes" was later discussed by Dr. Killick.)

The next clinical class of cases of "lead absorption" comprised the very *chronic and late effects of lead action*.

The Society: Reports and Proceedings

METROPOLITAN BRANCH.

President: Dr. A. J. Shinnie (M.O.H., City of Westminster).

Hon. Secretary: Dr. Vynne Borland, Public Health Department, Bethnal Green, E.2.

The Branch met at the house of the Society at 5.30 p.m. on Friday, December 11th, 1936, under the presidency of Dr. A. J. Shinnie, 22 members being present. The only important formal business was the decision of the Branch to nominate Dr. J. Fenton, of Kensington, for the Presidency of the Society for the year 1937-38. Following this, Dr. Margaret Emslie gave a very comprehensive and interesting paper on "The Supervision of the Health of the Toddler," a subject on which she has special experience. It is hoped that space may be found for her paper in *PUBLIC HEALTH*. A useful discussion took place and at its close, Dr. Shinnie expressed the hearty thanks of the Branch to Dr. Emslie.

A comparatively well attended meeting of the Branch took place at the house of the Society on January 8th, 1937. In the absence of the President, Dr. Barnes took the chair, 24 other members being present. There being little formal business, the meeting proceeded almost at once to hear an interesting and useful paper by Dr. W. E. Roper Saunders, of the London County Council, on "Preventive Medicine as applied to Pulmonary Fibrosis in Childhood." A keen discussion followed.

EAST MIDLAND BRANCH.

President: Dr. H. L. Barker (M.O.H., Ilkeston).

Hon. Secretary: Dr. J. A. Stirling, Health Offices, Saltergate, Chesterfield.

A meeting of the above branch was held in the Guild Hall, Nottingham, on Thursday, October 8th, 1936. Dr. J. A. Fairer was in the chair and 17 members were present.

Dr. Fairer installed Dr. H. L. Barker as President of the East Midland Branch for the Session 1936-37, and Dr. Barker suitably replied.

On the proposition of Dr. Banks, seconded by Dr. Macdonald, a unanimous vote of thanks was accorded to Dr. Campbell, the retiring President, for valuable services rendered during his year of office.

The minutes of the last meeting were read and confirmed.

Dr. Barker then gave his Presidential address entitled "Taking Stock." He reviewed in a very interesting way the statistical results of public health measures during the present century and at the close of his address was accorded a very hearty vote of thanks.

A further meeting of the above branch was held in the Guild Hall, Nottingham, on Thursday, November 12th, 1936.

Dr. Barker was in the chair and 17 members and one guest were present.

The minutes of the last meeting were read and confirmed.

Short papers were then given on the following subjects:—

(1) Dr. Harkness: "Preliminary study of a scheme for Nottingham under the Midwives Act, 1936."

(2) Dr. Ward: "Some aspects of the bacteriology of diphtheria."

(3) Dr. MacLean: "Some enquiries into the causation of abortion."

All the papers proved very interesting and at the end of a stimulating discussion, a hearty vote of thanks was accorded to the openers of the papers.

YORKSHIRE BRANCH.

President: Dr. J. C. Pickup (M.O.H., Wombwell).

Hon. Secretary: Dr. James Mair, Public Health Department, Harrogate.

An Ordinary Meeting of the Branch was held in the Civic Hall, Leeds, at 3 p.m. on Friday, November 27th, 1936.

The President occupied the chair and was supported by 21 members.

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

The President, on behalf of the Branch, congratulated Dr. G. C. F. Roe upon his admission to the Royal College of Physicians of Ireland. Dr. Roe expressed his thanks.

It was reported that Colonel H. Tunstall Bates, a Past-President of the Branch, had been appointed Honorary Physician Extraordinary to His Majesty the King, and the Hon. Secretary was instructed to convey to Colonel Bates the congratulations of the Branch upon the honour which had been conferred upon him.

The arrangements for future meetings were considered and it was agreed that at the invitation of Dr. J. J. Buchan, the December meeting be held in Bradford, and that the Branch co-operate with the Royal Sanitary Institute at their Sessional Meeting at Halifax on February 12th and 13th. It was also agreed that the Hon. Secretary should endeavour to arrange for the Summer Meeting to be held in Northallerton.

The question of the Presidency of the Society was considered and it was unanimously resolved that Dr. J. J. Jervis be again nominated for the office. The Hon. Secretary was instructed to enlist the support of the other Branches and Groups.

The President then delivered his Presidential address entitled "Some Problems of a Part-Time Medical Officer of Health," which had been postponed from the last meeting. At the wish of the President, a very interesting and useful discussion, in which nearly every member present took part, followed and at its conclusion the President was very cordially thanked for his admirable address, which it is hoped will be published in an early edition of *PUBLIC HEALTH*.

A meeting of the Branch was held at the Town Hall, Bradford, on Thursday, December 31st, 1936. The President occupied the chair and was supported by 18 members.

The Lord Mayor of Bradford extended a very

It had been known for a long time that of the workers exposed to the absorption of lead an excessive number died of hemiplegia, nephritis, and various forms of cardio-vascular degenerations.

The diagnosis of these chronic cases presented real difficulties. It was very hard to prove that arterio-sclerosis, nephrosis or hemiplegia coming on in a man who had worked for years at a potentially dangerous lead risk, was causally connected with that lead risk. When a long succession of these old painters and lead workers had been observed, however, certain definite facts emerged.

(1) They were prematurely "aged."

(2) They usually showed the symptoms of nephrosis (especially casts in urine).

(3) In many cases there was no other "probable explanation" of his condition at his age.

(4) They suffered from hyperpiesis and usually presented a history of one or more attacks of colic—of severe constipation, or other symptoms of a lead crisis.

A distinct sub-class of these cases showed neuro-muscular degenerations as their leading feature, e.g., wasting of deltoid, supinators or interossei. The situation of the muscle weakness appeared to be determined in large measure by the nature of the occupation.

The blood picture of these old-standing cases was not constant. It was a common experience to find a few "stippled cells" in the blood, even months after they had ceased work. Too much weight should not be given either to the presence or the absence of these cells in the blood picture.

A typical history of a case of very chronic lead absorption was then given:—

"A man who has been a painter for 20 to 30 years begins to observe an 'increasing shortness of breath.' His age is 53, but he looks nearer 65. He is thin and pallid. His chief complaint is shortness of breath and the fact that his shoulders are so weak that he cannot paint a ceiling. There is no clear history of a lead crisis (colic or blue line, etc.) but he has always 'been a bit constipated.' Six months ago he had an attack of hæmorrhoids, three months ago of epistaxis, on one occasion he was sick and vomited up blood. His feet swell now on exertion; he gets up several times at night to pass copious quantities of urine. On examination, a weakly acting, rapid and obviously failing heart, with a high diastolic and slightly elevated systolic pressure (110/140) is observed. Casts, hyaline and granular, in small numbers are found in the urine. In his blood nothing especially remarkable is seen, except perhaps an odd punctate or stippled red cell. His shoulder muscles are poorly developed. His right deltoid is weaker than his left. It will not be long before such a patient has an attack of 'heart failure' or some other 'cardio-vascular' crisis."

Much investigation and research was needed before the diagnosis of these cases could be certainly established. Other types of chronic lead action to which references were made were the *gouty or arthritic form* and the *infantile form* (observed especially by Nye in Queensland) which showed chronic juvenile nephrosis with renal dwarfism and a "lead line" which could be observed in the radiograms of the epiphyseal junctions.

The paper concluded with a brief review of the chief "occupations of risk" in this country.

Dr. Esther Killick

The characteristic change was an anæmia, accompanied by the appearance in the circulating blood of erythrocytes giving an abnormal staining reaction. These cells showed granules of varying size, which stained with basic stains, and were described as "stippled" or "punctate basophilic" cells. They were immature erythrocytes, set free into the circulating blood as a result of the stimulus to the bone marrow supplied by the anæmia.

Immature erythrocytes appeared in the blood during the process of regeneration after hæmorrhage, but their appearance was slightly different from the cells characteristic of lead toxæmia. All these immature cells retained in their cytoplasm some of the material which was characteristic of an earlier stage in the development of the erythrocyte. This material was readily stained by the blue basic dyes, but the form it assumed in a stained preparation of blood cells depended mainly on the methods of fixation and staining employed. The stippling, characteristic of lead toxæmia, was due to the aggregation of this basophilic substance into granules; Davidson considered that "punctate basophilia is an aspect seen only in pathological states, and indicates pathological alteration as well as mere youth of the cell."

The close relationship between different forms of the immature erythrocyte (*i.e.*, reticulocyte, stippled cell, polychromatophilic cell) could be demonstrated by treating the same blood by different methods. An anæmic blood was shown at the meeting, (*a*) vitally stained, demonstrating a number of reticulocytes, (*b*) fixed and stained with Giemsa's stain, demonstrating an approximately equal number of polychromatophilic cells.

Evidence was given that the action of lead, when present in abnormal quantity, was to convert any immature cells in the blood into stippled cells. The significance of the number of stippled cells in the blood was discussed in relation to diagnosis and prognosis in lead absorption. Dr. Lane's opinion was quoted, that counts below 3,000 stippled cells per million erythrocytes fall within normal limits for a lead worker; counts above this figure suggest that unless steps are taken to diminish exposure to lead, symptoms of poisoning are liable to supervene.

It was emphasised that in view of the nature of these stippled cells, their number in the blood must be considered in relation to the degree of anaemia, and the extent of bone marrow reaction. The most useful information from a diagnostic point of view was not the proportion of total erythrocytes that were stippled, but the proportion of immature erythrocytes that showed this change. For a patient whose bone marrow reaction was poor might have only a few stippled cells in his blood, and yet these few might represent the action of lead on all the immature erythrocytes present, and indicate a serious degree of lead absorption.

There was no evidence that lead stored in bone could affect the cells in the bone marrow; in cases where previous exposure to lead had resulted in accumulation of lead in the bones, the quantities set free into the blood in ordinary circumstances were too small to cause blood cell changes.

cordial welcome to the Branch. On the proposal of Dr. Jervis, seconded by Dr. Pearce, he was heartily thanked for his kindness.

Correspondence was submitted from the Yorkshire Dental Officers Sub-Group asking for financial assistance but, as the statement of accounts submitted with the letter showed that there was a balance in hand, the Branch decided that no assistance be given at present.

The President mentioned the death of Sir John Robertson, late Medical Officer of Health for the City of Birmingham, who was at one time a member of this Branch. All present stood as a mark of respect to his memory and the Hon. Secretary was instructed to convey to Lady Robertson the sympathy of the members of the Branch in her great loss.

Dr. J. J. Buchan raised the question of the disinfection of woollen rags exported to China. Large quantities are exported from the West Riding, and the Chinese authorities insist upon a certificate of disinfection being produced before the rags are allowed to be landed in China. The great majority of Medical Officers of Health will only give a certificate after disinfection by steam, but the Chinese importers object to steam disinfection, with the result that in one or two districts certificates have been granted after the rags have been treated by formaldehyde or other similar substance.

Dr. Buchan pointed out that it was most undesirable that there should be two standards of disinfection and he suggested that the subject be brought to the notice of the Council with a request that representation be made to the Minister of Health to consider the matter with a view to a definite standard of disinfection being set up. After some discussion this suggestion was unanimously agreed to and the Hon. Secretary was instructed to transmit it to the Council.

Dr. H. M. Gall (Asst. M.O. for M. & C.W., Bradford) read a paper on "Municipal Midwifery Services" which gave rise to an interesting and useful discussion. Dr. Gall replied to various questions which were asked and she was cordially thanked for a very interesting paper.

The members were then entertained to tea by the Bradford City Council.

MIDLAND BRANCH.

President: Dr. Arthur Massey (M.O.H., City of Coventry).

Hon. Secretary: Dr. R. H. H. Jolly, Health Offices, Town Hall, Wolverhampton.

The third meeting of the Session was held at the Medical Institute, 154, Great Charles Street, Birmingham, on Thursday, December 8th, 1936, at 8.30 p.m.

The President (Dr. A. Massey) and 17 members were present.

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

Papers were read on:—

(1) "Clinical Aspects of Latent Lead Toxaemia," by Dr. Howard E. Collier, Reader in Industrial Medicine and Hygiene at the University of Birmingham, and

(2) "Blood Changes in Lead Toxaemia," by Dr. Esther Killick, Director of Research in the above Department.

Dr. Killick also exhibited some blood films which

showed the "stippled" basophilic cells, the significance of which she had explained in her paper.

In inviting discussion on these two papers, the President referred to the peculiar interest which the health of the worker had for public health medical officers, and regretted the unfortunate dissociation of public health administration and the administration of industrial hygiene.

Dr. D'Arcy Ellis gave some interesting recollections of cases of lead poisoning in his long and varied experience in general practice.

Dr. Jolly proposed a very cordial vote of thanks to Dr. Collier and Dr. Killick for their most interesting address and this was carried by acclamation.

NORTH-WESTERN BRANCH.

President: Dr. S. T. Beggs (M.O.H., Middleton).

Hon. Secretary: Dr. J. E. Spence, Town Hall, Eccles, Lancs.

The annual dinner of the Branch was held in the Midland Hotel, Manchester, on January 8th, 1937, when 43 members and guests were present, the President occupying the chair. Among the distinguished guests were the Lord Mayor of Manchester, His Honour Judge T. B. Leigh, Mr. Garnett Wright, Dr. McGowan and Dr. Davidson.

The toast of "The City and Corporation of Manchester" was proposed by Dr. W. M. Fraser (Medical Officer of Health of Liverpool) to which the Lord Mayor of Manchester (Alderman J. Toole) responded.

His Honour Judge T. B. Leigh, in proposing the toast of "The North-Western Branch," said that the Branch had been a pioneer of reform in the matter of public health. It did not invent the conception of public health, Parliament did that. What Parliament launched on the country was something that required practical experience and the taste and aptitude for development which could not be given by Parliament but which was imparted to the new conception by the members of the Branch. One of the objects of the Society was mutual support. There was a time when energy and originality in a medical officer of health was frowned on, and some of those men paid for their genius and enthusiasm by losing their positions.

The President (Dr. S. T. Beggs, Medical Officer of Health of Middleton), in responding on behalf of the Branch, instanced much of the pioneer work of the Branch, in particular its advocacy of co-operation with other branches of the profession.

The toast of "Our Guests" was proposed by Dr. R. M. Galloway (Medical Officer of Health of Bolton) and Mr. Garnett Wright, Dr. McGowan and Dr. Davidson responded.

SOUTHERN BRANCH.

President: Dr. A. E. Druitt (formerly A.M.O.H., Hampshire).

Hon. Secretary: Dr. E. Croft Watts, Lothian House, Fareham, Hants.

A meeting of the Branch was held at the Borough Hospital, Southampton, on Friday, December 11th, 1936. Pending the arrival of the President, Dr. A. B. Williamson took the chair. There were present:

Drs. Maurice Williams, F. S. Roberts, Bunting, Knowlton, Payne, Pedley, Foggie, McLachlan, Hart, Croft Watts, and later the President.

Dr. Maurice Williams gave a most interesting and instructive address on the "Southampton Maternity Services," explaining the new Maternity Unit in great detail by the aid of a plan and going on to a full description of the scheme adopted by Southampton under the new Act. The address was listened to with the greatest attention. The President arrived during the giving of the address and took the chair.

As soon as the address was over, Dr. Maurice Williams conducted the members round the new Maternity Unit, a visit which was much enjoyed by every member present.

After returning from the inspection of the new Maternity Unit, the President asked Dr. Williamson to open the discussion. Dr. Williamson spoke at some length in praise of the Unit and outlined the Portsmouth scheme under the new Act; other members also spoke. All members were in favour of the midwife who had general training receiving a higher salary. There was also some discussion on the question of compensation, the retiring age of 65, and post-certificate training. Dr. Bunting raised the question of the unbooked case.

Dr. Maurice Williams replied, pointing out the facts in favour of institutional treatment.

A very hearty vote of thanks was accorded Dr. Maurice Williams on the proposition of Dr. Williamson. The meeting directed that the address should be sent to PUBLIC HEALTH for publication.

After an interval for tea, a letter was read from the Home Counties Branch *re* the Presidential election. It was decided to leave the matter over for the present.

A letter was read from the Royal Sanitary Institute with reference to the Health Congress at Birmingham in July, 1937. Dr. Williamson proposed, and Dr. Hart seconded, that no delegate be sent, and this was carried.

There being no further business, the President closed the meeting.

MATERNITY AND CHILD WELFARE GROUP.

President: Dr. Agnes Nicoll (A.M.O.H. Willesden M.B.).

Hon. Secretary: Dr. Muriel Ranford, 1, Manor Way, Potter's Bar, Middlesex.

Hon. Asst. Secretary: Dr. E. Virginia Saunders-Jacobs, Woolwich.

Presentation of a Presidential Badge.

A meeting of the Group was held at the house of the Society on Friday, January 15th, at 8.30 p.m. The chair was taken by the President, and there was an attendance of 30 members and friends.

A Presidential Badge of a beautiful and tasteful design was then presented to the Group by Dr. Muriel Radford on behalf of Dr. Maitland Radford and herself. She expressed her pleasure that its first wearer should be Dr. Agnes Nicoll, who had done so much for the Group and for Maternity and Child Welfare work, and who so fittingly adorned the Presidential Chair this year.

In acknowledging the gift Dr. Nicoll expressed the gratification of the Group and its appreciation of the generosity of Drs. Muriel and Maitland Radford, who, she said, should rather be receiving from than giving

presents to the Group. A hearty vote of thanks to them was carried by enthusiastic acclamation, and the badge was then handed round the meeting and was much admired.

The design of the badge is similar to that of other such badges in the Society, with the exception that in the central circle the figures of St. Christopher and the child appropriately replace those of Hygieia and Aesculapius. The lettering is in gold on blue and white enamel.

A discussion followed on "Teaching of Parentcraft." This was opened by Dr. Letitia Fairfield, C.B.E. (Senior M.O., L.C.C.), followed by Dr. J. A. Scott (M.O.H., Fulham) and Dr. John Hunter (Deputy M.O.H., Kensington). In the subsequent discussion Drs. Agnes Nicoll, Stella Churchill, Grace Calver, Maitland Radford, Smithard, Dorothy Makepeace, Virginia Saunders-Jacobs, Agnes Young and Jessie Balsillie spoke, and the three openers replied.

The President then moved a very hearty vote of thanks to the three speakers, which was carried by acclamation.

FEVER HOSPITAL MEDICAL SERVICES GROUP.

President: Dr. E. H. R. Harries (Med. Supt., North-Eastern Hospital, L.C.C.).

Hon. Secretary: Dr. Alexander Joe, D.S.C., North-Western Hospital, Hampstead, N.W.3.

The Group held their opening meeting for the Session 1936-37, at the house of the Society on November 27th, 1936. Dr. E. H. R. Harries, the President, being in the chair and 23 Fellows of the Society being present.

The chief business of the meeting was a discussion on "Certain Administrative Aspects of the Smaller Fever Hospitals," which was opened by Dr. D. Sage Sutherland, Monsall Hospital, Manchester. Others taking part were the President, Drs. Forrest (Leyton), Anderson (Grove Hospital, L.C.C.), Powell (Walthamstow), Grundy (Luton), Mitman (Eastern Hospital, L.C.C.), and Joe (North-Western Hospital, L.C.C.). Drs. Banks (Park Hospital, L.C.C.) and Leete (Hull) expressed the thanks of the Group to Dr. Sutherland and the proceedings then terminated.

DENTAL OFFICERS' GROUP.

President: Mr. Jeffrey Fletcher, L.D.S. (S.D.O., Devon C.C.).

Hon. Secretary: Mr. J. F. Pilbeam, L.D.S., Dental Clinic, Lodge Road, Croydon.

An Ordinary Meeting of the Group was held on Saturday, December 12th, at the house of the Society, with the President in the chair and 16 members and one visitor present.

After the minutes of the previous meeting had been signed the Hon. Secretary announced that, following an invitation, the Group Council had decided to appoint a delegate to the Royal Sanitary Institute Congress. He also announced that the Group Council had appointed a committee to consider the "Tooth brush," the subject referred to the Group by the President of the Society.

Reports of last meeting of the British Dental Association Conference on Salaries were presented by Messrs. Grantley Smith and Mason, and Mr. Taylor presented his report of the meeting of the Joint Committee of Groups.

The President then called on Miss Radcliffe to open the discussion on the subject, "Maternity and Child Welfare Dental Schemes; Their Scope and Future Development." Miss Radcliffe spoke of the old wives' tales which had condemned the dental treatment of expectant mothers and pre-school children, and stressed the need for public education in dentistry and dietetics. She spoke of the appalling condition of the teeth of the pre-school child, only 10 per cent. having sound teeth. The toddlers were seen every six months and their parents were instructed in the care of the mouth and the value of the teeth. It was found that the very young abused the tooth brush and food of a detergent nature was advised. Great sympathy was necessary in the treatment of the mothers, and chairside talks on dental hygiene and dietetics were listened to eagerly and were of great value.

The development of dental schemes for welfare patients is a slow process as it is pioneer work at the present time. By propaganda and simple talks the public will be educated in time and the dental health of the nation will thus improve.

Mr. McClelland continued the discussion and dealt with the problem from the point of view of a county dental officer. He stressed the great scope of dental treatment, the inadequacy of the present schemes and the general ignorance of dental hygiene. Unfortunately, too many patients attend only for the relief of pain, and many mothers are ignorant of the benefits of the Welfare Centre and to some the word "Ante-natal" is difficult to understand.

Mr. McClelland quoted cases where every care, both ante- and post-natal, had been taken and yet caries was rampant in the child's mouth, and he confessed that he had experienced difficulty in finding an explanation.

Mr. Mason said that there was very little information concerning M. and C.W. dental schemes. It was unfair that the overworked school dental officers should be asked to undertake this work in addition to the treatment of school children. Therefore, he suggested that an additional dental officer should be appointed to carry out M. and C.W. dental treatment.

All expectant mothers should be examined by the dental officer as the medical officer tended to refer only those who were in a bad dental condition, and when it was too late.

Mr. Thomson considered that the present methods of dental education and propaganda were inadequate and he agreed that poor mothers did not understand the word "Ante-natal."

Mr. Alley suggested that education could be forwarded by wireless talks. He complained that expectant mothers did not attend for treatment until the sixth month of pregnancy.

Dr. Sim Wallace stressed the supreme value of dietetics in the prevention of dental caries.

Mr. Pilbeam told how he had often seen nurses give biscuits to toddlers without realising how bad they were

for the teeth. He suggested means whereby it could be made easier for patients to attend for dental treatment.

Mr. Wilshaw spoke of the value of the enthusiastic nurse and voluntary worker. He quoted cases which proved the value of dietetic control in the prevention of dental caries and suggested an original method of dental health education.

Messrs. Neame and Taylor joined in the discussion and the President reminded members of the excellent charts and pamphlets on the prevention of caries which could be obtained from the Society.

Miss Radcliffe and Mr. McClelland both replied to points raised and summed up the discussion.

On the motion of the President, supported by Mr. Alley, the President of the North-Western Sub-Group, a hearty vote of thanks was accorded Miss Radcliffe and Mr. McClelland.

Mr. Mason raised the question of the Poisons Act, and suggested that Procain and other local anaesthetics were listed as No. 1 poisons. It was agreed that this matter should be placed before the Council of the Group. The meeting then terminated.

VITAL STATISTICS, ENGLAND AND WALES, 1936.

The Registrar-General has announced the following provisional figures of birth-rates, death-rates and infant mortality for the year 1936.

	Rate per 1,000 Resident Population.		Deaths under One Year per 1,000 Registered Live Births.
	Live Births.	Deaths (Crude Rates).	
England and Wales ...	14.8	12.1	59.0
122 County Boroughs and Great Towns including London ...	14.9	12.3	63.0
143 Smaller Towns with estimated resident populations of 25,000-50,000 at the 1931 Census ...	15.3	11.7	55.0
London Administrative County ...	13.7	12.5	66.0

Note.—The Birth and Death-rates for England and Wales as a whole are calculated on the estimated Mid-1936 population, but those for the Towns Aggregates and for London are calculated on the estimated Mid-1935 populations.

The birth-rate for 1936 is 0.1 above that for 1935 and is 0.4 above that of 1933, the lowest recorded.

The crude death-rate is 0.4 above that of 1935 and 0.7 above that of 1930, the lowest on record.

The infant mortality is 2 above that of 1935 which was the lowest recorded, and is the same as that of 1934, the previous lowest record.

Book Reviews

Food and the Principles of Dietetics. By ROBERT HUTCHISON, M.D., LL.D., F.R.C.P., Consulting Physician to the London Hospital; and V. H. MOTTRAM, M.A., Professor of Physiology, King's College of Household and Social Science. Eighth edition. London: E. Arnold & Co. 1936. pp. xxviii + 634. Price 21s. net.

The demand for this encyclopædic work on food and feeding is evidenced by yet another edition. It continues to be a mine of information of all kinds with regard to dietetic matters, although the proportions allotted to the various subjects, in some cases, hardly seem to tally with their importance.

It is clear that the authors have spared no pains to make alterations or additions to accord with the findings of recent research work, particularly in connection with vitamins. The findings of the various investigations into basal requirements for nutrition are set out, together with much other new matter, including a short history of dietetics.

It seems, however, a pity that a book of this monumental character (monumental not in size but in importance) should in one respect not be brought really up to date by its authors, and there also appears to be a want of proportion with regard to the relative values of some of the figures given.

It should be realised in dealing with dietetics that, of a population of forty-five millions or thereabouts, some thirty-five millions of them belong to the industrial classes working for a weekly wage, and many of them for a wage which has no margin above bare nutritional needs. Therefore, if any generalised remarks are made with regard to dietetics it certainly seems that these should apply rather to that part of the population which is in the majority than to the select and favoured few.

With all the book's many good points, the dietetic values, particularly relating to prices, are confused by the difference in the prices current to-day compared with those which are quoted in the book—prices current some years ago. This fact seriously diminishes the value of the figures given.

For instance, in 1936 it is annoying to read under the economic value of fish, that salmon at 3s. 6d. per lb. may not be really any dearer than a pound of cod at 1s. 2d. not from an actual food value point of view. On referring to the monthly price list of a London store, other than the one quoted on Plate 3, one finds that the price for brine-cooled Newfoundland salmon for the middle cut is 1s. 10d., and for the whole, 1s. 6d.; for fresh cod it is 8d. per lb. and for the middle cut 10d. and 1s.

In some places the prices quoted in the book approximate to those current at the present time, but why quote the prices of a great London store, when the bulk of the population buys its food at the multiple butchers and grocers?

Plate 3 with its prices, is another matter which certainly should have been worth while putting right in a book of this kind. Here is given the amount of calories to be got for 1s. in some typical foods, and the examples given are those for the Army and Navy Stores in November, 1931—rather over five years ago. Practically only one of the prices given is current to-day.

Butter is quoted at 1s. 8d. per lb.; I have to-day seen Danish butter at 1s., and the current price of Colonial butter quoted in stores is 1s. 2d. In the multiple shops it is cheaper. Apples are quoted at 4d. per lb. The current price of Bramleys Seedlings to-day is a little over 1d. Cod is quoted at 1s., the current price is 8d. Beef (English rump steak) is quoted at 2s. 8d. per lb.; the current price of Argentine steak is 1s.; on the Christmas market list of another London store, the price is 1s. per lb. for Imperial, and 1s. 4d. for Scotch. The Argentine at the present time are sending excellent meat, magnificently fed, at prices below these, thus enabling ribs of beef to be retailed at 6½d. per lb.

When the economic test is applied it will be seen that all the figures are out of keeping with the conditions at the time this new edition of the book was published.

There is no time for the individuals who purchase a book like this to attack these fallacious figures with a slide rule in order to get the information which should be contained within the covers of such a book, readily available for use.

When these matters are brought up to date the book will indeed be a veritable dietetic bible.

What is Wrong with British Diet? By HARRY CAMPBELL, M.D., Fellow of the Royal Anthropological Institute. William Heinemann (Medical Books), Ltd. 1936. Pp. 253. Price 10s. 6d. net.

A sub-title to this book states that it is an exposition of the factors responsible for the undersized jaws and appalling prevalence of dental disease among British peoples. The author does not, however, confine himself to the problem of dental disease. He examines the whole subject of nutrition, and draws special attention to the fact that diet does not only require to be duly proportioned in its essential nutritional elements but that the physical consistency of the food must also be considered. At the present time when so much importance is being placed on the nutritional elements of diets, when the attitude of dietitians is that of ensuring that there is enough of this vitamin or that mineral, when nutritionists are measuring out our requirements, it is refreshing to find someone who takes up an original line and draws attention to an aspect of the subject that many others are neglecting. Dr. Harry Campbell approaches the subject from the point of view of an anthropologist. Man has gradually adapted himself to his dietetic resources throughout the ages. The coming of agriculture and the breeding of animals for slaughter brought many changes. The last centuries have, however, brought about far more rapid and far-reaching alterations in the character of his food than those to which he has had to adapt himself in the past. The chief changes that have taken place are the extreme artificial refinement of cereals and sugar and the wide distribution of milk, changes it will be noted that affect the physical character of the diet rather than its nutritional quality. It is not surprising that such radical changes should lead to many complications which must be considered side by side with the advantages they may bring.

Turning to the subject of dental disease, as is well known there are two chief schools of thought on the subject of the prevention of dental caries, those who

believe that the nutrition of the tooth during development or later is the important factor in the prevention of caries, and those who believe that the enamel is an inert substance and that caries is a disease occurring from outside the tooth and that it can be prevented by means of "oral hygiene." Dr. Campbell's name has always been associated with the "oral hygiene" school and his exposition of their point of view is admirably set out in this book. It is particularly to be hoped that it will be widely read as so many of the official reports on the subject of dental disease have confined themselves entirely to the nutritional aspect of the subject and in fairness to both sides all interested in the subject should read Dr. Harry Campbell's book.

Drainage and Sanitation. By E. H. BLAKE, C.B.E. Fifth edition. Revised by W. R. JENKINS, B.Sc. (ENG.). London: R. T. Batsford, Ltd. 1936. Pp. xii + 563. 8vo. Cloth, 15s. net.

The progressive trend of modern sanitary practice is such that any book dealing with drainage and sanitation requires careful revision from time to time to ensure its being up to date. The fourth edition of this well-known work left much to be desired in this respect, and when the fifth edition was called for, the decision to "overhaul it thoroughly and to bring it into line with modern practice, to incorporate every new development and eradicate what has become of small importance or interest" (publishers' note) was a wise one.

In large measure the intention has been carried out, and the beneficial effects are particularly noticeable in the chapters on warming appliances, water supply, and sewage disposal. That the revision has not, however, been so thorough as it might have been, is evidenced in many places.

Much space is devoted to the description of fittings that are obsolete. These are dealt with historically, it is true, but it has all been done so thoroughly before that it might well be allowed to disappear from modern textbooks. Some subjects are dealt with in general terms, when detailed technical treatment would be far more useful, and there is a tendency to loose expression which should be remedied when an opportunity occurs.

The following are examples of what is meant:—The Kata Thermometer is described as "an instrument for measuring the heat absorbing powers of a draught." (Page 90.) The term "B.Th.U. of heat" is used, no less than three times, on page 97.

Ternary alloys do not (as stated on page 215) contain tellurium, nor are they "so much stronger than lead that they can be of one-third the thickness." The British Water Works Association and the Metropolitan Water Board approve the use of ternary alloy pipes, of weights 30 per cent. lighter than those of pure lead, and this applies only to pipes used in positions above the ground.

Criticism could be made of a number of similar points, such as one on page 464, where the statement is made that "copper pipes are unsuitable for the conveyance of drinking water as the latter is liable to be acted on by salts of copper." The fact is, however, that copper is less acted upon by water than is iron or lead, and copper pipes are quite commonly and safely used for drinking water in this and other countries.

In the chapter on the disposal of refuse it is said (page 498) that "the only sanitary method of dealing with it is to cremate it."

When disinfection is dealt with the statement is made that "the spread of disease can be prevented by means of what are termed disinfectants." In a list of disinfectants, hot air is given pride of place.

In a standard work on drainage, the many technicalities of the "one-pipe" system might well have been dealt with in a detailed and authoritative manner; the subject is, however, disposed of briefly and in general terms, and is illustrated by a totally insufficient diagram. On the other hand the "pan or container closet" is illustrated and its action is set out in detail though, certainly, the apparatus is described (page 268) as "rapidly becoming obsolete." Many other obsolete fittings are described and illustrated.

A chapter on Legal Notes deals mainly with enactments that are repealed or *in extremis*. No less than ten pages of this chapter, with five diagrams, are devoted to the legal definition of "drain" and "sewer," but it is all to little purpose in view of the provisions of the Public Health Act, 1936, a draft of which was available before this edition was published.

The principal purpose of Blake's *Drainage and Sanitation* is to present the technical aspect of its subject. This it does well in many respects, and there is much in the book that is of value to those for whom it is intended. Its usefulness would, however, be greatly enhanced by further careful revision.

A History of the Public Health Department in Bermondsey. By D. M. CONNAN, M.D., D.P.H., Medical Officer of Health. Privately printed. pp. 232.

In a preface to his book, Dr. Connan says that it "has provided spare time recreation for more than three years." It is pleasant to learn that the substance of this "labour of love" was accepted by the University of London as a thesis for the degree of M.D. in Hygiene. One feels, indeed, after reading the book, that it is a well-balanced and well-documented history of all social development in Bermondsey, apart from its chronicling of public health progress in recent years.

"For the practitioner of clinical medicine," writes Dr. Connan, "there is often much consolation in his daily work and, not infrequently, there is triumph. To those who practise the preventive branch of Medicine and to those who gave their time and talents to the service of the public on local authorities, such moments of exaltation seldom come. A decline in the Infant Mortality Rate may be satisfactory and even cheering, but it conveys no sense of personal victory. In matters of public health the sane view is a very long one, and . . . a glance at the past is necessary to provide that fortitude with which to contemplate the future."

Bermondsey, established as a Metropolitan Borough in 1899, comprises three districts of great antiquity, so that Dr. R. King Brown, on his appointment as first whole-time M.O.H. in 1901, found a tangled administrative skein to unravel and much work to do. The story of the last 35 years is one of continuous progress and of much pioneering advance.

Interesting new departures have indeed been a feature

of Bermondsey health services—the municipal dental clinic, light treatment centre and foot clinic, for instance, were amongst the first ventures of their kinds. In health education and propaganda also Bermondsey has long been active, for both Dr. King Brown and his successor believed that "improvement in the public health proceeds as fast as, and no faster than, public enlightenment."

One wishes that other medical officers of health might be inspired to follow Dr. Connan's lead, for there must be many stories of public health progress in the archives of departments throughout the country as enthralling as that of Bermondsey. One doubts, however, whether many could equal the lucid presentation and literary skill of the book under review.

Public Social Services. Seventh edition. National Council of Social Service, 26, Bedford Square, London, W.C.1. 1936. pp. 150. 2s. post free.

This very useful handbook in its previous editions must have had a place on the bookshelves of many health departments. New legislation and regulations have involved a drastic revision and the chapter on public health gives a very accurate picture of the services at present provided. Other chapters on aspects of the social services which are not so familiar to our readers should prove a very useful and concise guide in problems which present themselves from time to time.

Averages of Bright Sunshine and *Averages of Temperature for the British Isles*, published recently by the Air Ministry (Meteorological Office) and obtainable from H.M. Stationery Office at 1s. and 1s. 3d. respectively (postage extra) record the yearly averages of observations from a large number of stations, for the most part during the period 1906-35. Many points which emerge, such as the great increase in sunshine recorded at some London stations, appear to have public health significance, and there are interesting comments on the methods of obtaining data.

The Public Health Aspect of the Milk Problem is the title of a pamphlet in which Dr. C. M. Smith (Dep. C.M.O.H., Durham C.C.) sets out very clearly the distinction between "clean" and "safe" milk. The leaflet was based on a lecture given to the county health visitors and has been printed for their use. Dr. Smith quotes some interesting figures supplied by the Chief County Veterinary Officer in regard to the tuberculin testing of cows; of 531 cows examined during 1936, the test revealed tubercular infection in 44.25 per cent. Of 313 samples of non-designated milk taken in County Durham in 1935 4.8 per cent. were found to contain tubercle bacilli and, in the case of accredited milk, 3 per cent. of 405 recent samples were reported to be similarly infected.

British Pioneers of Public Health is a booklet published by the London School of Hygiene and Tropical Medicine containing short biographies of 23 famous men, lay and medical, and one woman, Florence Nightingale, whose portraits are displayed in the School Museum. Dr. H. B. Newham is to be congratulated on producing this useful set of "potted" biographies, which deserves a wider circulation than within the confines of the School.

CITY OF OXFORD HEALTH WEEK

The Central Council for Health Education is organising a Health Week Campaign and Exhibition for the City of Oxford, to be held from February 22nd to 27th, 1937. Sir E. Farquhar Buzzard has consented to perform the Opening Ceremony at 4.30 p.m. on Monday, February 22nd, and Professor J. A. Nixon, of Bristol University, will address a Public Meeting at 7.45 on the same day.

The Central Council wishes it to be known that all Medical Officers of Health, and in particular those who are members of the Home Counties and Midland Branches of the Society, are cordially invited to attend the Opening Ceremony. Those who care to do so are requested to inform the Exhibitions Secretary, 1, Thornhaugh Street, Russell Square, who will issue Invitation Cards to them individually.

THE INFLUENZA EPIDEMIC

During the week ending January 16th the number of deaths ascribed to influenza in the 122 great towns of England and Wales was 1,100, as compared with 768 in the previous week. The following towns returned 15 or more deaths; the number of deaths in the previous week are given in brackets.

London ... 344 (311)	Bristol ... 25 (16)
Birmingham 50 (22)	Willesden 18 (23)
Leicester ... 34 (24)	Derby ... 16 (4)
Leeds ... 32 (13)	Ealing ... 16 (16)
Sheffield ... 32 (5)	Nottingham 16 (12)
Bradford ... 30 (25)	West Ham 15 (19)

The total number of influenzal deaths in the 5 great towns of Wales was 16, as against 18 in the preceding week. Information received from the Regional Medical Officers of the Ministry shows that influenza is declining in certain parts of the south.

The number of notifications of pneumonia in England and Wales was 2,823 as against 2,938 in the previous week. The greatest increases took place in Yorkshire and the North-Western area.

The age distribution of deaths is somewhat reassuring as it is not the type usually met with in severe epidemics.

THE CENTRAL MIDWIVES BOARD

The Annual Report of the Central Midwives Board for the year ended March 31st, 1936, which was published January 13th, shows that on that date, 1936, there were 62,064 women on the midwives roll, a net increase of 3,100 on the total for the previous year. Only a little more than a quarter of the total number of qualified midwives are actually engaged in practice—the number practising during 1935 being 16,165.

Over the whole country three out of every four candidates who sat for the examination on midwifery during the year were successful, but the proportion varied in different examination centres—four out of five passed at Newcastle-on-Tyne, but only two out of three at Liverpool and Manchester.

The report states that during the year the Board proceeded further with the revision of the training and examination rules and, after the close of the year, approved the final draft of the new rules which has since been submitted to the Minister of Health.

Correspondence

MALNUTRITION AS A CAUSE OF MATERNAL MORTALITY
To the Editor of PUBLIC HEALTH.

SIR,—I send you herewith a statement showing the provisional figures for the complete year of 1936 of the puerperal deaths in the Rhondda Valley area, and also of the five other areas of Glamorgan in which the special distribution of food to expectant mothers has been carried out, as described in my paper published in your October issue. These figures were kindly supplied by the Medical Officers of Health.

Since the scheme started in 1935 approximately 3,500 mothers in these areas have received the special food. Amongst these five puerperal deaths have occurred, *i.e.*, the puerperal death rate has been 1.42 per 1,000 total births.

Approximately 4,000 mothers have not received the food; amongst these 25 puerperal deaths have occurred, *i.e.*, the puerperal death rate has been 6.25. Of these 25 deaths, nine have been due to septic abortion. If these are excluded the puerperal death rate amongst those not receiving food has been 4.0. The drop in the Other Causes rate is again very noticeable, especially in the five new areas (from an average of 4.45 to 1.31).

In case any misunderstanding should have arisen, I would like to point out that this scheme has been carried out under the auspices of the National Birthday Trust Fund, and not of the Joint Council of Midwifery.

I am, Sir,
Miskin Manor, Your obedient servant,
Pontyclun, JULIET WILLIAMS.
South Wales.
January 16th, 1937.

To the Editor of PUBLIC HEALTH.

SIR,—I understand you are publishing in your present issue a note on the further progress of the scheme for the reduction of maternal mortality in the Rhondda Valley, which was detailed by Lady Williams in her article in your October number. As I visited the area in November last and with the kind permission of the Medical Officer of Health, Dr. D. J. Thomas, saw something of the work, I thought a few remarks might be of interest.

The figures published by Lady Williams are most impressive and they seem to me even more so because of the evidence given by many of the women that they felt an improvement in their condition from the time they began the additional nutriment. Judging by the replies they gave to questions I asked, their ordinary diet was very poor and very lacking in vitamins.

Of the articles given, the Ovaltine and the Brandox seemed the most popular and it was suspected they were shared by the family. The Marmite was less popular and was taken as a duty, but probably not shared. I am informed by the Marmite Co. that Marmite contains practically no carbohydrate or fat and only a small amount of protein. It is rich in vitamin B complex. Samples which have been tested are found to contain 840 international units of vitamin B₁ per ounce. If the expectant mother takes the whole of the 8 ounces provided for the month, she will be taking 230 international units per day, in addition to perhaps 50 units from her pint of milk. The amount of vitamin B₁ desirable for an expectant mother is estimated as 154 to 254 units by the Technical Commission appointed by the Health Committee of the League of Nations, reporting at London in 1935. It is evident, then, that these expectant mothers have been taking a diet unusually rich in vitamin B₁ and probably in vitamin B₂ together with some vitamin A from the Ovaltine and milk. The beneficial effect of vitamin B₁ in increasing the powers of digestion and absorption is well known. It improves the appetite, stimulates the intestine and produces a general increase in strength and bodily wellbeing. It is easy to understand that given for two months before delivery it may enable a mother to meet successfully the strain of a labour to which she would otherwise succumb, or that it might enable one to deliver herself naturally who would otherwise require operative intervention. McCarrison has drawn attention to the fact that vitamin B contributes to the prevention of the microbic invasion of the body, while vitamin A by preserving the integrity of the epithelium also prevents infective disease. It is of interest to note that no death from puerperal sepsis occurred among the 1938 mothers who received the nutriment during the two years 1935 and 1936 in the Rhondda Valley alone.

An experiment, such as is being carried out in the Rhondda Valley, must be continued for years before definite conclusions can be reached. The originators

District.	Population.	Number of Total Births.		Puerperal Death Rate per 1,000 Births.					
				From Sepsis.		From Other Causes.		Total.	
		No. in 8 years (1927-1934).	No. in 1936.	Average in 8 years (1927-1934).	1936.	Average in 8 years (1927-1934).	1936.	Average in 8 years (1927-1934).	1936.
Rhondda ...	140,000	20,225	2,179	2.97	2.75	4.25	2.29	7.22	5.05
5 New Areas	189,000	29,457	3,045	2.20	1.31	4.45	1.31	6.65	2.62
Total ...	329,000	49,682	5,224	2.51	1.91	4.37	1.72	6.88	3.63

are greatly to be congratulated on having pointed the way and shown how a scientific principle—the action of the vitamins on pregnancy and labour—can be tested in actual practice. But the matter is too much of vital national concern to be left entirely to private enterprise. Could not the Medical Research Council provide assistance which would put the continuance of the work beyond doubt?

I am, etc.,
MARGARET I. BALFOUR.
London.
January 20th, 1937.

DIPHTHERIA IMMUNISATION STATISTICS:
A WARNING.

To the Editor of PUBLIC HEALTH.

SIR,—I read with great interest the article by Dr. W. A. Murphy in your issue of January, p. 121.

I am gratified that Dr. Murphy insists on the advisability of Schick testing after a course of immunisation, whatever antigen has been employed. If this procedure is followed, it renders all kinds of experimental inoculation justifiable, which otherwise would be misleading and even dangerous, because of the sense of false security it might give.

I notice that Dr. Murphy only obtained a re-Schick negative rate of 83 per cent. after three weekly injections of T.A.M., the dose being 1 c.cm. on each occasion. Using Burroughs Wellcome T.A.M. as three 1 c.cm. injections at intervals of 0-7-21 days, on subjects all shown to have been Schick-positive previously, I obtained 88.2 per cent. of negatives in three months, but when I increased the third dose to 1.5 c.cm., using the same intervals, I was able to obtain as high as 95 per cent. of Schick-negatives at the end of three months. I mention this to demonstrate the tremendous advantage which accrues from increasing the third dose of T.A.M. to 1.5 c.cm. I think also that the interval of a fortnight between the second and third injections is of vital importance. The interval of one week, as used by Dr. Murphy, has proved too short in my hands.

As regards dealing with very small children I have also found the situation more difficult than with larger ones, but with the use of first-rate needles and much tact, I have usually found it possible to overcome the difficulty of much antipathy to repeated injections. I do not know whether Dr. Murphy keeps a big tin of boiled sweets as bait, or rather reward, but I have found this of inestimable value!

As regards his results with "one-shot" A.P.T. his figures of the Schick-negative rate produced are of the highest order, but it must be remembered that all his cases were not proved previously to be susceptible. In view of the high Schick-negative rate which was shown among the children on whom he did primary Schick tests (49.3 per cent. of natural negatives) it seems that a very high rate of re-Schick negatives would only be expected. I do think it most important that figures as to the success of various antigens should only be published when they relate to children who have initially been proved to be susceptible. The eye of the casual reader is apt to light on the figure of 90 per cent. success, and he will say, "That is good enough for me." He is apt to overlook the fact that probably one in three

or even more of the children may have been immune before the treatment was commenced.

The best figures I have obtained with various brands of A.P.T. (single shot) on children all originally shown to have been Schick-positive have been a little over 80 per cent. conversion to Schick-negative, while the worst single shot results have shown only 37 per cent. of success. If I had started on an unknown series as regards their initial state of susceptibility, both these figures would have been considerably higher, *but they would not have demonstrated the true value of the antigen I was using.*

My advice to those interested is to disregard all figures published as to the efficiency of an antigen, unless it is clearly stated that all the subjects included were originally Schick-positive.

In conclusion, I should like to hear that Dr. Murphy is going to try two injections of A.P.T. in doses of 0.1 and 0.5 at two or three weeks interval. He will obtain very good re-Schick figures from this procedure. Personally, I am now trying three injections of A.P.T. of 0.1, 0.3 and 0.5 c.cm. at intervals of a fortnight. I hope by this means to establish a degree of immunity which will be adequate to defeat even the more virulent intermediate and gravis strains of the diphtheria bacillus. I think that too much attention is being paid at the present time to the easiest way of producing a "just-Schick-negative state." *We really should be looking for the best means of producing the highest degree of immunity with reasonable ease.*

I am, Sir,
Faithfully yours,
GUY BOUSFIELD.
Camberwell Research Laboratories,
134, Denmark Hill,
London, S.E.5.
January 20th, 1937.

SPEECH DEFECTS.
To the Editor of PUBLIC HEALTH.

SIR,—Having listened with close attention to Dr. Boome's paper on "Speech Defects" (published in your January issue), may I beg for space in your journal to discuss a few points arising from it?

First of all, his system of classification seemed misleading inasmuch as defects caused by inefficient teaching were grouped with those caused by malformations, "nervousness," mental deficiency, hysteria, etc.

Speech defects due to inefficient teaching, *negligent lisping, cluttering and idio-glossia*, are very seldom met with in private practice but a large number reach hospital. Without exception all such children exhibit a complete lack of control and this will be enough to account for their "baby talk." It is surely unreasonable to compel children to attend school at the age when they are mastering speech and then to throw the onus on the parents and, failing them, on the speech clinic of a general hospital. What the teacher cannot do in six hours per day, we are asked to do in six minutes per week, yet I have never experienced any particular difficulty in teaching any sound to such a child; some one must, however, follow up the correction unless the work done at the hospital is to be wasted.

My experience compels me to disagree with Dr. Boome when he says that parents should not urge children to speak correctly. It is the children who receive no help who are apt to persist with "baby talk" and thus another "speech defect" is added to what is already too long a list.

I agree that *cluttering* easily leads to stammering, but why is it not corrected? Most children talk too fast and stumble over their words and if this "stumble" persists the child becomes aware of failure, which leads to increased failure until a vicious circle is formed and the stammering habit is established. Many will agree with me that *speed is the determining factor which causes one child in every hundred to stammer*. If slow speech were insisted upon in all the elementary schools, there would be a marked decrease in stammering.

Dr. Boome states that *the less the stammerer thinks about his speech, the better he will speak*. That lack of control of the vocal cords causes the breakdown is indicated by the fact that most stammerers can sing fluently. In singing attention is necessarily concentrated on voice production, but when speaking the average stammerer concentrates on the articulation of the consonants and so loses the essential balance between the production of vocal tone and the formation of that tone into words. Surely, Dr. Boome must have intended to say that the less the stammerer thinks about his *words* and the more about his *voice*, the better he will speak. The stammerer has not full control of the muscular movements which produce vocal tone. Dr. Boome's system is based upon an assumption that this muscular *control* can be increased through muscular *relaxation*, which sounds improbable.

Dr. Boome justifies his attempt to teach control through relaxation by stating that stammerers "live under mental strain" and require "psychological adjustment" and that these conditions cause the stammer in 1 per cent. of the population. Since, however, practically all small children stumble or stammer while learning to talk, we are forced to the conclusion that 99 per cent. recover from their "mental strain" and "adjust themselves psychologically" without the help of Dr. Boome's relaxation exercises.

This conclusion is reached by building upon the hypothesis that a stammer is caused by "mental strain." What could be more likely to *cause* "mental strain" than inability to speak fluently? Only those who have themselves stammered can fully realise the mental strain caused by incessant anxiety, the constant fear that a question may have to be answered or that the sufferer will be compelled by circumstances to speak. Things that mean nothing to normal people, such as asking for railway tickets or shopping, fill the sensitive stammerer with terror, but Dr. Boome does not admit the possibility that the stammer is the cause of the "mental strain" of which he speaks.

Mistakes have been made in the past, scores of stammerers have had their difficulties vastly increased through the teaching of deep breathing when they should have studied voice control. I suggest that Dr. Boome is searching for an improbable solution to his problem instead of admitting that a simple solution may be the true one. There is a tendency to-day to insist on an obscure psychological explanation of the simplest physical facts.

My simple, common sense explanation of the stammering habit has the support of that eminent psychologist, Dr. Henry Devine, O.B.E., M.D., F.R.C.P., the President of the section of Psychiatry of the Royal Medical Society and ex-President of the Neurological section of the British Medical Association. Dr. Devine evidenced his unqualified agreement with my theories by accepting them *in toto* in the contribution on "Stammering" to the current edition of the *Medical Annual*.

With regard to relaxation, although I can relax to the point of going to sleep and in spite of many years of all-round teaching experience as a public school master, I have succeeded only once in teaching complete relaxation to another person; all my efforts in this direction have been to teach adults who were anxious to learn.

H. ST. JOHN RUMSEY, M.A. (CANTAB.),
*Speech Therapist and Lecturer in Speech Therapy at
Guy's Hospital.*

London.
January 12th, 1937.

SIR,—Any intelligent reader of my paper "Speech Defects in Young Children" must have seen without my assistance the answer to most of Mr. Rumsey's criticisms. It might be as well, however, for me to correct one or two of his mis-statements.

First of all, I did not classify defects caused by inefficient teaching with those caused by malformation, etc.

Secondly, I did not say "that parents should not urge children to speak correctly," I said that they should not "force the child."

Thirdly, I did *not* intend to say "that the less the stammerer thinks about his words and the more about his voice the better he will speak." It is impossible to separate the two.

Fourthly, however improbable it may seem to Mr. Rumsey that "this muscular control can be increased through muscular relaxation," experience proves that it is the fact.

Fifthly, in answer to Mr. Rumsey's polite remark that 99 per cent. of the population recover from their mental strain without the "help of my relaxation exercises," I need only comment that they that are whole have no need of a physician.

Sixthly, that mental strain may be increased by a stammer I entirely agree, but the stammer itself must surely have had some cause and all modern investigators are coming to agree that mental strain is this original cause. Stammering is often only part of a syndrome.

Seventhly, Mr. Rumsey complains that he has only once succeeded in teaching complete relaxation to another person. It is generally better to withhold criticism, if one has had no experience in a subject.

I would suggest that Mr. Rumsey stays his facile and protean pen for a while, and delves into the works of Cameron, Millais Culpin, Gillespie, and Seth and Guthrie, where he will find that stammering has not his "simple commonsense explanation," which does not apply to the majority of stammerers.

Yours, etc.,
E. J. BOOME.
Woking.
January 26th, 1937.

PUBLIC HEALTH

THE JOURNAL OF

THE SOCIETY OF MEDICAL OFFICERS OF HEALTH

No. 6. Vol. L.

MARCH, 1937

Subscription 81s. 6d. per annum, post free, in advance.
Single copies 2s. 6d. post free.

"Public Health" is the Official Organ of the Society of Medical Officers of Health and a suitable medium for the advertisement of official appointments vacant in the health service. Space is also available for a certain number of approved commercial advertisements. Application should be made to the Executive Secretary of the Society, at 1, Thornhaugh Street, Russell Square, London, W.C.1.

Contents

Editorial

	PAGE
Public Health Teaching and Research	173
A New Era in Prophylactic Vaccination?	174
Artificial Pneumothorax Treatment	174
A Dietary Survey	175
Willesden Maternity Hospital	176
Sir Henry Brackenbury	177
Planning and Research	177

Special Articles

Health. By A. E. Druitt, M.R.C.S., L.R.C.P., D.P.H.	179
Health Supervision of Toddlers. By Margaret Emslie, M.B., CH.B.	183
Meningococcal Septicæmia. By J. O. Murray, M.D., CH.B., D.P.H.	189

News and Summaries

Obituaries	178 & 188
Recent Appointments in the Public Health Service	178
Ministry of Health Publications	190
Birth Control Clinics	191
Problems of the Nursery School Class	194
Milk Legislation	194

Society of Medical Officers of Health

Council Meeting	195
Ordinary Meeting	201
Metropolitan Branch	201
Home Counties Branch	201
County Borough Medical Officers of Health Group	201
Midland M. & C.W. Sub-Group	202

Editorial

Public Health Teaching and Research

The London School of Hygiene and Tropical Medicine, established by the generosity of the Rockefeller Foundation under guarantee of maintenance by the Government, has rapidly come to hold a unique place in relation to the public health service. Broadly, the interests of the service are scientific, administrative and medico-political, but these are not distinct. They interdigitate, and, by a happy chance, the London School, the Society's House and B.M.A. House are situated close to one another, forming the points of a triangle into the body of which each pours its special influence. One seldom visits the London School without meeting some visitor from a health department, perhaps seeking help or advice, perhaps taking part in its teaching, or even collaborating in research. For this profitable association thanks are mainly due to Prof. W. W. Jameson, whose hitherto limited term of office as Dean has now, we are glad to learn, been indefinitely extended.

The School is primarily national, but it is also imperial and international. Its latest Report* tells of increased grants from Colonial Governments and from industry, and of a special fund raised by Sir Austen Chamberlain, Chairman of the Court, for the joint research in chemical immunity being carried on in the Divisions of Bacteriology and Biochemistry. In the Dean's Report there is ample evidence of the return given to British and other Government Departments in the form of collaboration in the investigation of problems, assistance on special committees and the organisation of courses of instruction by the staff of the School for professional officers in, or entering, the services and even for laymen from tropical lands. Of rather more than a thousand students who have attended during the past six years, about one-half came from the British Isles, the remainder from 43 other countries, the majority of the students coming, as might be expected, from the Dominions or other parts of the Empire, but almost every

*London School of Hygiene and Tropical Medicine. Report to the Court of Governors on the Work of the School for the Year ended July 31st, 1936. Keppel Street, London, W.C.1.

European country being represented as well as the U.S.A. (the latter with 54 students). The large complement of 164 from India may be noted, as its Government is not mentioned among the contributing bodies.

Forty pages of the Report are devoted to the educational and research work of the several divisions, and a list of publications during the year occupies eight pages. The work of the staff of the School is familiar to readers of medical and scientific journals and it would be impossible to do justice to it here. Special reference, however, is made in the annotation which follows to the investigations which Professors Topley and Raistrick and their collaborators are making into the toxic and antigenic fractions of bacteria. The separation of a non-toxic chemical antigen from *Bact. typhosum* and *Streptococcus haemolyticus* holds out prospects in relation to practical immunisation the importance of which cannot be over-emphasised.

A New Era in Prophylactic Vaccination?

Two papers* from the London School of Hygiene, published in the *Lancet* of January 30th, although mainly bacteriological in form and interest merit the attention of those engaged in public health and preventive medicine. Professors Topley and Raistrick and their colleagues have extracted from the typhoid bacillus and from the hæmolytic streptococcus chemical fractions, soluble in water or weak acid, which are effective immunising agents against the living virulent homologous organism. In the case of the typhoid bacillus the chemical antigen, which seems to be a polysaccharide with a phosphatide linkage, is as efficient in protecting mice as a killed vaccine of the whole organism, while the streptococcus fraction, apparently protein in nature, is less effective. The importance of these investigations lies in their possible application to the immunisation of man against such bacterial diseases as enterica, hæmolytic streptococcus infections, whooping-cough, dysentery, cholera, etc. There are many difficulties inherent in the preparation, preservation and use of bacterial suspensions for prophylactic vaccination and recent researches suggest that what good results were formerly obtained in the field with typhoid vaccine were more the outcome of happy chance than of controlled experiment. Now, instead of a

blunderbuss in the shape of a crude bacterial suspension which besides being a variable quantity causes considerable upset to the patient, may we expect in powder form a refined, stable, harmless but none the less effective, immunising agent. A step in this direction has already been taken by Felton in America, who reported at the International Microbiological Congress last summer promising results from the immunisation with pneumococcus polysaccharide of large groups of people against lobar pneumonia. The use of these chemical antigens for the production of antibacterial sera may be another practical possibility.

The main obstacle to further advance seems to be an economic one, for, as the authors remark, their studies "involve the growth of relatively enormous masses of pathogenic bacteria, laborious and large scale chemical manipulations and the annual expenditure of many thousands of mice." Besides, the potent immunising fractions may differ widely in their chemical nature, as in the present work, so making the initial chemical manipulations increasingly laborious. But the accomplished isolation of a chemically pure and stable antigen that has the immunising properties of the whole bacterial cell may be heralded as a definite step forward in the field of preventive medicine.

Artificial Pneumothorax Treatment

The most important publication on the results of artificial pneumothorax treatment which has yet appeared is to be found in No. 215 of the Special Report series of the Medical Research Council.* In it Dr. F. J. Bentley gives an account of the experience of the London County Council organisation in this respect and compares the results in 677 tuberculous persons treated by this special method, and followed for from 3 to 13 years, with a control series of 3,329 cases coming under treatment in 1927 and treated conservatively. A perfect control, affording adequate comparison, is as the author points out, almost impossible to obtain and he would no doubt be the first to admit that 677 cases with mainly unilateral disease are not strictly comparable with 3,329 cases in which the disease is, in the great majority, bilateral. This comparison is made more just by confining it for the most part to survival rates, and the artificial pneumothorax cases show here an advantage of about 20 per cent. 129 lives were saved, though it must be admitted that only 10 per cent. of the

total patients are to-day considered suitable for this form of active therapy.

It is 14 years since the issue of the last Medical Research Council publication on artificial pneumothorax and the new report begins with a review of that and other previous publications which covered 20,000 patients. The author concludes that there are seven "deadly sins" which investigators in this field must avoid.

1. *Paucity*.—Too small a number of cases.
2. *Selection*.—Only certain cases are published.
3. *Precipitancy*.—Cases reported before sufficient time has elapsed.
4. *False Control*.—Comparison, for instance, with patients who have extensive pleural adhesions. It is suggested that it is almost as misleading to compare inoperable tuberculosis with operable, as to compare inoperable with operable carcinoma.
5. *Equivocation*.—The use of equivocal definitions of the degree of collapse obtained.
6. *Failure to trace*.—Too large a number of the series have been lost sight of.
7. *Lack of detail*.—The exact extent of the disease is not given.

A factor contributing to success is that the successfully operated patient is also encouraged, and becomes more obedient, because the collapse is succeeding.

In Dr. Bentley's description of the extent of the disease he writes of lobes and half lobes of the lung. It is possible that future comparisons might have been simplified if he had referred instead to the upper middle and lower skiagraphic zones, but he is right to limit the consideration of survivors to those who have passed the three-year period. A five-year period alone might have been an improvement and would not have altered materially the results noted. It is rather remarkable how few of these patients underwent accessory treatment; in only 10 cases was phrenic evulsion performed and in only 12 thoracoplasty. It is possible that a freer use of these adjuncts to treatment might have improved the results.

The erroneous statement, so often heard, that artificial pneumothorax shortens the necessary period of institutional treatment is here finally confuted, for the average stay of the artificial pneumothorax case was 1.3 months longer than that of the controls. In addition to a longer period within the institution the artificial pneumothorax patients receive a much more careful and prolonged control afterwards. And there is another factor not mentioned here which tells in favour of operated cases; the Medical Superintendent or Tuberculosis Officer responsible for their welfare is always anxious that they should do well and devotes, subconsciously no doubt, more thought

and more observation to them than to those treated conservatively.

Dr. Bentley classifies the degree of collapse simply and well under three headings—complete collapse, incomplete and pockets only—and the best results are obtained in those where complete collapse is possible. Cases with a negative sputum, or whose sputum becomes negative under treatment, do better, and also, as might be expected, the less contralateral disease the better. The London County Council do not seem to have attempted the control of contralateral disease by gold treatment. The average duration of the collapse therapy was 18.8 months, but the surviving completely collapsed cases continued refills for three years: 76.3 per cent. of 80 patients, in whom the facts were ascertained, were at work at the end of five years.

Dr. Bentley's able and painstaking study has been but incompletely summarised here; anyone engaged in, or contemplating, collapse therapy should read carefully report No. 215.

A Dietary Survey

It is said that an army marches on its stomach, and a nation must necessarily progress in a somewhat similar way; so that it is not surprising that diet and nutrition are words which are rather overworked in an age of loudspeaking publicity. This is possibly all to the good provided that with the amplification and diffusion there is no distortion of scientific facts and of the legitimate conclusions derived from those facts. It is far from easy to maintain a reasonable balance, and to proceed cautiously along the road of inquiry; and the series of reports by Professor Cathcart and Mrs. Murray constitutes a welcome contribution to the subject.

In the previous reports, these authors dealt with the diet of families at St. Andrews, and at Cardiff and Reading; and attention was in the main directed to the nature of the food consumption in terms of proteins, carbohydrates and fats, irrespective of the sources from which these components were derived. There was a relative constancy in the distribution of calories between protein fat and carbohydrates eaten by the people in the different towns.

In the third publication of the series* the data have been interpreted in terms of some of the principal foodstuffs purchased in the course of everyday housekeeping; and the results of an

* "The Immunising Potency of Antigenic Components isolated from different strains of *Bact. Typhosum*." By W.W. C. Topley, H. Raistrick, J. Wilson, M. Stacey, S. W. Challinor and R. O. J. Clark.

"The Immunising Activity of certain Chemical Fractions isolated from Hæmolytic Streptococci." By T. C. Stamp and E. B. Hendry.

* Artificial Pneumothorax. Experience of the London County Council. By F. J. Bentley, M.D., M.R.C.P., D.P.H. Medical Research Council Special Report Series No. 215. H.M. Stationery Office, 1s. 6d. net.

* A Dietary Survey in Terms of the Actual Foodstuffs Consumed. By E. P. Cathcart and A. M. T. Murray. Medical Research Council. Special Report Series No. 218. London: H.M. Stationery Office, 1936. Price 1s. 0d. net.

investigation of the type of food eaten by some Glasgow families and also by a number of women students have been added. It is admitted that the number of diets available was not large, but the diets were those of a very representative sample of the population: and it is seen that a constant percentage intake of the energy-bearing constituents is obtained independently of the type of foodstuffs eaten—although there is no explanation of this extraordinary instinct which seems to direct the purchase of food by such a variety of housewives living far apart.

The authors maintain that few of the diets, from the standpoint of energy, protein and fat content, percentage of first-class protein and mineral salts, can be regarded as really poor, far less as hopelessly inadequate; but at the same time it must be admitted that many of them leave much to be desired in the content of protective foodstuffs like milk, vegetables and fruit.

The inferiority of many diets is not due solely to lack of purchasing power, as it is not always those with the lowest incomes who are worst fed; and a mere increase in wages will not provide the absolute remedy, although few would deny that an increased income is essential among a certain section of the community. The main cause of inadequate diets in many households is ignorance of how to buy, what to buy and how to make the best use of what is purchased; and the removal of this ignorance is not as easy as many social workers imagine. Humanity is neither scientific nor logical, but at best is a mixture of habit, heredity, custom and bias; and household management is not an easy task. Thus it will be in persistent slow personal education that any hope of progress lies; mass instruction, the report contends, will profit little, for the people must be shown by personal contact and demonstration. Even so it demands the use of goodwill and intelligence, of constant encouragement and assistance from those who are willing and able to give it. The public opinion of neighbours is a powerful force; and if but one housewife in a group can be convinced that the new methods are better than her own, she will become a centre for the dissemination of the new teaching.

Furthermore, scientists will readily agree that with existing knowledge, it is unwise to be dogmatic; for the balance of mineral metabolism, to take one illustration, is not merely a matter of the ingestion of definite amounts of the elements concerned. Moreover, nature does not work in minimal quantities, and it would be interesting to assess the physical endurance and physique of the various families or to ascertain their reaction to acute and chronic infection. Indeed, many of the

inter-related facts are as yet seen through a glass darkly. Be that as it may, the purchase and use of what are thought to be the correct foodstuffs do not solve the problem without relation to the larger issue of how to plan and spend a wage or income; and balance of expenditure is an art unknown or ignored by many, including the so-called "better" classes. Wise indeed was the parent who constantly admonished his children that it is even more essential to be taught how to spend an income than how to earn it. And education will never be complete until it gives more satisfactory and practical effect to this all-important aspect.

Willesden Maternity Hospital

Dr. G. F. Buchan (M.O.H., Willesden) has recently presented to his council a clinical report by Mr. Arnold Walker, M.B., F.R.C.S., F.C.O.G., consultant obstetrician, on the first three thousand cases cared for at the Borough Maternity Hospital.

Mr. Walker's report is of much clinical value, and we commend it to those closely concerned with obstetrics, while the accompanying memorandum by Dr. Buchan deals with general issues and expresses the viewpoint of the administrator. Dr. Buchan points out that for the period covered (February, 1931, to February, 1936) 3,000 cases were admitted to the hospital, of which 2,939 were booked cases and showed a maternal mortality rate of 1.02 per thousand live and still births while 61 cases were admitted as emergency cases and showed a mortality rate of 65.6. If the emergency cases are pooled with the figures for other Willesden mothers who did not use the hospital during the period covered, the comparative mortality rates per thousand live and still births are 4.26 for 11,274 non-booked cases and 1.02 for 2,939 booked cases—a convincing argument for the excellence of the Willesden provision for both ante-natal, natal and post-natal care.

The Willesden Maternity Hospital was extended in 1935 to be able to cope with 1,000 cases per annum and at present consists of (1) a labour block with five labour and three delivery beds, each in separate wards; (2) an ante-natal ward of nine beds; (3) three lying-in blocks of forty-three beds; and (4) an observation block of four cubicles. Dr. Buchan reports, however, that between February, 1935, and October 31st, 1936, 356 cases had to be refused admission, and he suggests that yet further accommodation should be provided. Among his other recommendations are that expectant and nursing mothers should receive meals on the same lines as school children, and that greater attention should be paid to the new-born baby, one step in this direction to be the appointment of a consultant pædiatrician.

Sir Henry Brackenbury

Members of the Society, who, being local government officers, have no politics, will wish well of Sir Henry Brackenbury's independent candidature for the Combined English Universities seat in Parliament rendered vacant by the death of Sir Reginald Craddock. Sir Henry's public record amply entitles him to represent a University constituency and to show in Parliament the statesmanlike qualities which have hitherto benefited the medical and educational worlds. We need not recall his great services to the British Medical Association and to the Society, of whose Council he has been a valued member for many years, but it may not be so well known that he was for four years the President of the Association of Education Committees and that he has had extensive experience of local government work both in Middlesex and Hornsey. With public health and the national fitness so much to the fore, it would seem on every count that Sir Henry's return to Parliament would strengthen debate on many topics by the contribution of his special knowledge and experience.

Planning and Research

The broadsheets issued by the organisation known as PEP (Political and Economic Planning) have dealt with a comprehensive list of subjects in the three years and ten months during which these fortnightly stimuli to thought have been administered.

The Editor explains that their purpose is to further the growth of a more scientific and objective attitude towards British public affairs and certainly the numbers here considered, namely 55, 64, 72, 80, 88 and 92, fulfil that ambition.

The spotlight is made to fall on the social services, health, national fitness, hospitals, malnutrition and on industry and health, and is always so directed as to reveal the salient facts, the confusion resulting from haphazard development and, though here with not quite the same clarity, on the path leading to a planned future.

Perusal of the whole series of these broadsheets would doubtless make clear PEP's policy regarding the basic problem presented by the inadequacy of the purchasing power of those individuals who comprise the groups that we have in mind when we speak of national fitness, malnutrition, social services and social problems generally.

Members of the public health service will find that they have a staunch ally in PEP and there will be some who will wish to co-operate in the excellent work that this organisation is doing.

An introduction so mutually advantageous should

not be longer delayed and readers are herewith presented to the Editor of *Planning*, 16, Queen Anne's Gate, London, S.W.1, who, for a contribution of £1 per annum, will send to those interested each fortnightly issue.

NFRB is the battle cry of the New Fabian Research Bureau. This organisation has published a series of pamphlets of which No. 31, by Mrs. Barbara Drake, L.C.C., deals with nutrition and is sold for sixpence.

Packed into 36 pages will be found a most excellent summary of modern views regarding standards of nutrition; a discussion on the relation between diet and income; a careful statement on the evidence of malnutrition; a synopsis of the present position regarding the public provision of meals; the case for collective feeding; the outline of a scheme for collective feeding together with an estimate of cost.

It will be seen that this pamphlet falls into two parts. The earlier sections are educational while the later are devoted to the advocacy of a national scheme of collective feeding.

Mrs. Drake has succeeded in compressing essential information regarding nutrition into the first 20 pages and in making these pages so interesting that no one who begins is likely to leave off reading until the end. As an introduction to the subject of nutrition NFRB No. 31 should prove invaluable to members of public health and of maternity and child welfare committees and to all members of the staffs of public health departments.

The main proposals of the scheme of collective feeding are:—the provision of an adequate supply of milk for mothers and infants attending infant welfare centres and similar institutions; the milk-in-schools scheme to be made universally compulsory; education authorities to be required to establish school canteens providing a hot midday meal. Both the milk scheme and the dinner scheme would be undertaken in three stages. In the third stage of both schemes all parents' payments would be abolished. When the third stage is reached it is estimated that the cost of the entire scheme will be £65,500,000 per annum.

Very large issues, however, are involved in a proposal to deal with nutrition, which is traditionally regarded as a matter for the individual and a central feature of family life, not by attempting to raise wages in relation to food but by a vast scheme of collective feeding in which responsibility is shifted in a direction away from the parent and towards an appropriate committee.

Miss Eleanor Rathbone touches upon this aspect of the question in her introduction to this important pamphlet.

RECENT APPOINTMENTS IN THE PUBLIC HEALTH SERVICE

The following are some recent appointments to the public health departments of various local authorities.

The Editor will be grateful if members of the Society will notify him at once of any new appointments, giving details such as salary, date of taking up appointment, etc.

Ealing M.B.; R.M.O., Claypotts Isolation Hospital, Dr. Donald Ferguson (Junior M.O., Brighton Sanatorium).

Gloucestershire C.C.; M.O.H. and S.M.O., Dr. Kenneth Cowan (Dep. M.O.H., Leicestershire). Salary £1,200 per annum.

Kiveton Park R.D., Rotherham R.D. and West Riding Schools in the area; M.O.H., Dr. J. M. Watt (M.O.H., Shipley U.D.). Salary £800 rising by £50 annually to £1,000.

Leeds C.B.; A.S.M.O., Dr. H. G. Hutton.

London County Council: Central Office Staff; Senior M.O., Dr. C. D. S. Agassiz (Med. Supt., Archway Hospital).

Warrington C.B.; M.O.H., Dr. S. F. Allison (M.O.H., Lowestoft). Salary £1,100 rising by annual increments of £50 to £1,250.

York C.B.; Senior A.S.M.O., Dr. F. B. Shevlin.

MINISTRY OF HEALTH PUBLICATIONS.

The subjoined notes regarding recent Ministry of Health circulars, memoranda and reports are made available by courtesy of the Ministry. Readers are reminded that priced documents should be obtained not from the Ministry but from H.M. Stationery Office, Adastral House, Kingsway, W.C.2, who will open deposit accounts and receive subscriptions for the regular supply of publications of a specialised nature. Documents which are not priced in the following list are not obtainable from the Stationery Office, and if any reader wishes for a copy of one of these, it is open to him to apply to the Ministry direct.

Circular 1586 (encloses Memo. 166/Med.). Price 2d. net. By post, 2½d. *Acute Poliomyelitis*. Forwards to County Councils, Sanitary Authorities, Joint Hospital Boards and Isolation Hospital Committees copies of a revised edition of Memo. 166/Med., and draws attention in particular to the section of it relating to the Administrative measures which are desirable on the occurrence of cases, or suspected cases, of poliomyelitis.

Circular 1588 (encloses Forms H4 and H4a). *Poor Relief*. Requests Clerks of County Councils and County Borough Councils to forward a return of the number of persons in receipt of Poor Relief on the night of the 1st January, 1937.

Circular 1590 (encloses Forms 298/130, 298/131 and 298/132). *Out Relief and Costs*. Requests Clerks of County Councils and County Borough Councils to forward in due course monthly returns, for the quarter ending in March, 1937, of the average number of persons in receipt of out-relief and the cost of such relief.

Form H256. Housing. Requests Clerks to Local Authorities to furnish a return of the progress made up to December 31st, 1936, under the Housing Act, 1930, with respect to Unhealthy Areas and Insanitary Houses.

Memo. H256c. Housing. Informs Clerks to Local Authorities that no return (in form H256a) of the progress made up to December 31st, 1936, in their programmes

under the Housing Act, 1930, will be called for, but requests that records may be kept for a return up to March, 1937.

Posters. Milk—Official Designations. Two sizes of poster indicating the Designations of milk under the new Milk (Special Designations) Order, and a covering memorandum to Medical Officers of Health stating that copies of the poster(s) could be obtained on demand from the Stationery Office.

Statement. Price 4d. net. By post, 4½d. *Housing*. House production, slum clearance, etc., England and Wales. Position up to September 30th, 1936.

Report. Price 3s. 6d. net. Annual Report of the Chief Medical Officer of the Ministry of Health for the year 1935.

Extracts. Price 3d. net. By post, 3½d. *Sale of Food and Drugs*. Extracts from the Annual Report of the Ministry of Health for 1935-36, and abstracts of Reports of Public Analysts for the year 1935.

Statement. Price 6d. net. By post, 6½d. Statement showing the number of persons in receipt of Poor Relief in England and Wales in the quarter ending September, 1936, with some particulars as to the number of "Unemployed" persons in receipt of such relief.

Tables. Price 6d. net. By post, 6½d. *Housing Act, 1936*. Tables of Comparison showing (1) The mode in which earlier enactments are dealt with by the act, and (2) The sections of the act and corresponding provisions in earlier acts.

S.R. & O. of 1936, No. 1935. Price 1d. net. By post, 1½d. *Housing, England*. The Housing Act, 1935 (Operation of Overcrowding Provisions) Order, 1936.

Circular 1591. Price 1d. net. By post, 1½d. *Housing*. Gives advice to local authorities on their powers and duties in connection with the relief of overcrowding, and draws attention to the consolidating Act of 1936 which came into force on January 1st, 1937.

Circular 1593. Coronation medals. Informs Local Authorities of the revised arrangements for the supply of officially approved Coronation Medals.

Circular 1595. Midwives Act, 1936. Circular addressed to Local Supervising Authorities under the Midwives Acts, reminding them that it is their duty to submit proposals under the above Act not later than January 30th.

Extracts. Price 1s. net. By post, 1s. 1d. *Housing and Town and Country Planning*. Extracts from the Annual Report of the Ministry of Health for 1935-36.

Report. Price 3d. net. By post, 3½d. Report on the Work of the Central Midwives Board for the year ended March 31st, 1935.

Statement. Price 6d. net. By post, 6½d. Local Government Financial Statistics, England and Wales, 1934-35. Part I, Poor Relief.

We regret to announce the death on February 26th, of Dr. Richard Prichard, aged 81 years, who was M.O.H. of Cardiff R.D.C. from 1887 until his retirement a few years ago. He graduated M.B., C.M., Glasgow, in 1881, and D.P.H. in 1904, was President of the old West of England and South Wales Branch of the Society, and for many years attended at Welsh Branch meetings.

We regret to announce the death in East Africa from blackwater fever of Dr. Isobella Aitken, a Fellow of the Society, who was formerly temporary A.M.O., Cumberland.

Health*

By A. E. DRUITT, M.R.C.S., L.R.C.P., D.P.H.,

Formerly Assistant Medical Officer, Hampshire County Council.

If health, or universal good condition, is the principle which acts in opposition to that common enemy of the race—disease—how is it that comparatively few people are prepared to pay the price of either its attainment or maintenance? Those who dare to make the attempt are often termed faddists, while those who ignore restrictions are looked upon as good sports. There is a kind of captivating thrill in running risks to health and even to life, and we have a common custom of drinking to the "health" of individuals employing sometimes not only unhealthful drinks, but following often the ingestion of an unhealthful meal.

Now whenever any deviation from health occurs it would seem most reasonable to have recourse to natural curative agents—most of which have been in use from the remotest ages, such as rest, exercise, diet, light and fresh air. These agents have the advantage over all others in that they are not only the most potent but the most easily accessible and the most universally available for use at all times and in all places, by all people, uncivilised as well as civilised. An additional reason for the special consideration of these remedies is the fact that they are all non-toxic, i.e., unlike most drugs, they cannot easily be made the means of injury (Kellog, 1914).

Having almost reached the zenith of the healing art we of the medical profession seem to be falling back in these days with a certain relief upon those primitive methods which have for their object the assistance of nature, and are leaving it to her to work her wonder cures—as witness sunlight and air in the treatment of tuberculosis. The treatment itself is no more or less than a return to natural law, to the violation of which so much disease is traceable. As we live contrary to natural law, to that same extent do we subject ourselves to limitations and consequent need for help.

God has written His moral law in the Bible and in human hearts. He has written His physical laws upon the stomach, brain, liver, kidneys and nerves. Which of these laws can I violate without being a law breaker?

On this occasion I would draw special attention to a dietetic reform which, in my judgment has been insufficiently recognised. That reform is a pure dietary, i.e., the selection of the best foods obtainable—and the best foods (in McCarrison's words) are those whose faults are the least. It is

* Presidential Address to the Southern Branch, October 2nd, 1936.

our duty as pioneers in preventive medicine to devote careful attention to any possible source of health deterioration, and especially, I think, to enter into all the untried or insufficiently explored problems of whatever nature in the sphere of public health and this surely we can do, unlike the general practitioner, without any qualm of prejudicing our pockets.

Now, in the matter of diet, I remember that during my sojourn in Nigeria for eleven years (including furloughs) in the beginning of this century I used to feel that if one needed a dietetic change from the customary goat flesh or fowl, the meal was largely dependent upon good luck with one's gun. The lure of the flesh-pot was strong with me in those days. But for the last 18 years I have lived exclusively on a fleshless diet and have *post hoc* or *propter hoc* come into a condition of sustained health unknown before even first visiting the West Coast of Africa.

I have no wish to compile a general rule from exceptions but I would merely assert here my belief that in the fleshless diet we have

- (1) An answer to much that is questioned in ignorance;
- (2) A vindication of, and not an apology for the principles of health living;
- (3) An onslaught upon ingrained and effete ideas as to strength and endurance—mental and physical;
- (4) And a reflection upon the business of butchery—unhealthy in its effect of making the normal mind of the slaughterman sub-human—a business deserving of a limited toleration only and especially when it is recollected that of the inhabitants of the earth, about one-quarter use meat as a daily food whereas three-quarters are living on a more or less meatless diet (though not strictly vegetarian).

With regard to the way in which the enlightened would receive the idea of a fleshless diet, I have an illustration in the case of my younger daughter who, in an application for training as nurse in one of our chief hospitals had a very satisfactory interview with the matron together with her mother. On leaving, my daughter remarked that although she was a vegetarian she would not ask for any special arrangement to be made for her. Whereupon the matron, horrified, said she could not accept the responsibility of such a person who would possess no resistance in the event of her falling sick. The episode, although an isolated one, represents, I believe, faithfully how many people, otherwise well informed, stumble upon the stone of vegetarianism.

Frequent references to diet in the daily papers

serve to show not merely the increasing interest in the subject but that the tables, as it were, are turning slowly and intelligently towards a more rational diet and one in which the scales are going down in favour of fruit and vegetables and dairy products and up in respect of flesh foods. In other words, that flesh foods are being weighed in the balances and found wanting. But my object is to emphasise the value of the fleshless diet as a medium in the best interests of health and in doing so I propose to confine my remarks to recent scientific opinion.

Here is an up-to-date opinion. Professor Cowell (Professor of Dietetics in the University of London), in a recent discussion at the Society's house in London, on "Nutritional Factors in the Prevention of Disease" (1936), said that the optimal state of nutrition must be secured which will guarantee people free from diseases which are directly or indirectly caused by dietary defects. Protective measures can be summed up in a few words, *viz.*, the aim to secure a greater consumption of the protective foods, *viz.*, dairy produce of all kinds, eggs, liver, fat fish, fresh vegetables and fruit—note that butcher's meat is not mentioned although liver and fat fish are—and a lessened consumption of meat foods, refined cereals, sugar, jam and vegetable fats. Education, he said, will have to play its part.

In the discussion that followed Dr. T. W. Hill alluded to ignorance and poverty as two fundamental problems in relation to the question of diet. I humbly concur in this and would add my personal belief that if poverty could claim its tenth of the total, the remaining nine-tenths should be claimed by ignorance.

Sir Robert McCarrison (1936), at the last annual meeting of the B.M.A., said it was becoming apparent that the science of nutrition was the foundation of a more rational medicine. Food was the instrument of nourishment, nutrition was the act of using it but only within recent years had the important relations of certain food essentials received due attention. Education (in the matter of nutrition) of both the public and the medical profession was necessary. The student should be taught less about disease and drugs and more about health, and about nutrition which was the basis of health. And, speaking at the same meeting, McCarrison (1936) said that the foodstuffs which, when properly combined, were known to ensure perfect nutrition and a high grade of physical efficiency and health, were: a good whole cereal grain or a good wholemeal bread; milk and the products of milk; eggs; green leaf and root vegetables and legumes; fruit; meat; water. The need for surgery, he added, would lessen when

people learnt to feed themselves properly and had the means to do so.

The International Labour Office (1935) reported to the League of Nations that, for the protein requirement of an adequate diet, part of it must be of animal origin (not necessarily flesh) and also that, for the same purpose, the minerals and vitamin content of the protective foods, lean meat is mentioned together with greens, root vegetables, milk and eggs.

The *British Medical Journal*, commenting on the above, said:

"A chief merit of this report lies in the emphasis which it lays on vegetables, milk and eggs, and it adds that if the National Health Insurance scheme is not yielding results commensurate with its vast expenditure it should be reorganised and augmented by a policy of national health based on the proper feeding of our people."

I wish now to show how, in the case of various diseases, the flesh diet figures prominently in loss of health.

Malignant Disease

In the case of malignant disease, diet is recognised to play an important part in those already predisposed. Dr. Ernest Tipper, in his book "The Cradle of the World and Cancer," writes of conditions thus:—In the Niger Delta, after 25 years' experience, he came to the conclusion that the two most potent factors suspected of inducing cancer are constipation and excessive flesh eating, for where these are present, cancer is rife and where these are absent, there is none.

The same writer relates that appendicitis is also practically unknown amongst the populations of the Niger Delta, and where, in those peoples, fish and fowl are taken they are eaten more as a luxury (the same applies to the consumption of mutton and goat flesh).

From my own experience in West Africa I can corroborate Dr. Tipper's findings.

Lt.-Col. H. Halliday, I.M.S., in 22 years' experience in Punjab and N.W. Provinces and Himalayas, among men of all classes employing a primitive diet of corn, pulses, vegetables and fruits and a negligible quantity of meat, encountered three cases of cancer.

Dr. Hindhede, Director of the State Nutritional Laboratory, Copenhagen, reached the following conclusions: (a) Man alone dies of cancer of the stomach, and (b) among man, only civilised man dies of it; (c) Cancer of the digestive tube occurs very rarely among uncivilised people who live on a mild vegetarian fare; (d) To these statements there are very few exceptions.

Dr. McDonagh, on "Fundamental Ways of Living," includes the adoption of a strict vegetarian

diet, hygienic clothing, fresh air and adequate elimination, basing his conclusions on the fact that the excreta of herbivorous animals in captivity reveal fewer pathogenic organisms than the excreta of any of the other animals.

Dr. Beddow Bayly, "Diabetes and Pernicious Anæmia" (1936), has observed:—

"Most authorities are agreed that diabetes is probably caused by some form of toxæmia, but instead of any attempt being made to elucidate and attack the cause the whole attention of modern medicine, dominated by the outlook of the laboratory, has been directed to patching up the pancreas which is but one of the organs to suffer damage from this toxæmia."

Writing on diabetes, McDonagh says it is an external manifestation of a chronic intestinal intoxication in which, in the end-stage, the island cells of Langerhans may suffer destruction. Ridding humanity of a chronic intestinal intoxication would prevent diabetes and render insulin superfluous.

Late statistics show the cause of diabetes to be the excessive intake of all nutriment and not of one kind alone. It is interesting to note that during the Great War there was a considerable fall in diabetic mortality in those countries who suffered privation and, in the privation, lack of flesh food probably featured very largely. The world-wide mounting up of diabetic mortality should open our eyes to the aspects of its ætiology.

Dr. Langdon Brown states that coma is more generally due to faulty dieting with excess of protein and fat than to an essential part of the disease. Kellogg describes pernicious anæmia as a degenerative disorder due to change of intestinal flora, due in turn to intestinal putrefaction, a condition aggravated or caused by flesh eating. He says: "Intestinal toxæmia throws an additional burden on the liver which, when exhausted, fails to supply the blood-making hormone. It is not the liver but liver extract containing this hormone which is beneficial in anæmia."

Maternal Mortality

If there is a matter in which medicine still has to confess failure, it is here.

Money, research and all means of comfort have been provided and the sad figure has remained unaltered in spite of the skill and care expended. And yet, the one thing which demands practically no skill, but only obedience to natural law has been omitted, *viz.*, a diet of abstinence from flesh foods.

In other words, whilst the external technique has been complete, the internal technique has been practically neglected. The flora of the alimentary canal bear a definite relation to the foods eaten—thus, on a diet in which flesh foods form an important part there is found an abundance of

septic micro-organisms of putrefaction inhabiting the alimentary canal from the cæcum onwards. In a diet from which flesh is excluded these micro-organisms are markedly less.

Oldfield (1930) records that in the Lady Margaret Hospital, Doddington, Kent, since its opening 32 years ago, there have been 500 cases of childbirth dealt with on a strictly meatless diet. Not only has there been no death but no case of septicæmia during that time. The Superintendent adds that every woman, as soon as she becomes a prospective mother, should be put upon the special diet of wholemeal cereals, milk, butter, cheese, olive oil, all fresh vegetables in season, both raw and conservatively cooked, nuts, salads, fruits and honey; with water between the meal times.

I ask, therefore, may not this fleshless diet be a partial solution to the problem of maternal mortality?

The profession, however, appears to be looking everywhere but in the dietetic direction. Thus Dame Janet Campbell (1932) very aptly stated that the problem of maternal mortality is many sided, that there is no one simple solution, and that ultimate success can be only obtained by simultaneous progress in several different directions. These would include a better informed public, a healthier environment in infancy, childhood and adolescence, and the supply of the obstetric requirements of an adequate maternity service, a higher standard of ordinary clinical midwifery practice. But she makes no special mention of diet, a matter which, if omitted, will never be included in such things as "better informed public, healthier environment, higher standards of practice"—so liable is the importance of diet to be overlooked.

Dame Louise McIlroy, of the London Free Hospital, speaking at the Glasgow and West of Scotland Branch of the British Medical Association, 1929, said, "If over 27,000 women lost their lives in England and Wales in the last ten years because of childbirth, we cannot but feel that some of these deaths were due to inadequate treatment of the patient. We must be muddling our prevention somewhere." Here again, there is no mention of diet.

While admittedly a "first-class protein," it is continuously overlooked that meat possesses ingredients which should disqualify it as a first-class food. Were it not that butcher's meat was so closely associated with a large assortment of diseases, as has been mentioned, one might the more easily leave the matter to those who on other grounds eschew it. But conditions being as they are, one is led to regard it more as a menace to health than otherwise. What are some of the undesirable ingredients in flesh foods?

1. Various waste products, *e.g.*, liver and heart contain 20 grains of purin per pound.
2. Other extractives—urea, uric acid, xanthin bodies.
3. Ammoniacal salts.
4. Acid elements in large quantities.

Now, a very practical test of the value of a meatless diet has been and is still being made at Wycliffe College, Stonehouse, Gloucester, where, in the case of growing boys, the witness of facts is indisputable. Experiments and comparisons have been carried out for 27 years in a vegetarian house of an average of 30 boys. There are two other large houses. Results in endurance tests, athletics, growth in height and weight and mental capacity the boys on a fleshless diet take, as a rule, a position superior to the others who, excepting for diet, live under the same conditions. Mr. Sibley, the headmaster, concludes one of his reports by saying:—

"We do not believe that vegetarianism is a panacea. We recognise that it is only one part of a great crusade going on in the world to-day for the attainment of more natural, just, peaceful and healthful conditions of life all round. We do believe that in this vegetarian creed is found some portion of that truth which makes men free and it is up to those who differ from us to gainsay us if they can."

The Soya Bean and Nuts

Now while in these days we are rather dependent upon dairy products and eggs for our first-class proteins, we have the wherewithal, nevertheless, in two most useful products, *viz.*, the soya bean and nuts.

Three thousand varieties of soya beans are under cultivation in China and its world production is 12,000,000 tons. The annual value of its export from Manchuria alone is £22,000,000.

This leguminous plant by virtue of its root-nodules nitrifies its own soil, thus dispensing with the need of nitrogenous fertilizers. Of its oil about 37,000,000 lbs. are annually produced in the United States but 25 per cent. of this is used for paints and varnishes of very high quality. In 1929, 400,000 tons of beans were exported to England from China.

Let me just give some uses of the soya bean. Bread made from its flour is useful in diabetes because of its large protein and fat content with very little starch. On account of its freedom from the tendency to produce allergic reactions (which frequently attend the use of animal proteins) and its tendency to lessen inflammatory activities of the skin, it is useful in eczema and allied conditions. Being much less liable to undergo putrefaction than animal proteins, the soya bean combats the action of *B. coli*, and thus its utility in intestinal toxæmia is marked, and its mineral ash is alkaline.

And further, soya bean milk is a substitute for cows' milk in China and Japan, being cheaper and tuberculosis free. Its cream is less liable to curd and its protein content equals cows' milk. Rickets amongst Chinese children where soya beans are a staple article of diet is absent.

The protein yield of soya bean, weight for weight, is twice that of meat, four times eggs, wheat, etc., five to six times bread, twice other beans, walnuts, filberts, and twelve times milk. The chief protein is glycinin. Soya fat contains (1) lecithin—the best-known form of organic P.—1.65 to 3.08 per cent., which nearly equals the lecithin content of eggs and calves' brains (3.94); (2) Cephalin—different from animal cephalin. Lecithin of vegetable origin wards off fatigue. In the presence of this most useful commodity, why should the so-called "Health Food Stores" possess almost the sole monopoly of all groceries for its sale?

Now, with the analogy of the balanced diet in mind, I would just refer to the balanced life, which is what I personally believe to be health, namely, that our beings are made up of physical structure, mental nature and moral character. Reckoning upon these three factors, we need to preserve a healthy balance, otherwise there will be starvation somewhere. It is easy to see, *e.g.*, how, in the case of the pugilist or of many athletes, the body is developed at the marked expense of the mind—and how in the case of the city man the reverse is the case. But what about the spirit? Those who share my belief that the spiritual is an essential part of our being will agree, I think, that it has been the subject of neglect. Health in its entirety depends upon the adequate nutrition of each of the three factors and I believe that all those of whatever creed who have adopted fleshless diet are agreed that even abstention from meat makes for the advancement of their spiritual health.

In respect of mental health, it will not be doubted that the present times are days of disquietude and fear, fear of want in the poorer classes especially; fear of disease, of crime and of war! And the resulting mental unbalance is being exhibited on all hands. Dr. Crichton Miller (1936) has pictured modern man as a "Toxic Robot" "demanding health of body and mind in the face of his own racial irresponsibility, the deleterious influences of urban life, economic barriers to parenthood that had practically destroyed the family community, and neither credulous enough to find faith in authority, nor wise enough to achieve equanimity in a philosophic religion."

"Toxic Robot" need not be the condition of modern man. He has the power to overcome, by his fleshless diet, a large proportion of the toxic conditions of his intestines. He can aim, if he will, at atoxia rather than risk toxæmia.

Health Supervision of Toddlers*

By MARGARET EMSLIE, M.B., CH.B.,

Medical Officer in Charge of the Toddlers' Clinic, Metropolitan Borough of Woolwich.

Schemes for the supervision of the health of toddlers have so far been discussed along three main lines:—

(1) Supervision by means of medical consultation in maternity and child welfare centres and in special toddlers' clinics.

(2) Health visiting in the home.

(3) The provision on an extended scale of nursery schools.

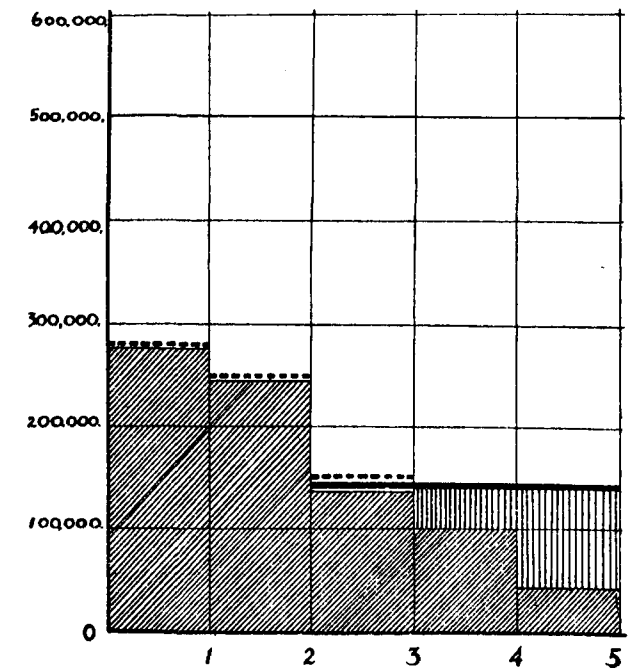
Scheme (1) for the moment appears to be officially disinherited. The Special Memorandum of the Ministry of Health (1550) plumps unmistakably for Scheme (2)—increased home visiting—with medical consultation for selected cases only, the latter to be carried out, in preference, by school medical officers. The Board of Education, on the other hand, perhaps naturally, are strongly in favour, in circular 1444, of Scheme (3)—nursery schools—with the strong support of the Nursery Schools Association of Great Britain. In the journal specially devoted to Maternity and Child Welfare, *Mother and Child*, Dr. James Kerr, formerly School Medical Officer for London, has further endorsed the third proposal in a recent series of articles.†

We are here to discuss the possibilities in several capacities—as administrators, clinicians, leaders of thought, one hopes, in all that pertains to public health in general and in particular to the health and well-being of children, and as ratepayers. On our opinions and advice will mostly depend what the local authorities carry out, in contradistinction to what other less earth-and-fact-bound authorities may describe on paper. It is our duty to promote that which is desirable in as clear-sighted and dispassionate a way as possible, having regard to practical affairs. I should make it clear that the views expressed below are my own only.

How is it then, first, that all this sudden propaganda about toddlers has come about? One might have expected the talk to arise for various reasons—because, for instance, it has for years been apparent that a grossly inadequate proportion of toddlers was coming within the purview of the local Maternity and Child Welfare Services. The figures were plain enough, each year, in the local Annual Reports, but not till 1935 were the figures for children under and over the age of one year

attending welfare centres separately indicated in the Minister's Report. In 1933 (in a paper given to the M. and C.W. Group) I quoted figures culled from various of the local reports—figures which showed that at that time no more than 2 to 3 per cent. of the children between the ages of *two* and five appeared to be attending centres. The figures now supplied by the Ministry apply to children between the ages of *one* and five, a very pertinent difference, but the total of 24 per cent. still testifies, in my opinion, to the poor use that is made of the child welfare service by the majority of the children for whom it is purveyed, since it must be remembered that any *single* attendance (not consultation)

THE CARE OF CHILDREN FROM BIRTH TO FIVE YEARS.



Oblique shading = Children attending welfare centres (including toddlers' clinics) (815,000).

Vertical shading = Children attending nursery classes in elementary schools (100,000).

Black bar = Children attending nursery schools (6,000).

Dotted line = Children attending day nurseries (about 2,000).

The diagram represents graphically the proportions of children coming under health supervision supplied by Government or State-assisted agencies at the present time, during the age period 0-5 years.

The total surviving children in each year period has been taken at the round figure of 600,000.

The blank areas in the whole chart represent children having no known town of health supervision, the figures being derived from the Annual Reports of the Ministry of Health, Board of Education, etc., for 1935. Children living in institutions, hospitals, etc., are not indicated.

* Paper read to the Metropolitan Branch, December 11th, 1936.

† *Mother and Child*, September and October, 1936.

of a child at a centre brings it within the total quoted by the Ministry, and it is at least probable that the greater part of the Ministry's figure for toddlers refers to children between one year and two, not to children over two years. The child welfare movement has never officially confined itself to infants, but it has taken as many years, we find, from the passing of the Maternity and Child Welfare Act in 1918 to the issuing of Circular 1550 by the Ministry, about the needs of the child after the first twelve months, as it took the first efforts at a child welfare idea in the beginning of this century to assume the strength and authority necessary to demand a national Child Welfare Service. Nothing new has arisen or is presented now to explain the hiatus in conception that this means.

But one might have expected the propaganda to come on still other accounts. The Maternity and Child Welfare Service has for long been known to be working at a disadvantage on account of lack of sufficient endowment and, in many places, absolute and complete overcrowding. The "overcrowding" applies not only to the welfare centres but to the health visiting, and often only a fraction of what is embraced in a truly educative and preventive service has been possible—in the consultations, in class teaching, in home visiting alike. Even in regard to seeing the doctor at the centre it has often been a question of "grab as grab can." There may have been no regular or formalised teaching at all and the leisurely friendly visit of the health visitor to look at a toddler at home has often in practice had to stand down, we know, because of measles or births visits accumulating round the corner. Whole sections of the work have been left untouched or have practically been left untouched in the very places where the centres have been looked on as successful just because they were crowded out: and at the other end of the scale some of the small rural centres have suffered in the same sense because of the difficulties of developing infant welfare work to its full and natural stature alongside other claims made on the same department and staff. Altogether it might be said that—except for certain outstanding instances—the infant welfare service has been continuously subjected to over-pressure.

These facts must have been known to those whose duty it is to examine what is happening and to see where deficiencies in a service exist. They could have but one result—inadequate returns: the people and the matters that had been squeezed out in the operating of the centres could not be expected to show proofs in the end of what a decent service could do. Even a highly educated personnel showing complete devotion to duty and a most inspired enthusiasm can be stultified in its

efforts when the conditions for doing what is required are not available. The point is difficult to press when one acts merely as a cog in a wheel. But those working within the centres have been under no delusions as to the comparative poverty of the work turned out and how sad *must* be the result, once somebody cared to examine it, under the conditions imposed on us, compared with what might have happened had the structure been adequate all through, not only in the centres, but in the whole field in which the service had an opportunity to engage.

Such considerations, however, have not emerged in the two memoranda. There has been no forcing of the issue on a point of principle or of concern for the unprofitable use of staff and the unsatisfied needs of those who go to welfare centres and have not been able to obtain what they want (and what we in fact pretend to offer). Instead we are told of a high rate of physical defect discovered in the Board of Education returns for children entering school: and are instructed to get busy on that account in a sphere for which the mandate was given 20 years ago because of conditions which exist now.

The reason is good enough so far as it goes: but its poverty becomes apparent when one reflects a little and realises that the rate of defects quoted by the Ministry—16 per cent. of school entrant children requiring treatment—must in fact be greatly exceeded if the figures tabulated in the Board of Education returns actually represented a full examination and a general verdict on the children brought under review. This may sound a startling suggestion to some but it cannot be a new thought to those who have themselves done school medical examinations, worked under their prescribed conditions and helped to record their results.

The school medical service, to put it briefly, concerns itself with facts—not with whys and wherefores, origins, tendencies, but with palpable defects—defects that affect the health of the child as a school child and respond to treatment within the school age period. To take a solitary but important instance, what does rickets mean to a school medical officer? Something that gives a shock impression on occasion of, say, pigeon-chest or stunted growth (and is thus recorded), or something that discloses itself in *minor* signs whose chief importance lies frankly in their relation to the past history of the child and, it may be, to community as much as to individual health, in this century of intensive health effort? The presence, even of minor, rickets is a test of the success of our methods of securing and preserving sound nutrition. We may be sure all the same that rickety remainders, short of gross deformity and stunting,

have no relevance in school life: why should they find a place in the school records? Does any welfare officer believe that the L.C.C. figure, 0.4 per cent. in 1935, accurately represents the incidence of rachitic signs in the school population of London? Unless we believe that, we must be prepared for the fact that the Board of Education's list of defects only tells a part of the tale (of the actual health of the children).

It is useless and it would be unprofitable to enlarge on the many other comparative deficiencies that do not appear in the school medical returns—unless severe or of a nature likely to respond to treatment—but that matter considerably in community health and in ultimate efficiency. There is no room or time in school for descanting on such things as general undersizedness, poor muscle tone, foot disabilities (unless crippling in nature), knock knee and clumsy gait, anaemia due to plain living conditions, digestive symptoms, "nervous" debility, the unhappy or mismanaged child (unless sufficiently "mismanaged" to require treatment in the child guidance clinic). Yet these things exist in plenty amongst children marked normal ("normal" nutrition, be it observed, is, or was, "average" nutrition in the schools) and must be taken into account in any frank survey of the health and well-being of children under the conditions that subsist. The school examination may well serve its purpose, but as a complete guide to an individual child's condition or as a record of childhood's health, it may be taken that it can be largely discounted from the start.

The published figures for systematic examination of toddlers bear out this contention. Unfortunately they are few. The Smethwick returns (1935) show 42 per cent. of children routinely examined at the age of four as requiring treatment. In Marylebone (1935), 73 out of 112 toddlers routinely examined at the age of three required treatment, *i.e.* 65 per cent.; 25 per cent. of cases showed dental caries. Dr. Ethel Cassie (Birmingham), in 1935 published the records obtained by her health visitors over a period of five years of visiting children born in 1930 and found that 17 per cent. suffered from some established physical defect. This did not include the results of medical examination. The toddlers' clinic at Woolwich, with which I have been personally associated for some years, shows 22 per cent. of children suffering from dental caries, an always prevalent defect; 6.7 per cent. at the age of two years, 19 per cent. at the age of three years, 44 per cent. at the age of four years (1935). (These are our best figures.) Rickets we were bold or foolhardy enough in Woolwich in 1935 to assess at 18 per cent., but each year previously it was 30 per cent., and anaemia at round about 20 per cent. as compared with the L.C.C. figures for

entrants (including nowadays many children between the ages of three and five) of 0.4 per cent. and 0.7 per cent. respectively—rough and inaccurate guesses we admit, in the absence of laboratory investigation, but we dissociate from our returns in each instance all that we consider slight cases. We record all cases of cardiac murmurs and arrive at a total of 20 per cent. of these cases, functional and transitory conditions, interesting though the majority of these murmurs may be (the L.C.C. figure is 1.7 per cent.). Malnutrition (in the sense of thinness) we put at 10 per cent. (it has in Woolwich been recorded at 16 per cent. and 14 per cent.); severe, *i.e.*, definite, malnutrition at 2 per cent. (L.C.C. 0.08 per cent.). Nervous symptoms we allow ourselves also to record because we find they need treatment and are better treated before school age. In case, however, it appears that we simply pile up defects, our figure for tonsil enlargement is 45 per cent. but only 3 per cent. (of the total) are put down for operation, compared with 7 per cent. entrants referred in L.C.C. schools; 35 per cent. of the cases seen were referred for some kind of treatment in Woolwich. But in any case, where is the grand total of 16 per cent. defects of the Board of Education compared with any of the figures quoted?

To give some relative indications as well: dental hypoplasia—as apart from caries—was found in Woolwich in 1935 in 21 per cent. of cases. In half the children suffering from caries, the number of teeth affected at the time of examination already exceeded four, whether the examination was at the age of two, three or four years. Caries is a defect of some significance outside the dental one, however one may interpret it. Does not this mean that there is a considerable amount of work to be done, not in "discovering" defects in pre-school children, but in better obviating them by earlier and still better education against the things that hurt?

If we agree that a large amount of advice is required, and, even, treatment, can we agree that this is provided under the schemes sponsored at the moment by the Ministry and by the Board of Education? Have we any reason to suppose that the whole (or even half) of the percentage of toddlers who do not at present go to welfare centres can be redeemed satisfactorily by an extension of home visiting (with medical attention for *selected* cases) or by the initiation of unlimited nursery schools?

First of all let us deal with the more novel proposal. Could anything be more startling in conception than the notion of providing nursery school accommodation within any reasonable period to accommodate more than 1,500,000 children between two and five *in excess* of the 6,000

children who at present have the advantage of such a service? How shall this be done in rural areas, for example? Is it going to do what is wanted? Is advice to be an integral part of the scheme? (If so, who is to be advised?) Apart from that aspect, does Dr. Kerr imagine that his particular plans for engaging an army of girls (aged 16 to 18) to look after these 2,000,000 new children, to be thrown back semi-educated and semi-trained on the labour market at the conclusion of their service in the nursery schools, would be tolerated under present conditions? Should children with good mothers, adequate companionship and reasonable standards of living and hygiene, be taken out of their homes at the age of two or three to be looked after by young girls, other than their mothers, in order to experience the theoretic satisfactions of "good nurture": would the community in general sanction such an idea?

The suggestion (if seriously put forward) does not really seem to be a practical or hopeful one. What then about the Ministry's suggestion of health visiting, backed up by medical consultation in cases believed to be unsatisfactory—the solution propounded in Circular 1550? Let us look back a moment and ask what it was that united and eventually homogenised all the early efforts at infant welfare—gouttes de lait in France, milk depots in Liverpool, Dr. Moore's scheme in Huddersfield, schools of mothercraft in London, the Save-the-Children activities in Vienna. All these were independent conceptions at the start, with variations both in their assumed functions and in the details of their teaching: all, however, ultimately made the same discovery, reported the same experience—that education was not enough, treatment according to principle was not enough, the babies went "back" unless and until medical consultation was combined with teaching and with the provision of improved means of feeding: the milk depot or milk supply service had to become also a centre for consultations on individual babies. This lesson was learned more clearly and adopted more widely in this country than possibly in any other, unless America, and the whole of the infant welfare service as sponsored by the Local Government Board and later by the Ministry has relied on the initial principle of the services provided by trained or specially educated nurses not being enough. A whole service of doctors has by now, in fact, evolved, trained to examine and advise adequately in infant welfare matters. In view of such clear and sanctified experience with regard to infants, is it not now astonishing for the Ministry to suggest that, for the pre-school child, nurses are enough, they can see through the clothes well enough (as no doctor can!), diagnose without examination, prescribe or advise suitably in the

home (out of their experience), surmise whether a child is fit or ailing, whether a tonsil should come out or shouldn't, televise the presence of a heart murmur, learn enough from seeing a child in its mother's encumbered kitchen, from the mother's disjointed answers to their questions (interposed as tactfully and inconspicuously as possible amongst the manœuvres of her cooking) and from her own droppings in the way of unsolicited information, to pick out infallibly those children that are not quite right and hale them along to the School Medical Officer? The Ministry thinks that "it is clearly desirable, wherever possible, that the M.O. who will supervise the health of the children after they enter school should be responsible for their supervision during the pre-school years."

Do we, as welfare officers or administrative officers who have been responsible for organising school medical and infant welfare services, believe with the Ministry that the functions of the two are so easily interchangeable? That, of the two, the type of work carried out by the school medical service is that which in this age-period should prevail? That the health of the children will best be conserved and mishaps be prevented by contracting still further the sphere of operation of the welfare worker, the teaching officer, so that his efforts that have been largely defeated in the past by matters outside his control, are rendered still more innocuous by being confined to the sphere of the inarticulate infant. I should like to submit that the proposal of the Ministry suggests nothing less than a profound misinterpretation of the problem: if the intention to meet the new demands is a real and sincere one, it will require not an "extension" of the school medical service but a re-organisation of it, an entire transmogrification of it in character and in methods, a jettisoning of half its old standards, above all an entire alteration of the method of its approach, to provide anything like an adequate answer to the problem before us.

The question of "approach" is one that appeals above all to those who have had experience of trying to take care of the very young and have stopped to consider the measure of their success. Not much of our "welfare" work in the centres is much good to us or our clients unless we can bring the kindlings of imagination and sympathy to it—something more than can be demanded by a department at will just to suit forthcoming administrative changes. Many of the existing welfare officers have gone to their work with a real sense of vocation, just as teachers do. The purpose of school medical work, by contrast, is utilitarian—its methods are conventional, its facilities are limited, it is bound by statutory requirements and demarcations as regards the work it performs, it "must

produce the goods," in cases seen—and so it comes into an entirely different category, is of a different calibre, from "welfare" work, whose name describes its character.

In the latter branch of work it is the contact with the mother that counts, the impress of character and conviction (as apart from clinical acumen) in conveying to her that what she may understand only very imperfectly now is constructive work for her child, the practical ability to get down to small matters and teach. This is only possible in intimate and prolonged (or oft repeated) consultations conducted privately. It is not possible under the conditions of a school medical inspection, as these are known to and conducted by the service.

These reflections bring us back to the third method we discussed for dealing with the toddler, and, by implication, the method one likes best, that is, the method of medical consultation by infant welfare officers. How is that method going to be brought home to 2,000,000 children and make to function usefully in respect of those toddlers who at present receive no supervision at all? The method must be:—

(1) Capable of quick organisation and expansion to meet the maximum requirements.

(2) Capable of bearing its load, educative and therapeutic.

(3) Practicable from the point of view of cost.

(4) Practical from the point of view of getting results.

(5) Able to dovetail in well with the existing services, the infant centre consultation at one end, the school medical consultation at the other, allowing parents to appreciate the advantages of both, pass from one to the other without "shock," and maintaining between the two full co-ordination and co-operation from the administrative point of view.

Dr. Macmillan, of Woolwich, has, I believe, met these requirements in the scheme which he organised six and a half years ago of which I have had the advantage of very close experience, and some of whose results I have already quoted.

The Woolwich scheme envisages:—

(1) Regular voluntary medical inspection for all toddlers.

(2) A full medical consultation on the toddlers' management and health, including the opportunity for the mother to bring up her difficulties as well as for the doctor to air her feelings about the child.

(3) Intermediate inspection and visiting of those children requiring observation.

(4) Treatment for those children requiring treatment.

(5) Close co-ordination of the work with the health visiting at both ends—both before or after seeing each individual case.

(6) Co-relation of records—the infant centre records of those children that have attended previously being passed on to the toddlers' clinic and the toddlers'

medical card (related in form to the usual school medical record though not absolutely identical) containing a full history of the child to the date of its entering school, when this record becomes available to the S.M.O. The record is specific, clear cut and easy of reference so far as this part of the information is concerned. All casual and more conversational notes are kept strictly apart from the tabulated record of the physical findings on the child.

The work is based on a system of annual inspection, the children being sent for in their birthday months between the ages of two and five: in new cases the summons is prefaced by a visit from the health visitor. All children are given appointments, no mother is pressed to bring her child to the ordinary welfare sessions if she hasn't already done so and doesn't want to, and she is invited to appreciate the advantage of an annual independent vetting, even if she has always in the past firmly withheld herself from anything to do with "them welfares." So we get children coming who have not been centre children and might not come under another scheme. Invitations are repeated and reappointments given if necessary. The H.V. has full access to the doctor's notes, cases are discussed direct if any point arises, and visits to the clinic are closely followed upon a basis of what the doctor has said or found. Cases are re-seen every three, four or six months where necessary, but an endeavour is made to cut down the occasions when a child might have to be seen more frequently. Advice is given so far as the doctor is capable on each subject broached in the consultation or appearing to stand out in the particular horizon of that child. The service is essentially individual and personal. It is fully augmented and supported by facilities for treatment in every direction including hospital and convalescence. The cost (figure supplied by Dr. Macmillan) is 6s. per child seen, including everything except rent. (We use existing M. and C.W. premises). The cases seen vary roughly from 10 to 14 a session of two hours, including some "not-first" annual inspections and some intermediate inspections. If all are new cases fewer are seen.

The questions asked by the doctor to obtain a rapid but fairly complete impression of the physical and environmental condition of the child are as follows. Everything is written down (in the usual shorthand) at each visit:—

(1) Precise history of previous illnesses, infectious and otherwise (with some prompting questions).

(2) Family history of illness, with precise questions concerning rheumatism, heart disease, consumption and fits—in certain cases, asthma, hay fever.

(3) Number of children in family, number of children in house (foster children, etc.), with ages and the position amongst them in age of this child.

(4) Questions re appetite, bowels; amount of milk

taken in questionable cases; number and exact character of stools in any case where irregularity present; any treatment given by the mother is noted.

(5) Ages of walking, talking, discarding napkins (when was the child "reliable" during the day?). If bed-wetting is present the fact is usually elicited here, but it is not recorded as a symptom before the age of three years.

(6) Exact hours of sleep noted (a) by night, (b) by day, and nature of difficulty if this present. "Child won't go to sleep till I go to bed" "has night terrors," "climbs into our bed," etc., etc.

(7) Physical examination:—

(a) Nutrition as interpreted by height/weight relation and development; clothing; cleanliness; muscle tone—recorded under headings 2, 3 and 4, as used by L.C.C. in school records (but these do not report on muscle tone).

(b) Teeth examined, number noted, numbers decayed (if any), presence of hypoplasia, malocclusion: if malocclusion is present some enquiry made as to possible causes. If thumb-sucking is present this is recorded separately under the heading of nervous or behaviour symptoms.

(c) Throat and nose observed: outward character of tonsils noted, any symptom of adenoids; presence or absence of anterior and posterior cervical glands.

(d) Eyes, ears—anything found recorded. All squints are referred for treatment at the earliest age discovered.

(e) Heart, lungs; quality of sounds noted; character and position of heart murmur if any; any disorder of rhythm recorded; any outward signs, e.g., cyanosis, asked about; possibility of rheumatic pains always inquired into (without emphasis), if suspicious signs present.

(f) Anæmia—an entry always made under this heading—"nil," "slight," "moderate," but unfortunately this is judged by conjunctivæ only. Pallor noted separately.

(8) Deformities: the child is made to stand stripped with feet closely aligned and all degrees of deformity noted (for informative purposes only): bossing of cranium, beading of ribs, sulcus, pigeon chest, protuberant abdomen, enlarged wrist epiphyses, overlap of knees in the feet-aligned position, curving of tibiae, flat foot; any distortion of toes, dropping of anterior arch, signs of ingrowing toenail, callouses or blisters, etc. (not infrequent signs). Advice where necessary is given on shoes, and the child's feet and shoes are measured respectively and the mother instructed on fitting and choosing shoes.

(9) Anything remarkable in the way of behaviour is noted. Obstreperousness, clinging, undue precociousness, maternal severity or over-anxiety, thumb, finger or dummy sucking, enuresis as already remarked. The questions on age of what is called "cleanliness," the precise hours allotted to sleep and the mother's reaction to these questions (as well as the child's reaction to examination) usually bring out anything that may be dubious in the general management or environment. No remark whatever is made on these matters till the

examination is completed and the salient points picked out. Any advice on management as such is always given indirectly, on the plea of physical grounds at first, so as not to worry or to appear to criticise the mother unless she makes it plain that direct criticism is necessary.

The attempt is always made to give a *constructive* consultation wherever possible even where no question of defect or imperfect management arises. A few questions are always asked on diet: How often is meat given? How do you cook it? What protective foods or vitamin preparations are given? (though these adjuvants are always treated as such). Detailed advice and probably actual diet sheets are supplied for such things as constipation, frequency of micturition, vomiting attacks, asthma, and so on: we spare no pains to tell everything we can and to deal with these matters preventively so as to save the children the discomforts and anxieties of return attacks. In this particular field—of preventive prescription for the child through diet, environment and individual consideration of its needs (in variation of the often largely mechanical advice that is purveyed in centre and class teaching and in home visits on such subjects)—I think we have gained most of our particular loyalties and scored our best successes. The mothers like this kind of advice, which they understand, which produces results, and which shows their children as individuals and personalities.

There is room for a lot of it incidentally in infant welfare work if the bugbears of night-wetting, constipation and over-training, "biliousness," irritability, the "asthmatic" habit, diarrhoea, lack of appetite and so on, are to be removed from the experiences of young children and not allowed to become part of the background and memories of their later life. And removed they can be, in much more pleasant ways than by doses of medicine. But enough perhaps has been said to suggest that medical examination by routine inspection of children at this age is feasible, is not extravagant, can find out important things, can deal with them, can, we hope, even, act conservatively and preventively, and so provides altogether the best means of charting and caring for those children of our country, so far but half known, of the age from two to five years.

DR. T. G. NASMYTH, whose death occurred recently, graduated at Edinburgh in 1876 and became the first M.O.H. for Fife, Kinross and Clackmannan on the passing of the Scottish Local Government Act of 1889, which post he held for 20 years. He was at one time President of the Scottish Branch of the Society. Dr. Nasmyth played a prominent part in public and business affairs after his retirement from public health work.

MENINGOCOCCAL SEPTICAEMIA With Report on two Fulminating Cases in One Family

By J. O. MURRAY, M.D., CH.B., D.P.H.

Medical Officer of Health, City of Rochester.

In certain cases, but not many, the meningococcus infects the blood stream and does not involve the meninges. This infection may occur in an acute fulminating form, or it may be sub-acute or chronic, lasting for weeks or months.

Types of Septicæmia.—In the latter form the striking feature is the septicæmia, with irregular pyrexia, occasional rigors, pains in the limbs and peculiar skin rashes resembling erythema nodosum. The organism can be isolated from the blood during the course of this chronic illness, but unless repeated blood examinations are performed it may be missed. In any case the diagnosis is difficult and can only be established either by the demonstration of the organism, or on the occurrence of meningitis as a terminal phase. This termination is not common, the majority of the reported cases making a slow but satisfactory recovery.

The fulminating type of infection is a very infrequent occurrence. The main clinical features are rapidly developing prostration with extensive hæmorrhages into the skin, giving rise to an irregular purpuric rash usually well marked on the face and extremities. The rash is common to all profound infections and is identical with the medieval plague spots, only occurring in fulminating and fatal cases. There are no clinical or pathological signs of meningitis. *Post mortem*: little is to be found beyond hæmorrhages in the skin, giving rise to a purpuric rash, and also similar hæmorrhages on internal surfaces and into the adrenal glands.

Historical.—Andrews reported a true meningococcal septicæmia occurring with symptoms of fulminant purpura in a medical man in 1906. This patient exhibited no symptoms of meningitis during life and in the *post-mortem* examination there was no evidence of meningitis even on microscopical examination. The blood examined in film preparation was found to contain large cocci exclusively intracellular in the polynuclear leucocytes. The blood yielded a pure culture of a Gram-negative coccus which examination proved to be identical with the meningococcus. Netter refers to cases in which the cerebrospinal fluid is clear, and in which, *post mortem*, beyond marked engorgement of vessels, the meninges appear normal with the exception that the pia mater at the level of the cisterna pontis is opalescent and lustreless.

Probable cause of unusual type.—A rapidly fatal termination in cases of meningocæmia before or without the development of meningitis is difficult to explain. An excessive dose of the organism is a probable cause, but in the two cases reported here it would seem that there was a special susceptibility in the family to the development of a septicæmia and not a meningitis. At any rate, the event of two fulminating meningococcal infections in the same family with an interval of eight weeks between the cases, must be very exceptional. Had the interval between the two cases (neither of which were vaccinated) been 12 or 14 days or less, it

would have been extraordinarily difficult to exclude hæmorrhagic smallpox as a probable cause of death, until the bacteriological investigation had been completed.

Home Conditions of Patients.—The family, in poor circumstances, consisted of the parents and six children. The two youngest children, who in all probability slept in the same room as the parents, were attacked. No doubt a domestic carrier of the meningococcus was the original source of infection, but circumstances prevented a bacteriological examination of the nose and throat of contacts.

CASE REPORTS.

Case No. 1.

History.—Female child, aged two and a half years, went to bed quite well on the evening of February 8th, 1936. At 4 a.m. on the 9th the parents found the child feverish and fretful, and she appeared to have a "cold in the nose." Throughout the day she remained feverish and the nasal catarrh became worse. A few small spots "like flea bites" were noticed on the trunk and legs, and they became gradually larger and more numerous towards evening. The child refused food and when given drinks of water she was sick, the vomit being "brownish phlegm." The bowels were loose. During the afternoon of the 10th, her feverishness became worse and the parents took the child to the doctor who found her to be unconscious. She was admitted to hospital at 6.30 p.m. and died at 9.45 p.m.

On admission the child was comatose, temperature 99°, pulse 160 and respiration 36. She was well developed and nourished. From the nose there was a profuse seromucopurulent discharge. There was a generalised purpuric rash. It was most marked on the trunk, but was also well established on the face, and to a lesser extent, on the limbs. The individual lesions varied in size from small petechiæ to large confluent areas, the contour being irregular and ill defined. A few macules were black plum coloured. The intensity of the purplish-maroon colouring varied considerably in different situations. The child was incontinent. The bladder was empty. Babinski and Kernig's signs were negative. The knee jerks were exaggerated. The right pupil was dilated and the left one contracted. No reaction to light. No neck stiffness or head retraction. Cheyne-Stokes breathing present. No abnormal physical signs were detected in the heart, lungs or abdomen. A lumbar puncture showed a clear fluid not under pressure. No micro-organisms were found in the cerebrospinal fluid, and a blood culture gave negative results. Consciousness was not regained and death occurred at 9.45 p.m. on February 10th, 1936.

Post-mortem and Laboratory Findings.—The external appearance of the body was as noted above. The meninges were congested. There was no excess of fluid in the subarachnoid space or ventricles, and there was no evidence of pus within the cranium. The lungs and heart were normal. The abdominal organs were congested and there were numerous petechial hæmorrhages into the outer wall of the bowel, particularly in the lower end of the small gut. There were also petechial hæmorrhages into the mesentery. There were no hæmorrhages into the substances of the abdominal organs or glands with the exception of the suprarenal glands into which there was extensive hæmorrhage. Chemical and bacteriological examinations of the bowel and contents gave negative results.

Case No. 2.

History.—On April 6th, 1936, a brother (aged eight months) of Case No. 1, was admitted to hospital in a similar condition.

The child suffered from bronchitis early in March, 1936, but made a good recovery. On April 2nd a slight cough recurred, but at this time the child was not acutely ill, ate well and the general health appeared to be good.

On April 5th, about 1 p.m., the child became drowsy, vomited frequently during the afternoon, and diarrhoea developed. His condition grew worse during the evening and a nasal discharge was noticed. About 3 a.m. on April 6th, the eyes were "watery," the nasal discharge became worse, and shortly afterwards "large brown spots" were noticed on the body. The child was admitted to hospital at 4.30 a.m. and died at 6.15 a.m. on the 6th.

On admission, temperature 103.6°, pulse 100, respiration 36 and shallow. The child was in a comatose and moribund state, dirty, cold, collapsed and very cyanosed. The body, face and extremities were covered with an extensive purpuric rash, similar to the rash noted in Case No. 1, but the rash was more extensive and more confluent, and numerous macules were black plum coloured. Incontinence and diarrhoea were present. The anterior fontanelle was depressed. The pupils were symmetrical and inactive. There was a sero-purulent nasal discharge. There was a suspicion of stiffness of the neck but no retraction. Knee jerks were not exaggerated. No abnormality was found in the heart, lungs or abdomen. Attempts to administer fluid by the mouth resulted in sickness and fluids per rectum were not retained. The throat was not inflamed, and swabs gave negative results. A specimen of blood was inoculated into glucose neutral red, and others in distilled water and anaerobic medium. Death occurred at 6.15 p.m. before a lumbar puncture could be made. Wassermann negative.

Post-mortem and Laboratory Findings.—The *post-mortem* findings were indistinguishable from those found in Case No. 1, and chemical analysis of the stomach and contents gave no evidence of chemical poisoning. The bacteriological examination which was carried out by Dr. W. M. Scott, at the Ministry of Health Laboratory, "was directed primarily to the detection of some intestinal infection, but gave consistently negative results in this direction. All the organs were free from bacilli of food poisoning or dysentery. The only result obtained was from a blood sub-culture in broth. In this culture a fairly abundant growth of a Gram-negative diplococcus was found which, on further cultural and serological tests, was shown to be a meningococcus of Group 2, but of a rare type not identical with the representative strains."

Comments.—In acute fulminating meningococcal septicaemia, as a rule the cocci can easily be found in the blood, but in the first of the two cases recorded here, no organisms could be demonstrated. The specimen of blood was obtained at or just after death, and this may have been the cause of the failure to cultivate the organism. In both cases the examination of *post mortem* specimens gave no assistance in diagnosis.

The sickness, diarrhoea and prostration were, in the earlier stages of the illness before the development of the rash, suggestive of an acute intestinal infection, but the possibility of a food poisoning or dysenteric infection was excluded on bacteriological investigation.

A sero-mucopurulent discharge was well marked in each case when admitted to hospital, and may have been of more diagnostic significance than was realised at the time, although the bacteriological results from the throat swab did not reveal meningococci.

The rarity of this manifestation of a meningococcal infection, the overwhelming nature of the illness (the

death of the two reported cases occurring within 42 and 20 hours from the onset of symptoms), the absence of meningeal signs in the presence of a profuse nasal discharge, malignant purpuric rash and prostration, with no clinical or *post-mortem* evidence other than may be associated with any fulminating infectious illness, made a complete diagnosis impossible until the organism had been recovered from the blood.

REFERENCES.

- Foster, M., and Gaskill, J. F. (1929). *Cerebro Spinal Fever*. (Cambridge Univ. Press).
Ker, C. B. (1929). *Infectious Diseases*. (Oxford Univ. Press).
Stewart Wallace, A. M. (1936). *Brit. Med. J.*, 1, 931.

BIRTH CONTROL CLINICS

The Minister of Health received on February 2nd a deputation organised by the National Birth Control Association representing 12 societies interested in the subject of women's welfare and birth control. The deputation was introduced by Lord Horder and the other principal speakers were the Countess of Limerick, Dr. Jocelyn Moore, Mr. Cedric Lane Roberts, Lady Denman and Mrs. Freeth.

The deputation said that the present provision of gynaecological clinics to deal with the medical care of married women, at which advice on contraception would be available to those women to whom further pregnancy would be detrimental to health, was inadequate and that but little exercise had been made by local authorities of the powers which they possessed in the matter. Increased provision was very necessary and it would lead to a reduction, not only in maternal morbidity and mortality, but in criminal abortion which was due to the need felt by women to escape pregnancy on medical and other grounds.

The deputation urged the Minister to issue a circular to local authorities encouraging them to establish gynaecological clinics in which birth control should take its proper place as part of the general medical care of women, and indicating the lines on which the clinics should be run. The deputation attached great importance to the work being carried out as an integral part of the maternity and child welfare schemes of local authorities.

Sir Kingsley Wood said he recognised the force of many of the arguments that had been advanced by the deputation but that both Minister and local authorities were bound to observe the limitations imposed by Parliament on their activities. The local authorities, for instance, had at present no legal power to provide birth control clinics as such and there was no statutory duty upon them to provide advice or medical assistance in relation to birth control. There were still differences of opinion and in a matter of this kind particularly it was necessary and right that the legislative position should be fully maintained and if any alteration in policy was made it should receive Parliamentary approval.

The Maternity and Child Welfare Act empowered local authorities to make arrangements for attending to the health of expectant mothers and nursing children under school age. A clinic provided under the Act could not, therefore, lawfully be used for any woman

who was not an expectant or nursing mother. Such clinics were not primarily intended for sick women. In fact, the object of the Act was preventive and expectant and nursing mothers were encouraged to attend these clinics in order that sickness should, if possible, be avoided.

There were also the clinics provided under the Public Health Acts and their functions were different from those of the maternity and child welfare clinic. They extended only to the provision of hospitals or clinics for the reception of sick persons, but any sick woman might attend such hospital or clinic for advice and treatment.

Apart from the clinics for ante- or post-natal supervision of expectant or nursing mothers and clinics for the treatment of women who were sick, there was no statutory authority for the establishment of clinics providing for the facilities suggested by the deputation.

Sir Kingsley Wood emphasised that the maternity and child welfare centres were not ordinarily designed or equipped for general gynaecological work or as a place for the treatment of sick women. But if they were, the result might be that their preventive functions would be impaired by being mixed up with work which usually needed the resources of a hospital for its adequate performance. He did not, therefore, think that in ordinary circumstances it was desirable that a gynaecological clinic should be established at a maternity and child welfare centre though he recognised that some local authorities with their knowledge of local conditions might feel justified in taking a different course.

As regards the encouragement of further gynaecological clinics, the Minister said that he hoped shortly to receive the report of the last two years' investigation into the problem of maternal mortality. He had little doubt that one of their most important recommendations would relate to the need for an extension of post-natal clinics. At these clinics facilities would be available for medical examination and certain minor forms of treatment for women who had recently been confined, and birth control advice could lawfully be given there to any such woman in whose case pregnancy would be detrimental to health, but it was desirable that such advice should be given at a separate session. The establishment of post-natal clinics would no doubt show the need in many areas for providing gynaecological clinics for the treatment of disabilities and diseases which were discovered at the post-natal clinics and which could not be adequately treated there. These gynaecological clinics must be provided under the Public Health Acts, and they would be available for any woman suffering from gynaecological conditions, and birth control advice could lawfully be given at such clinics to any woman for whom pregnancy would be detrimental to health. He considered that the most suitable place for a gynaecological clinic was a women's hospital or a general hospital, but he would carefully consider all the deputation had said and as to what should be included in the circular he would in due course address to the local authorities following the recent investigation into maternal mortality, and particularly on the need of gynaecological clinics to supplement the work undertaken at post-natal clinics. As for abortion, he had no doubt the Report on Maternal Mortality would deal with this question.

PROBLEMS OF THE NURSERY SCHOOL CLASS

At a joint meeting of the Maternity and Child Welfare and School Medical Service Groups held on November 18th, 1936, the subject for discussion was "Medical and Administrative Problems of the Nursery School Class." Dr. Agnes Young (A.M.O. for M.C.W., Warwickshire) opened the discussion on behalf of the M. & C.W. Group, and Dr. Winifred Burbury (A.S.M.O., London C.C.) on behalf of the School Group. Their papers and the subsequent discussion are abridged below.

Dr. Agnes Young

The little people of the nursery class are children from three to five years of age, or children between babyhood and school life. Children of this age must be considered of great importance because it is during these years that many physical and mental maladjustments take place, which, if not detected and prevented, lead to much more serious defects in the children themselves and later on to much national suffering, misery and expense. It has been discovered that the great majority of the defects which commonly develop during the first five years of life are almost entirely preventable. This, in itself, is sufficient reason for attempting to secure, in spite of modern conditions of life and civilisation, the healthy development of all children during this critical period of their existence.

Many people contend that from two to five years of age children should be dealt with and reared in their own homes by their parents without any extraneous aid whatever. Were conditions of life quite different and much simpler than they are at present, and were every parent expert in child welfare (in its broadest sense) this idea might be a workable one. At present, however, as the majority of parents are not well informed in child welfare, nor do circumstances, economic and otherwise, allow them to care for their children as they ought, it is necessary that some help should be given so that good health and happiness is the lot of all children. Nursery classes have arisen in various parts of the country as part of the national scheme for trying to secure for all children between three and five years of age sound and healthy minds and bodies, as a foundation for sound and healthy adult minds and bodies.

The child in the nursery school class should be under the constant care and supervision of child welfare experts, not the least of whom is the medical man or woman. Nowadays, child welfare experts are many, they include people with scientific knowledge of the development of the child mind, child personality and child character, people expert in methods for the production of good social instincts, and so on. These experts are exceedingly useful in their own particular spheres. Their services are expensive, as a rule, and therefore only available for a relatively small proportion of children of three to five years of age in the country. Their usefulness is limited certainly so far as the nursery class is concerned. Of greater usefulness and benefit to the nursery class is the constant care and supervision of a doctor who possesses a good knowledge of children's bodies, healthy and unhealthy, normal and abnormal, and who combines this with keen observation, infinite

tact and a large quantity of common sense. The services of such a doctor and the necessary adjuncts (of which I shall speak later) should be available for every nursery school class. What ought this medical supervision mean? What would constitute adequate medical care? In my view the answer is a scheme something like this:—

By the Doctor:—

1. A thorough examination of every child on entering the class—to be conducted in presence of, and with the co-operation and help of, the parent and teacher. A nurse (or health visitor) to be in attendance. This examination to be repeated, as a routine procedure, every three months until the child reaches the age of five years.

2. Weekly or fortnightly visits to the class for general observation purposes; to get to know the children and to note any particular peculiarity or development in any particular child brought to notice by the health visitor or the teacher. Advice to parents.

3. Supervision of the premises and of facilities supplied for play, fresh air and sleep. Supervision of all meals or drinks given to the children. Supervision of all sanitary offices, to see if suitable in height, if easy of access and if sheltered, etc.

In addition it would be the doctor's duty to set in motion the necessary machinery for the immediate remedying of all defects found in the children—whether by referring parents to consult their family doctor or by referring them to the appropriate hospitals or clinics for treatment. It would also be necessary for the doctor to keep a written medical record of each child from the time that he or she enters the class until leaving it, giving results of examinations, etc.

By the Nurse or Health Visitor.

1. Attendance at all the doctor's routine examinations.

2. A daily visit to the class for the treatment of minor ailments, detection of suspicious signs of ill-health, and so on.

3. Follow-up visits to homes in connection with defects found, or visits to homes when absences from class are reported, and enquiry into same.

4. To form a helpful medium between the parent and the nursery class officials.

And now to consider the management of the nursery class. What should the presiding genius be? She should be a well educated woman, a certificated teacher, well qualified and specially trained for what is understood by "Nursery School Work." This special training is necessary in the woman who is responsible for these children, who, although they are to be allowed great freedom to develop, require unobtrusive but skilful guidance in the way they should grow! Life is not just being alive: it is being well and happy. To keep her children well and happy should be the primary aim of the teacher of the nursery class and this should never be eclipsed by any attempt to educate the children and make them advanced in so-called educational attainments. This is not in my opinion the object of the nursery class, although I have noted this aspect of it being unduly strained in certain classes which I have seen. As nursery classes are at present conducted as part of and in the premises of infant schools, it is quite a suitable arrangement that the teachers in charge should

be controlled by the local Education Committee and the local Director of Education provided that they realise the aims and objects of such nursery classes. The question of who should be responsible for the medical supervision of the nursery class is not at present such an easy one to decide. Which existing public health service should be responsible? The M. and C.W. Service of the district or the School Medical Service? a doctor and a nurse from the M. and C.W. staff, or a doctor and a nurse from the school health staff, or perhaps even in special areas a private practitioner and a district nurse? Whichever of these propositions is feasible it is certain to require a great amount of help and co-operation from the others. Personally I think it is fitting that the medical duties of the nursery class should be undertaken by M. and C.W. officers, and would consider the administrative problems from the point of view of this service in the following circumstances:—

1. *In districts where the M. and C.W. Officers and Health Visitors are also the School Medical Officers and School Nurses.*—Here the position is simple, and the children would be under the supervision and care of a doctor and nurse who have known them since their early days (and probably their mothers before they were born) and who will continue to supervise them at this period and later on throughout their school life. Such circumstances are ideal and are, I think conducive to excellent results, because of the opportunity afforded the doctor and nurse of getting to know the parents and children from the earliest beginnings and of keeping in touch with them throughout the pre-natal, post-natal, babyhood, pre-school and school periods of their lives. Apart from the advantage to the parents and children, the doctor has a wide sphere of interest with ample opportunities of developing the "personal touch."

2. *In districts where the M. and C.W. Officers and Staff are distinct from the School Medical Officers and Staff.*—I think it suitable that the care of the three to five year olds in the nursery class should be undertaken by the M. and C.W. Officers. Existing school medical administration demands routine medical examination of children three times during their school life, i.e., on entering school; at eight years and again at 12 years of age. If the children of the nursery class are to be supervised by the school medical service and included in the existing scheme then it would mean that the three to five year olds would receive one examination only at this period of their existence. This is not sufficient and to my mind does not deal with the problem, and is one of the strongest reasons why the medical care of the nursery class should not be included in the school medical service. On the other hand, M. and C.W. Officers are not restricted to the amount of care to be given and would be better able to carry out a scheme of care and supervision similar to the one suggested.

To secure the maximum benefit for the children, and to secure still more benefit when their supervision is handed over to the school medical staff, there must be absolute co-operation between the two services. Short concise records of the children should be kept by the M. and C.W. doctor and these forwarded, without fail, to the school doctor. There should be no suggestion

of aloofness between the two services, and as the M. and C.W. staff would, in discharging their duties, naturally enter school premises, their visits ought to be taken, when opportunity arose, of making contacts with the school health staff, and of having discussions with them about the children. This would undoubtedly promote better understanding, stimulate interest in the work, and would be an excellent connecting link between the services which, although distinct in personnel, ought to be in complete harmony as to their aim and object.

3. *In districts such as county rural areas where it would be impossible, principally because of the difficulties arising from administering to a widely scattered population, for either the M. and C.W. staff or the school staff to undertake such a scheme as I outlined for the nursery class, it might be possible to utilise the services of a local general Practitioner and a District Nurse.*—The local practitioner and district nurse would be more or less "on the spot," and would be well acquainted with the children and their parents and with the circumstances in which they lived. Probably the local practitioner would also be the medical officer of the local infant welfare centre, and so be even more suited for the post of medical officer to the nursery class. (In a county area such as Warwickshire many infant welfare centres have local practitioners as medical officers. This scheme is very successful and is one means of stimulating the interest in preventive medicine of our colleagues in general practice and of obtaining their good will for this special work.)

In conclusion, some of you who work in cities and crowded areas and who are accustomed to large clinics may think that I have stressed unduly the personal touch, and that in suggesting that this should be encouraged and developed in our child welfare services I am suggesting the impossible. This may be so at present in populous districts but perhaps in the future some re-organisation of our child welfare services will take place—a rearrangement allotting to each doctor a certain proportion of the child population of the district, a number which he or she can supervise reasonably and get to know personally and intimately. A service might arise where each public health doctor would have a certain panel of children and be responsible for their supervision from birth to the end of their school life. This would mean, of course, much rearrangement in, and amalgamation of, existing maternity and child welfare and school health services. It would necessitate the employment of many more doctors and nurses, and the spending of much more time and money.

Would such a scheme be practical and possible? or is the suggestion of it merely a flight of fancy of one who is absolutely confident that medicine, whether preventive or curative, can never be 100 per cent. successful if it is conducted and organised to the extent of excluding its most important asset—the "personal touch"?

Dr. Winifred Burbury

The importance of nursery schools seems to lie in the fact that in contrast with attendance at child welfare clinics they provide a centre where the needs of the children are catered for regularly and systematically. The mothers who need most help in the up-bringing of their children, either the very poor, because they have

to go out to work, or the inefficient and careless, are exactly those who will not attend at voluntary clinics, and it is in these cases that the nursery schools are so invaluable.

From the physical point of view, every pathological process is seen at its earliest stage and can be checked, and teeth, tonsils, etc., can be attended to before irreparable damage is done. The children, too, are scientifically fed at the school meals and so get one meal a day on proper lines. This can be and is supplemented where necessary by vitamins and fats needed by the growing child. Proper rest is also obtained and the children are trained in regular habits and in cleanliness.

From the psychological point of view, expert training is also at hand. In the upbringing of children, considered sympathetic discipline is essential and is seldom available in the over-crowded, busy working-class home.

It is, moreover, clear that not only from the child's point of view, but also from the parents', a nursery school is a great asset. It sets free the mother either for her domestic tasks or to go out to work, so necessary in these times of economic stress, and it relieves her for the greater part of the day of the charge of the children, so that when they do come together she can enjoy their society and welcome them instead of feeling jaded and irritated by their chatter and thus spoiling the spontaneity of the relationship.

Dr. Agnes Nicoll, in opening the discussion, drew attention to the fact that the speakers had discussed two different types of provision—the nursery school proper and the nursery class attached to the infant school. Nursery classes were less expensive than nursery schools and there were some advantages in the continuity of administration from nursery to infant class.

The nursery class which Dr. Young had described was of a very ideal type, but it was possible to obtain very great benefit in a poor-class area from a simpler type, an example of which she described. The chief differences were the absence of a midday meal, and the fact that dressings were not done on the premises, nor did the nurse and doctor attend daily.

Dr. O. M. Holden said that in his view a nursery class was a makeshift and that the results of a nursery school were better. This should not be run in conjunction with an infant school but should be taken care of by specially trained people. In the matter of nutrition also the nursery school scored over the nursery class.

Dr. T. P. Puddicombe pointed out that no services should be more closely linked up than the Child Welfare and School Medical Services. The make-up of different children varied, and the health work should be continuous. He therefore advocated that the health work for school children should be under the public health not the education authority. The work was better linked up in county districts.

Dr. E. H. R. Smithard, in discussing whether the school or the M. and C.W. authority should care for the under five year old child, said that he considered that up to five there was a continuous physical and mental progress, and that the later the transfer to a different authority took place the better for the child.

Dr. E. V. Saunders-Jacobs emphasised the importance of training mothers in the care of their own toddlers.

Dr. V. Freeman asked whether it was suggested that nursery schools should be provided for all children, or

only for those who could not be brought up in their own homes. He also suggested that M. and C.W. cards should always be available at all school medical inspections.

Dr. G. I. Brodie emphasised the fact that M. and C.W. work was preventive and educational, and that a clinic was not a hospital out-patient department.

Dr. A. B. Franklyn also took part in the discussion.

Dr. Burbury replied, and **Dr. Holden** thanked both speakers very heartily and said that the discussion showed that everyone was of the same mind, namely that nursery schools or classes should have a place in the educational policy of the country.

MILK LEGISLATION

At the meeting of the North-Western Branch held at the School of Hygiene, Mount Pleasant, Liverpool, on Friday, December 11th, 1936, the President (Dr. S. T. Beggs) introduced Mr. J. Holmes, B.Sc., N.D.D., of the Ministry of Agriculture and Fisheries, who gave an address on "Milk Legislation."

After describing the expansion in milk production and the stabilisation of prices, Mr. Holmes said that the Accredited Milk Scheme was introduced by the Milk Marketing Board in 1935 with the object of improving the quality of the milk. A bonus of one penny per gallon was paid for milk produced under approved conditions, the money being raised by a levy on ordinary milk. In 1935, approximately 800 farmers were licensed to produce Grade "A" milk, but in 1936 this number had risen to 20,000. Tuberculin Tested and Certified milk was exempt from the levy and the number of producers of milk of these grades rose from 474 in 1933 to 1,400 at the present time because farmers had found that it paid to produce milk of these grades and escape the levies which must be paid on other milk. The results of the Milk Marketing Board's scheme had been to increase the production of milk in outlying districts, to protect the farmers against undercutting, to give an impetus to the supply of milk to school-children and to the manufacture of milk products.

The Accredited Milk Scheme had been freely criticised but it must be remembered that the number of producers had increased from 800 to 20,000 in less than two years and local authorities had often had difficulty in coping adequately with the increase, so that there was at present a certain lack of uniformity of standards. Staffs were too small to undertake satisfactorily the routine visits to farms and supervision of production methods. Much had been done to improve the condition of farm buildings and surroundings, to encourage the introduction of plants for sterilising vessels, and to stimulate keenness by competitions, but the most urgent need is the continuous education and training of workers both on the farm and by means of systematic lectures. County Agricultural Organisers were often members of the appropriate committee and could assist considerably.

Of the 160,000 registered milk producers in England and Wales, 20,000 were accredited and produced 35 per cent. of the milk supply. It was usually the larger producers who join the accredited milk scheme, and to assist them an organised system of sampling and testing was necessary. With the increased production of milk more labour was required and skilled labour was becoming scarce.

Veterinary inspection of the stock under the Accredited Scheme is causing the producer to take interest in the quality of his stock and is tending to improve the standard of the herds. There is, however, great need for an improvement in general knowledge of veterinary hygiene in connection with the symptoms and spread of such diseases as tuberculosis, Johne's disease, mastitis.

Mr. Holmes stated that the Milk Marketing Board were primarily concerned with improvement of marketing conditions, but they were not unmindful of quality and were doing much to improve quality by propaganda. The policy of the Board would have a tendency to segregate the milk; the better quality going to the liquid milk market and the poorer to the factories.

In opening the discussion Dr. Glover (Liverpool) said the Medical Officer of Health was concerned with milk as a food with disease-bearing potentialities of tuberculosis, typhoid fever and scarlet fever. He agreed that the Milk Marketing Board had done much to improve the quality, but complained that they had done little to improve the safety of the supply. Some believed that the only satisfactory solution of this problem was efficient pasteurisation and he asked whether it was possible for compulsory pasteurisation to be introduced.

To this question Mr. Holmes gave a very guarded reply. He stated that processed milk could be sold in bulk and, as such, would still be liable to carrier contamination. He thought that commercial pasteurisation at the present time was not entirely satisfactory and quoted a recent test of 600 samples of commercially pasteurised milk as a result of which 37 per cent. showed evidence of faulty pasteurisation. Before pasteurisation could be made compulsory it would be necessary to be sure that both the methods and plant were foolproof. In the larger centres of population, where the distribution of milk is in the hands of large firms and combines, satisfactory pasteurisation is possible—in London 85 per cent. of the milk is pasteurised. In smaller areas with a population of under 10,000, in which the distributive units are small, it would not be possible. Compulsory pasteurisation might lead to the production of small and inefficient plants worked by unskilled operators which would result in false security. Alternatively it would involve the amalgamation of small retailers, or the passing of the trade into the hands of larger companies. The alternative was T.T. Milk which was still subject to carrier contamination, but the risk of such infection was not great. He also thought that universal pasteurisation would tend to lower the standard of cleanliness in milk production as farmers would not consider it worth while to take precautions if the milk were afterwards subjected to pasteurisation. We should strive first for T.T. and then for accredited milk, pasteurised if desired.

In proposing a vote of thanks for the excellent address Dr. Lissant Cox thought Mr. Holmes had produced a wonderful essay in gradualness, but held out no hope of a rapid reduction in mortality from tuberculosis. As a result of the activities of the Milk Marketing Board he thought cows were being retained in milk production to a greater age with the result that there was a greater possibility of milk-borne tuberculosis. He thought the Ministry was far too lenient with the farmers as they were allowed to continue to sell an unsafe food.

The Society: Reports and Proceedings

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on February 19th at 2 p.m. The President (Dr. Ernest Ward) was in the chair and there were also present Sir Henry Brackenbury, Drs. Louisa C. Adam, Cyril Banks, H. Stanley Banks, James Fenton, A. W. Forrest, W. W. Jameson, A. Joe, R. H. H. Jolly, E. C. Morris Jones, W. Paterson, R. M. F. Picken, Mr. J. F. Pilbeam, L.D.S., Drs. Charles Porter, T. N. V. Potts, T. P. Puddicombe, F. A. Sharpe, E. Snell, V. F. Soothill, J. A. Stirling, P. H. Stirk, E. W. Caryl Thomas, A. G. G. Thompson, H. G. Trayer, H. Gibbons Ward, R. H. Wilshaw and F. T. H. Wood.

Apologies for absence were received from Drs. S. T. Beggs, George Buchan, R. Veitch Clark, James Ferguson, G. C. M. M'Gonigle, James Mair and G. H. Pearce.

Before proceeding to the formal business of the meeting, the President informed the Council that Sir Henry Brackenbury was standing as an independent candidate for the Parliamentary vacancy for one of the Combined English Universities' seats, and said he was sure that the Council would wish Sir Henry success and they would do what they could to further his candidature.

Minutes.—The minutes of the last meeting published in PUBLIC HEALTH, December, 1936, were approved and confirmed.

Honorary and Life Fellowships.—The Council received a recommendation from the Fever Hospital Medical Services Group that Dr. E. W. Goodall, O.B.E., should be nominated an Honorary Fellow of the Society in view of his distinguished services to the Society and to preventive medicine generally, and of his leading position in the sphere of infectious diseases. The Group pointed out that Dr. Goodall was not eligible for fully-paid life fellowship as his membership of the Society dated only from 1919; but that he was a foundation member of the Fever Hospital Group, of which he had twice been President, and had been instrumental in bringing the fever hospital medical superintendents within the Society.

The Council unanimously decided to nominate Dr. Goodall for election as an Honorary Fellow at the next Ordinary Meeting of the Society.

The Council also received a recommendation from the North-Western Branch that Dr. J. B. Wilkinson (formerly M.O.H., Oldham) be nominated for fully-paid Life Fellowship of the Society of which he had been a subscribing member since 1895.

The Council also unanimously accepted this recommendation for Life Fellowship, to be presented at the next Ordinary Meeting.

County Borough Medical Officers of Health Group.—The Council received a letter dated January 8th, signed by Drs. J. J. Buchan (Bradford) and Gordon Lilico (Derby), making formal application for recognition of a County Borough Medical Officers of Health Group within the Society, and submitting the proposed constitution of the Group and the names of officers provisionally elected for the present session.

The Council decided to give recognition to the Group in accordance with their powers under Article 8.

Association of Industrial Medical Officers.—The Council received a letter dated January 26th from the Hon. Secretary of the Association of Industrial Medical Officers, enquiring as to the possibility of arranging a combined meeting with the Society during 1937-38.

The Council welcomed the suggestion and referred it to the Programme Committee to arrange the details of such meeting with the Association.

Association of Public Health Chief Clerks.—The Council received a letter dated January 29th from the Hon. Secretary of the Association of Public Health Chief Clerks conveying the Association's thanks for the use of the Society's rooms during the past year.

National Council of Women.—The Council considered an invitation from the National Council of Women for the Society to become affiliated with that body.

The Council decided to take no action in this matter.

Compulsory Pasteurisation of Milk.—The Council considered a letter dated February 11th from Dr. E. K. Macdonald (M.O.H., Leicester), regarding the powers to be set up by the Poole Corporation to prohibit, regulate or control the sale or supply within the borough for human consumption of milk which had not been pasteurised. It was pointed out that neither the clause nor any byelaws made in it would of necessity require that all milk sold within the borough should be pasteurised, but power would be given to the Poole Council to ensure that all supplies must be pasteurised unless the milk were produced and distributed in such circumstances as to provide adequate safeguard against infection. Dr. Macdonald asked whether the above provision in the Bill to be promoted by Poole met the views of the Society regarding compulsory pasteurisation of milk.

The Executive Secretary reported that he had replied to Dr. Macdonald setting out the terms and resolutions passed by the Council on previous occasions.

The Council endorsed the Executive Secretary's reply and expressed the opinion that the Poole Bill went some way towards meeting the Society's views. They also referred detailed examination of the proposals to the General Purposes Committee.

Report of the General Purposes Committee.—Dr. James Fenton (Chairman) presented the following report from the General Purposes Committee:—

Your Committee beg to report that since the last meeting of the Council they have held meetings on December 18th and February 5th, which were attended by the following:—

December 18th.—The President (Dr. Ernest Ward), Drs. J. J. Buchan, James Fenton, A. Joe, R. H. H. Jolly, G. H. Pearce, R. M. F. Picken, T. N. V. Potts, J. A. Stirling, H. Gibbons Ward and F. T. H. Wood.

February 5th.—Dr. James Fenton (Chairman), Drs. G. F. Buchan, J. J. Buchan, James Ferguson, A. Joe, R. H. H. Jolly, James Mair, R. M. F. Picken, T. N. V. Potts, J. A. Stirling, E. Ward, H. Gibbons Ward and F. T. H. Wood.

At the December meeting Dr. James Fenton was unanimously re-elected Chairman for the session 1936-37. The following matters have been under consideration:

1. *Lindsey C.C. v. Marshall.*—The memorandum prepared by Dr. G. F. Buchan on the above case was again

considered and there was a general feeling that the existence of rules of procedure issued by a body like the Society of Medical Officers of Health might cause difficulty to medical officers of health in any further legal actions similar to the *Lindsey v. Marshall* case. The Committee also expressed the view that personal representations might be made to the Ministry of Health by Professor Picken against the inclusion of medical opinions in official circulars such as that of April 13th, 1934, on "Bacteriological Investigation with reference to Puerperal Sepsis."

With regard to Dr. Buchan's memorandum, it was suggested that Dr. Buchan might be asked to recast for publication in the journal that part which drew attention to the legal views expressed in the above-mentioned case.

2. *Applications for an Irregular Appointment.*—The Executive Secretary reported correspondence with a member regarding his application for the post of M.O.H., Tynemouth, which was the subject of an Important Notice in the *British Medical Journal*. It was further reported that information had been received that another member of the Society was also an applicant for the above appointment. A letter from this second member was also read.

RECOMMENDATION.—That notice should be given to the two members in accordance with the terms of Article 11, that the Council will enquire into the circumstances of their applications and should invite their attendance at the next meeting (May 21st).

3. *Disciplinary Action by the B.M.A. against Public Health Service Members.*—In regard to the Tynemouth appointment, the Executive Secretary reported that the Tynemouth Division of the B.M.A. had recently refused to adopt a binding resolution in connection with the salaries scale unless the Association ceased to issue warning notices in regard to Tynemouth appointments.

Professor Picken reported that he had drawn attention to the attitude of the Tynemouth Division at the Council meeting of the B.M.A. and that the matter had been referred to the Ethical Committee.

It was pointed out that the members of the B.M.A. who accepted blacklisted appointments injured not so much the interests of local members of the B.M.A. as those of the public health service members in all parts of the country.

RECOMMENDATION.—That the Council request the B.M.A. to consider so altering their constitution as to enable the cases of acceptance of public health appointments which have been the subject of warning notices in the *British Medical Journal* to be dealt with by a central committee of the Association rather than be local divisions.

Sir Henry Brackenbury said that, while he personally sympathised with this recommendation, he must warn the Council that the suggested alteration of the B.M.A.'s constitution involved great difficulties in so far as it cut across the traditional autonomy of the Association's divisions.

After further discussion, the Council decided to accept the Committee's recommendation.

4. *Salaries of Public Health Dental Officers.*—The Executive Secretary submitted a confidential resumé of the conference between representatives of the British Dental Association, British Medical Association and the Society, held on Friday, November 27th.

Dr. Fenton said that he had informed the conference that the British Dental Association would have the support of the Society in approaching government departments and the associations of local authorities regarding the proposed dental salaries agreement, and he added that the British Dental Association would probably wish that the B.M.A.

representative appointed to assist the B.D.A. at any interview with the central authorities should be a medical officer of health with experience of the negotiations preceding the Askwith agreement.

5. *Training of Health Visitors.*—The Committee considered a letter from the Association of Municipal Corporations requesting the observations of the Society on a proposal to increase the minimum training period of student health visitors from six to nine months. This proposal was contained in a memorandum from the Joint Consultative Committee of Institutions for the Training of Health Visitors and of Organisations of Health Visitors, which had been submitted to the Ministry of Health in September last.

The Committee reviewed information supplied by Dr. Dudley Robinson and Miss Amy Sayle as to the present supply of and demand for health visitors, and also examined in detail the case put forward in the memorandum of the Joint Consultative Committee.

RECOMMENDATION.—That the Council reply to the Association of Municipal Corporations that the present time was not opportune for the extension of the health visitors' course, and that the Society were not convinced that the Joint Consultative Committee had made out the case for the additional instruction suggested in their memorandum.

The Society should furthermore point out that in view of the present excess of demand for over supply of health visitors, an increase in the length of training would not be advisable until the level of salaries offered to health visitors, especially outside London, was raised so as to attract more candidates to the profession.

Lastly, the Society felt that the character of the health visitor's work might undergo many changes within the next few years, so that the present time was not the right one for making any extension or alteration of the course.

6. *Post-Graduate Refresher Courses for Public Health Medical Officers.*—Professor Picken reported on the progress of the special committee appointed to consider the organisation of refresher courses by the Society.

RECOMMENDATION.—That the Council accept the proposals contained in the special committee's interim report.

7. *Model Building Bye-Laws.*—The Committee considered a request from the Advisory Committee on Model Building Bye-Laws for the Society's observations. Recommendations by Dr. J. Greenwood Wilson and by the Chief Building Inspector of Ealing were reviewed, but Dr. John Buchan held that the exact scope of the new bye-laws to be drafted under Section 61 of the Public Health Act, needed elucidation before the Society's final observations were put forward. The Executive Secretary was therefore instructed to write to the Advisory Committee on the points raised by Dr. Buchan.

8. *Post-Certificate Courses for Midwives.*—The Committee received from the Maternity and Child Welfare Group certain observations on the draft rules relating to post-certificate courses for midwives prepared by the Central Midwives Board. Drs. J. J. Buchan, R. M. F. Picken and T. N. V. Potts were asked to consider the draft rules and report to the next meeting of the Committee.

9. *Increments to Salaries of Medical Officers of Health.*—The Executive Secretary presented a statement showing the salaries of medical officers of health, with special reference to the question whether they had received increments above the minimum commencing salaries laid down in Section VI of the Askwith Memorandum.

The Committee instructed the Executive Secretary to

forward this statement for the information of the British Medical Association.

10. *Co-operation between Municipal Midwives and Health Visitors.*—The Committee had referred to them by the Council a memorandum drawn up by the Women Public Health Officers' Association for circulation to the authorities who would be concerned with establishing the new service under the Midwives Act, 1936.

The Committee discussed the memorandum on which the Society's observations had been requested, and finally decided that, in view of the varying conditions between one type of area and another, it would be impossible to lay down hard and fast rules on the organisation of schemes or on the particular points referred to in the memorandum. It was therefore decided to offer no observations to the Women Public Health Officers' Association.

11. *Trials of New Therapeutic Substances, etc.*—The Committee considered a letter from Miss Harris, of Genatosan Ltd., putting forward a suggestion for co-operation between the Society and reputable manufacturing chemists for the impartial trials of new therapeutic substances, anti-toxins, etc.

The Committee decided that the Society had not the machinery for co-operating in a scheme of this kind. One member of the Committee drew attention to the existence of the therapeutic trials committee of the Medical Research Council, and it was also pointed out that the British Medical Association were considering a scheme for the examination of proprietary preparations in co-operation with the Pharmaceutical Society.

RECOMMENDATION.—That no action be taken.

12. *Co-operation of Practitioners with the Tuberculosis Service.*—Dr. Ernest Ward submitted the following memorandum prepared by the Tuberculosis Group:—

If our Tuberculosis Campaign is to continue with the vigour and efficiency which we all desire it is important that the sense of responsibility of the general practitioner should not be impaired and that his constant co-operation be secured. It sometimes happens that the doctors of a district are unaware of the arrangements made by the Public Health Department for dealing with tuberculosis and have no personal acquaintance with the tuberculosis officer. Most tuberculosis officers keep the practitioner informed of the treatment carried out or contemplated but too many dispensary attendances by a patient also under the care of his own doctor may cause that doctor to lose interest both in his patient and his patient's family.

Practitioners are in a position to detect sources of tuberculosis infection in the home and to discover earlier disease among young adults if they are suitably informed and encouraged. These difficulties it should be possible to remedy. In all districts it should be possible to remedy. In all districts practitioners, especially newcomers, should receive an explanatory circular concerning the tuberculosis campaign and enumerating local facilities. Such a circular has already been sent in some localities. An account of other public health activities may well be included.

The President also showed examples of booklets issued by various health departments to explain to local practitioners the directions in which their co-operation with the public health service was sought.

13. *Post-Graduate Facilities for Departmental Officers.*—The Committee again considered the memorandum on the above subject by Dr. Agnes Nicoll, on which the majority of Branches and Groups have now forwarded their observations.

RECOMMENDATION.—That Dr. Nicoll's memorandum and the Branch and Group observations thereon be referred to the special committee on Post-Graduate Courses.

14. *The Appointment of Medical Officers of Health.*—The memorandum on the above subject by Professors Jameson and Picken has been considered by the majority of the Branches and Groups, and their observations have been received.

RECOMMENDATION.—That Professors Jameson and Picken be asked to consider what action could best be taken in regard to their memorandum in the light of the Branch and Group observations and of Ministry of Health Circular 1525 referring to the failure to establish the Central Advisory Committee recommended by the Hadow Report.

15. *Milk Propaganda.*—At the December meeting the President drew attention to the propaganda constantly carried out on behalf of milk producers by means of letters in the press. He said that a letter which he had sent to the *Times* emphasising the medical view as to "safe milk" had not been published. The Committee suggested that the President might redraft his letter having regard to the opinion expressed by the Society.

The President submitted a redrafted letter to the *Times*, which appeared as follows on January 23rd:—

"PASTEURIZATION OF MILK."

To the Editor of the 'Times.'

SIR,

On the value of milk as a food and the desirability of increasing the consumption of milk by the nation's children we are all agreed. But there is one important proviso. The milk supplied should be safe; not merely pure or even clean, but also safe.

It is estimated that 2,000 to 2,500 persons, mainly children, die in this country each year from tuberculosis of bovine origin, and twice that number are made seriously ill; and apart from tuberculosis there are many epidemics which owe their origin to the consumption of unsafe milk (100 since 1903). Most of your readers will have heard of the serious epidemic this last summer traceable to milk.

All this can be avoided if the milk supplied is safe, and safety can readily be secured by pasteurization or, where that is impossible, boiling the milk in the home before use. Until safe milk is supplied it is unlikely that milk consumption can be adequately increased.

Yours faithfully,

ERNEST WARD,

President, Society of Medical Officers of Health.

A rejoinder by Sir Arnold Wilson appeared in the *Times* of January 27th, and the correspondence was continued by a general practitioner on the following day, and by Lord Dawson of Penn in a later issue, supporting the case for "safe" milk.

16. *Non-Therapeutic Abortion.*—It was reported to the Committee that a special committee of the Joint Council of Midwifery, on which Drs. John Buchan and James Fenton represent the Society, had prepared a questionnaire which was being sent to some 20 of the largest local authorities.

One M.O.H. had suggested that it would involve great labour to send full replies to the questionnaire, but the Committee expressed the view that a very detailed questionnaire was essential in order to obtain information from which correct conclusions could be drawn, and that the enquiry might be of great value. They therefore instructed the Executive Secretary to reply to the M.O.H.

concerned that they hoped he would give as full information as possible in the circumstances in reply to the questionnaire.

17. *Statutes of Limitation.*—The Committee considered a letter from Mr. Joseph Entwistle (Town Clerk of Morecambe and Heysham), drawing attention to a passage in the Fifth Interim Report of the Law Revision Committee, dealing with the Statutes of Limitation. The passage referred to the Public Authorities Protection Act and read as follows:—

“... The vast majority of cases in which the Act has been relied on are cases of negligence of municipal tram drivers or medical officers and the like, and there seems no very good reason why such cases should be given special treatment merely because the wrongdoer is paid from public funds. The Committee do not suggest that the Act should be dispensed with altogether, but they think that its effects in two respects should be mitigated, and they recommend that, in the case of civil actions, the period of limitation should be extended to 12 months (instead of six months as at present) and that time should run from the same date as in the case of actions to which the Act does not apply, *i.e.*, from the date of the accrual of the cause of action, subject to the various savings for disabilities, fraud on the part of the defendant, etc.”

RECOMMENDATION.—That Mr. Entwistle be thanked for drawing the Society's attention to this passage but that no further action be taken.

18. *Initial Silicosis Examination.*—Dr. Ward asked for the Committee's guidance in a matter which had been considered by the Tuberculosis Group, and stated that it was the practice of the Silicosis Board to ask local authorities through their tuberculosis officers to carry out the initial examinations of persons entering silicosis industries. The fee paid by the Silicosis Board for each examination is 6s. 6d., but it was the view of the tuberculosis officers carrying out these examinations that a skiagram was essential for a reliable report. The M.O.H. of Hull had represented to the Silicosis Board that 6s. 6d. did not cover the cost of a complete examination including a skiagram, but the Silicosis Board had stated that they were unable to increase their payment. Dr. Gebbie of Hull therefore asked the Tuberculosis Group for their views.

The Committee advised Dr. Ward to reply that the matter, which was essentially a financial adjustment between the local authority and the Silicosis Board, was not one on which the Society could reasonably make representations.

19. *Disinfection of Woollen Rags.*—The Committee considered a letter from the Yorkshire Branch reporting the following discussion at the last Branch meeting:—

“Dr. J. J. Buchan raised the question of the disinfection of woollen rags exported to China. Large quantities are exported from the West Riding, and the Chinese Authorities insist upon a certificate of disinfection being produced before the rags are allowed to be landed in China. The great majority of Medical Officers of Health will only give a certificate after disinfection by steam, but the Chinese importers object to steam disinfection, with the result that in one or two districts certificates have been granted after the rags have been treated by formaldehyde or other similar substance.

“Dr. Buchan pointed out that it was most undesirable that there should be two standards of disinfection and he suggested that the subject be brought to the notice of the Council with a request that representation be made to the Minister of Health to

consider the matter with a view to a definite standard of disinfection being set up.”

The Committee agreed that the Ministry should be asked forthwith to set up a definite standard of disinfection for woollen rags to be exported to China, and that this action should be reported to the Council.

20. *Livestock Industry Bill.*—The Committee considered Clause 24(j) of the above Bill, which provided for inspection of slaughterhouses by persons authorised by the proposed Livestock Commission, these persons to have the same powers as medical officers of health or sanitary inspectors in regard to detection and condemnation of unsound articles of food.

The Committee instructed the Executive Secretary to ask Sir Francis Fremantle and Capt. Elliston to convey to the Standing Committee which is examining this Bill, the view of the Society that the above mentioned clause involved duplication of the work already done by medical officers of health and sanitary inspectors and that the Bill should provide that the Commission should endeavour to secure that necessary inspections on their behalf should be carried out by M.O.s H. and S.I.s.

21. *Factories Bill.*—The Committee appointed the following as a special sub-committee to examine and report on the new Factories Bill, 1937:—The Chairman, Dr. John Buchan, Professor R. M. F. Picken and Dr. J. A. Stirling.

Dr. Fenton now reported to the Council that the Factories Bill Committee had met that morning and had drafted various recommendations; the Committee now asked the Council's authority to take action on their behalf with the Home Office or to Parliament. The Committee's proposals were verbally outlined to the Council. In response to a request by Sir Henry Brackenbury that the agreement on co-operation with the B.M.A. be observed, it was agreed that the Society's Committee should send forward forthwith to the Home Office such of their recommendations as dealt only with sanitary aspects of the Bill, and that they consult with the officers of the B.M.A. in regard to the medical proposals which the Society desired to make in regard to the Bill.

22. *Physical Training and Recreation.*—The Committee appointed the following special sub-committee to examine and report on the memorandum explaining the Government's proposals under the above heading:—The Chairman, Drs. R. Veitch Clark and T. P. Puddicombe.

23. *Natural Lighting of Buildings.*—The Committee received a memorandum on the above subject from the Committee on Health and Comfort in Housing, set up by the London School of Hygiene.

Consideration of the memorandum was referred to the members who are reviewing the model building bye-laws.

24. *Local Practitioners and their M.O.H.*—With reference to the dispute regarding tonsillectomies which was mentioned at the last Council Meeting (see PUBLIC HEALTH, December, pp. 103 and 104), the Executive Secretary reported that Dr. Hill, of the B.M.A., had taken immediate action towards convening a round table conference with the general practitioners in the town concerned, the M.O.H. and representatives of the local division of the B.M.A. It was further reported that the practitioners had refused to attend the conference but had sent a deputation to the Elementary Education Sub-Committee of the Town Council. The matter was referred to the Town Clerk, representatives of the practitioners and the M.O.H. The latter had now written to say that

he hoped that a satisfactory settlement would shortly be reached.

The Committee instructed the Executive Secretary to write to the M.O.H. expressing satisfaction with the course of events and hoping that it would be possible to reach a satisfactory final settlement.

25. *Mental Treatment at Municipal Hospitals.*—The Committee considered a letter from the Association of Municipal Corporations referring to a resolution from the National Council of Women as to the need for provision of mental treatment centres at municipal hospitals. (Appendix H.)

RECOMMENDATION.—That the Council reply to the A.M.C. that the Society consider that mental treatment facilities are desirable in every area in association with general hospitals.

26. *Recruitment.*—The Executive Secretary reported that 17 candidates were awaiting election on February 19th which would make a total of 89 new members during the present session as compared with a total of 120 in the same period of the preceding session. It was explained that last year's total was exceptionally large owing to an influx of dental associates.

The Committee suggested that Branch Secretaries should be again supplied with the names of non-members in their areas and asked to approach them through their Medical Officer of Health or direct.

The Committee also considered once more approaching the Medical Superintendents' Society, and suggested that the President, the Chairman and the Executive Secretary should endeavour to meet officers of the above Society.

27. *Other Business.*—The Committee have dealt with items in relation to applications for election to the Society, superannuation, standards of artificial lighting and Branch bye-laws.

The Council adopted the report and recommendations of the General Purposes Committee, with the addition mentioned above under item 21.

Report of the Journal Committee.—Dr. F. T. H. Wood (Chairman) presented the following report:—

Your Journal Committee held a meeting on Friday, December 18th, Dr. James Fenton, Professor R. M. F. Picken, Drs. Ernest Ward and F. T. H. Wood attending. Dr. F. T. H. Wood was re-elected Chairman for the session 1936-37.

Issues of PUBLIC HEALTH, October-December, 1936.—The Editor and Manager presented his report for the December quarter, showing that the three issues had contained 110 editorial and 26 advertising pages (including cover pages).

The allocation of editorial space in the above three issues was as follows:—

	PAGES.
Editorial articles	13
Obituary notices	3
Special articles	36
Summarised papers	24½
Council and General Meetings: Annual Reports of Council and Officers, Balance Sheet, etc.	18
Branch and Group Meetings	7
Book Reviews	3
News paragraphs, Notices, etc.	5½

Editorial.—The Editor stated that he had received very willing and prompt co-operation from members who had been asked to contribute editorials.

Special Articles and Original Contributions.—It was reported that there had been great pressure on the space available owing to the influx of Branch and Group Presi-

dential Addresses and other papers read at meetings, but that it had been found possible to accept all of them for immediate or subsequent publication. The Council will have noted that many papers have been summarised and printed in slightly smaller type and this has enabled the inclusion of a large volume of material which might otherwise have been held over.

Revision of Standing Features.—The Editor reported certain comments received from the Inter-Group Committee. The points raised were carefully considered and a suggestion that a bibliography should be included in the Journal was accepted. It was found that the other points raised by the Inter-Group Committee had been covered by the discussion on the Editor's report.

The question was raised of obtaining more short articles of administrative or epidemiological interest from medical officers of health. It was agreed that the Editor should include in the Journal a request to medical officers of health to forward any such items of interest as the organisation of new schemes, details of outbreaks of infectious diseases, and so on.

Investigation on Treatments of Tuberculosis.—The Committee considered a letter received from Major Gordon Home, Vice-Chairman of the Committee of Investigation on Treatments of Tuberculosis, referring to statements made in Dr. Ernest Ward's Presidential Address published in the November number of PUBLIC HEALTH.

The Committee decided that the letter be received.

News Items.—The Committee instructed the Editor to include in all future issues if possible reports of appointments in the public health service, précis of Ministry of Health publications and a public health bibliography.

The Editor reported that he had kept in close touch with the Chairman regarding the contents of each issue, and the Committee expressed general approval of the make-up of the journal during the quarter under review.

Printing and Advertising.

Comparative figures of printing costs for the December quarters, 1935 and 1936, were presented:—

1935.				1936.			
pp.	£	s.	d.	pp.	£	s.	d.
October ...	36	48	7 8	October ...	36	47	6 5
November ...	48	61	18 0	November ...	40	46	9 6
December ...	36	48	13 10	December ...	48	54	8 0
Total ...	120	£158	19 6	Total ...	123	£148	3 11

It was reported that owing to the necessity of increasing the size of the December issue in order to include several urgent reports, the Chairman had authorised the Executive Secretary to obtain from Messrs. H. R. Grubb contract prices for printing 44-page and 48-page issues in addition to the prices previously quoted for 32-, 36- and 40-page issues.

The Committee approved this action and noted that the prices quoted by Messrs. Grubb for the larger issues appeared to be in proportion to the previous prices.

The following comparative figures of advertising revenue for the December quarter, 1935 and 1936, were presented:—

1935.				1936.			
£	s.	d.		£	s.	d.	
October ...	23	10	6	October ...	49	0	6
November ...	19	6	6	November ...	48	14	0
December ...	23	10	6	December ...	37	5	6
	£66	7	6		£135	0	0

The Committee were glad to note the diminution of printing costs by £10 in the December quarter, 1936, as

compared with the same quarter of 1935, and the increase of advertising revenue by £69 for the same comparative periods.

Insurance against Legal Actions.—The Committee authorised the Editor to obtain for their next meeting information of the premiums payable for insurance of PUBLIC HEALTH against legal action.

Roll of Members.—The Committee also considered the Roll of Members, the finances of which have been included under the heading of "Journal Account" in the annual revenue account of the Society.

The Roll of Members for 1936-37 came to 124 pages plus 8 pages of advertising as compared with 122 pages plus 8 pages of advertising in the previous session. The comparative figures for printing and advertising revenue were as follows:—

	£	s.	d.		£	s.	d.
Printing ... 1935	113	6	3	1936	115	3	9
Advertising 1935	64	11	6	1936	58	4	6

The Committee decided to recommend the Council to make a contract for the printing of the Roll of Members, and to include in future issues of the Roll the dates of members' elections to the Society.

The Council adopted the above report of the Journal Committee.

Committee on Rules for Diplomas and Degrees in Sanitary Science, Public Health or State Medicine.—Prof. Jameson presented the following report and recommendations:—

A second meeting of the special committee appointed by the Council was held on February 5th to consider the draft revised Rules as circulated by the General Medical Council to the Licensing Bodies and teaching institutions for their observations.

Present:—Dr. G. F. Buchan (Chairman), Professors W. W. Jameson and R. M. F. Picken and Dr. T. N. V. Potts.

The Committee noted with satisfaction that the General Medical Council had incorporated in the draft Rules the great majority of the Society's previous suggestions which were set out in PUBLIC HEALTH, December, p. 103.

They decided, however, to recommend the Council to submit the following further recommendations:—

Rule 3.—The opening paragraph to read "Every candidate shall produce evidence of satisfactory attendance on a course lasting not less than 280 hours, at an institution approved by the Licensing Body granting the Diploma or Degree, during which he shall have received:—"

Rule 4.—The opening paragraph to read "Every candidate shall produce evidence of satisfactory attendance on a course lasting not less than 160 hours, at an institution, etc., during which he shall have received instruction in the following subjects:—"

In regard to Rules 3 and 4, the Committee are of opinion that it should be left to the Licensing Bodies to certify satisfactory attendance and that the Rules should only specify the general duration of the courses.

Rule 5.—The first sentence to read: "Every candidate shall produce evidence that he has attended for three months on the clinical practice of a Hospital for Infectious Diseases approved by the Licensing Body granting the Diploma or Degree."

Rule 6.—The last paragraph to read as previously suggested by the Society, i.e., "Certificates of having received the prescribed instruction in Public Health Administration must be given by a whole-time Medical Officer of Health of an area approved by the Licensing Body granting the Diploma or Degree."

The present draft Rule specifies only that certificates should be granted by a whole-time M.O.H., and the Committee are of opinion that this is not a satisfactory guarantee that proper instruction can be given in certain areas.

Rule 7.—The Committee recommend that a covering letter should draw the attention of the G.M.C. to the fact that the examinations in Infectious Diseases are not always conducted by "Examiners specially qualified," and would urge that the Examiner in this instance should always be the Medical Superintendent of an Infectious Diseases Hospital approved by the Licensing Body.

The Council adopted the above report and recommendations.

Public Health Service Representation on the B.M.A.—The Council considered the question of candidates for the election of two public health service members on the British Medical Association Council for the year 1937-38. Three names were put forward for the two places available, and the Council decided to support the names of Professor R. M. F. Picken and Dr. F. T. H. Wood.

It was decided to support the nomination of the four following as public health representatives at the Annual Representative Meeting of the Association to be held at Belfast, July 16th-20th:—The President, Drs. R. J. Maule Horne, C. S. Thomson and R. H. Wilshaw.

Representation of the Society.—The Council made the following nominations of representatives:—

Central Council for Health Education (1 representative)—Dr. Catherine Morris Jones in place of Dr. Ethel Cassie.

Central Midwives Board (1 representative for three years from April 1st, 1937)—Dr. J. J. Buchan.

National Milk Publicity Council, 1937-38—Dr. Thomas Orr.

Council for the Disposition of the Dead—Dr. Charles Porter.

National Baby Week Council—Drs. James Fenton and Catherine Morris Jones.

It was also decided to nominate Dr. Fenton for election to the Executive Committee of the N.B.W.C.

Empire Conference on the Care of the Tuberculous—London, May 8rd-8th—Dr. F. J. C. Blackmore.

Eighth Imperial Social Hygiene Congress, London, July 5th-9th—Professor W. W. Jameson.

Royal Sanitary Institute Health Congress, Birmingham, July 12th-17th—Dr. Ernest Ward.

Eleventh World's Dairy Congress, Berlin, August 22nd-28th—Dr. Charles Porter.

Sanitary Inspectors' Association, Jubilee Conference, Brighton, August 30th-September 4th—Drs. J. J. Buchan, James Fenton and Charles Porter.

It was decided to take no action in regard to the Royal Institute of Public Health and Institute of Hygiene Congress and the conference of the International Union of Local Authorities.

The meeting then adjourned at 4.5 p.m.

The American Public Health Association announces that its 66th annual meeting will be held in New York City, 5th-8th October, 1937. Dr. Reginald M. Atwater is the executive secretary of the Association, and the headquarters offices are at 50, West 50th Street, New York.

ORDINARY MEETING.

An Ordinary Meeting was held at the house of the Society on Friday, February 19th, at 5 p.m. Dr. Ernest Ward (the President) was in the chair, and there was a fair attendance of members.

The minutes of the last meeting were confirmed and signed.

The Executive Secretary read a letter from the Home Secretary (Sir John Simon) conveying His Majesty's thanks for the Society's loyal message passed at the last meeting.

The following candidates, having been duly proposed and seconded, were elected to membership:—

As Fellows:—Bousfield, Guy William, M.D., B.S. (LOND.); Crawford, Frank John Hamill, M.D. (LIV.), B.Sc., M.R.C.S., D.P.H.; Donald, Alexander Bothwell, M.B., CH.B. (ABERD.), D.P.H.; Jones, John Andrew, M.B., CH.B. (LIV.), D.P.H.; Muir, Clement, M.B., CH.B., M.R.C.P. (EDIN.), D.P.H.; Pascall, Donovan B., M.B., B.S. (LOND.); Purce, Agnes Mary, M.B., CH.B., D.P.H. (QU., BELF.); Rankine, James Eric, M.B., CH.B. (GLAS.), D.P.H.; Robertson, Anna Menzies, M.B., CH.B. (GLAS.), D.P.H.

As Associates:—Ellis, T. P., L.D.S., R.C.S. (ENG.); Hills, William Arthur Sowden, L.D.S., R.C.S. (ENG.); Hunt, Winifred M., L.D.S. (GLAS.); MacDougall, Allan C., L.D.S., R.F.P.S. (GLAS.); Morrison, Mary Catherine, L.D.S., R.C.S. (ENG.); Tiplady, Herbert Newton, L.D.S. (LEEDS); Underhill, Eric, L.D.S., R.C.S. (ENG.); Williams, Jevan, L.D.S. (LIV.).

One or two names were received for the next election.

The President then called on Sir Francis Fremantle, O.B.E., M.D., F.R.C.P., D.P.H., M.P. (Consulting M.O.H., Hertfordshire) to read a paper opening a discussion on the "Reform of the Medical Curriculum." Sir Francis's paper was heard with much interest, and the following joined in the subsequent discussion: Dr. Chalmers Watson (Edinburgh), Professor W. W. Jameson (London), Captain G. S. Elliston, M.P., Professor R. M. F. Picken (Cardiff), Dr. E. H. T. Nash (Heston and Isleworth), Professor R. H. Parry (Bristol), and the President, who said that he would ask the General Purposes Committee of the Society to consider the points raised at this meeting with a view to further action by the Society.

Sir Francis Fremantle having briefly replied to points raised in the discussion, Dr. V. F. Southill moved a hearty vote of thanks to Sir Francis for his opening paper, and Dr. E. H. T. Nash, seconding, referred to the gratitude owed by the Society to Sir Francis as their representative of the public health service in parliament.

The meeting then adjourned at 7 p.m.

A full report of the opening paper and discussion will appear in the April number of PUBLIC HEALTH.

METROPOLITAN BRANCH.

President: Dr. A. J. Shinnie (M.O.H., City of Westminster).

Hon. Secretary: Dr. Vynne Borland, Public Health Department, Bethnal Green, E.2.

A very enjoyable visit was paid by some 120 members of the Metropolitan Branch and their ladies to the Bournville Works of Messrs. Cadbury on Friday, January 29th last.

The party travelled to Birmingham in specially reserved coaches and spent the afternoon making a tour

of the vast works where the famous Bournville cocoa and Cadbury chocolates are made. The excellent working conditions of the Bournville employees were obvious to the visitors and their healthy appearance showed the value of the welfare arrangements, which include a medical and dental service, the latter being compulsory for the younger employees.

Mr. William Cadbury made a graceful speech of welcome to the visitors at tea and Drs. A. J. Shinnie and Charles White replied for the Branch. The latter spoke of his special interest in the supervision exercised over the raw product used by the factory, i.e. the cocoa bean.

Earlier in the afternoon, the visitors had seen the Bournville research laboratory, which was one of the first of its kind established by a commercial firm in this country. There was, unfortunately, not time for the party to see much of the model housing estate at Bournville, about which some interesting details were given.

The party were entertained to dinner by Messrs. Cadbury in the train on the return journey.

HOME COUNTIES BRANCH.

President: Dr. R. P. Garrow (M.O.H., Hornsey).

Hon. Secretary: Dr. C. E. E. Herington, Valence House, Becontree Avenue, Dagenham, Essex.

Some 40 members of the Home Counties Branch paid visits to the premises of Messrs. Glaxo Laboratories on Friday, February 5th and Tuesday the 9th.

The visitors were entertained to luncheon by the firm and afterwards made a tour of the bacteriological and chemical laboratories and other interesting departments.

Members of the firm who addressed the Branch were Mr. H. Jephcote, Managing Director, Col. E. A. Rose, Mr. R. P. Hunwicke, who spoke about the preparation of a dissolved whooping cough vaccine, and Mr. Bacharach, chief chemist, who spoke about the essential identity of the "natural" and "artificial" vitamins.

COUNTY BOROUGH MEDICAL OFFICERS OF HEALTH GROUP.

President: Dr. J. J. Buchan (M.O.H., Bradford).

Hon. Secretary: Dr. Gordon Lilico, 1, Derwent Street, Derby.

On page 195 of this issue it will be noted that the Council have formally recognised the formation of a new Group within the Society. The proposal for a County Borough M.O.s.H. Group was mooted some time ago and the later developments have been:—

(1) At a meeting of County Borough Medical Officers of Health held at Southport on July 10th, 1936, it was unanimously decided that the Council of the Society be asked to approve the formation of a Group of County Borough Medical Officers of Health within the Society.

(2) A further meeting was held in London on November 18th, 1936, when the constitution of the proposed Group was adopted and officers were elected for the 1936-37 session, as follows:—

President: Dr. J. J. Buchan (Bradford).

Vice-President: Dr. R. Veitch Clark (Manchester).

Hon. Secretary and Treasurer, and Representative on the Council of the Society: Dr. Gordon Lilico (Derby).

Members of the Group Committee: Dr. A. Massey (Coventry); Dr. R. H. Parry (Bristol); Dr. H. C. M. Williams (Southampton).

CONSTITUTION OF THE COUNTY BOROUGH OFFICERS OF HEALTH GROUP.

1. *Objects.*

(a) To promote, among the medical officers of county boroughs, an exchange of views, particularly on matters of public health administration peculiar to the areas in question.

(b) To arrange meetings in suitable centres for the above purpose.

(c) To promote and safeguard the interests of medical officers of health engaged in county boroughs.

2. *Membership.*

(a) Medical officers of health of county boroughs who are Fellows of the Society of Medical Officers of Health shall be eligible for membership of the Group.

(b) Any Fellow of the Society eligible under 2 (a) who desires to be a member of the Group shall apply to the Secretary of the Group for enrolment.

(c) The President of the Society is *ex-officio* a member of the Group.

3. *Subscriptions.*

The subscriptions to the Society of Medical Officers of Health shall cover membership of the Group.

4. *Officers.*

(a) The Officers of the Group shall be a President, a Vice-President, an Honorary Secretary and Treasurer and the Representative of the Group on the Council of the Society.

(b) The office of President shall not be held by the same person for two years in succession.

(c) The office of Vice-President shall not be held by the same person for two years in succession.

5. *Meetings of the Group.*

(a) The Group shall hold an Annual General Meeting in June or July each year for the election of Officers and other members of the Executive Committee and for deliberative purposes as necessary.

(b) The Group shall hold ordinary meetings on such days as the Committee shall from time to time decide for the purpose of routine business, discussion, the reading of papers, visits or demonstrations in connection with matters of appropriate interest.

(c) The President or Executive Committee of the Group may call a General Meeting of the Group at any time on giving 14 days' notice.

(d) A Special Meeting shall be called by the President of the Group (on a requisition signed by five members), on giving 14 days' notice.

(e) Notice of meetings shall be sent to all members of the Group.

(f) At all meetings of the Group five members shall form a quorum.

(g) The President of the Group, or in his absence the Vice-President, shall preside at all meetings of the Group. In the absence of the President and Vice-President at any meeting of the Group, the meeting shall elect a Chairman for the occasion.

(h) Notice of any resolution affecting the policy or administration of the Group shall be given to the Hon. Secretary who shall refer them to the Executive Council.

6. *Honorary Secretary and Treasurer.*

The Honorary Secretary and Treasurer shall conduct the correspondence and other business of the Group, be responsible for the correctness of the list of members for all notices, announcements and the arrangement of meetings, subject always to the direction of the Executive Committee. He shall also furnish reports of the meetings to PUBLIC HEALTH and shall be responsible for the finance of the Group.

7. *Executive Committee.*

(a) The Executive Committee which shall be appointed at the Annual General Meeting of the Group shall consist of six members, of whom the President, Vice-President, Hon. Secretary and Representative on the Council of the Society shall be *ex-officio* members.

(b) The Executive Committee shall meet from time to time as may be desirable, and shall fix their own times of meeting. The President of the Group shall be the Chairman of the Executive Committee but in his absence the Executive Committee shall elect a Chairman. The Chairman of the Executive Committee may call a meeting of the Executive Committee at any time. At all meetings of the Executive Committee three members shall form a quorum.

8. *Extracts from the Articles of Association.*

Groups of the Association may be recognised, sanctioned or constituted by the Council as they see fit.

Each Group shall have the entire control of its own business, but any resolution on matters relating to the policy, control or discipline of the Association can only be passed in the form of a recommendation to the Council for their consideration.

MIDLAND MATERNITY AND CHILD WELFARE SUB-GROUP.

President: Dr. A. Hamilton Wood (C.M.O.H., Warwickshire).

Hon. Secretary: Dr. Agnes Young, 25, Leam Terrace, Leamington Spa.

A meeting of this Sub-Group was held on Saturday, February 6th, 1937, at Dudley Road Hospital, Birmingham, by kind permission of Dr. F. W. Ellis, Medical Superintendent. Dr. Hamilton Wood presided and 16 members attended.

The fare for digestion was clinical in character, was appetising and most generously supplied. From a wealth of clinical material the following members of the staff, Drs. Evans, Russell Green, Gaisford, Whitelaw and Parsons, had collected many interesting and unique cases. Each in turn was demonstrated and explained, after which the visitors had an opportunity of examining them at closer quarters and of questioning the various doctors about their cases. In this manner the afternoon passed much too quickly—at least for the visitors—but probably not quickly enough for the staff who had so kindly sacrificed a perfectly good Saturday afternoon for the edification and instruction of their colleagues in the Public Health Service! The latter, however, thoroughly appreciated the sacrifice and were very grateful indeed to all who had contributed to the interest and pleasure of the meeting. Such sentiments were ably expressed by Dr. Balsillie, when proposing a hearty vote of thanks.

Tea was then provided and terminated an enjoyable and memorable meeting.

DR. H. P. NEWSHOLME, Medical Officer of Health for the City of Birmingham, has accepted an invitation from the Council of the University of Birmingham to take over the Professorship of Hygiene and Public Health in the University in succession to the late Professor Sir John Robertson.

PUBLIC HEALTH

THE JOURNAL OF

THE SOCIETY OF MEDICAL OFFICERS OF HEALTH

No. 8. Vol. L.

MAY, 1937

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

"Public Health" is the Official Organ of the Society of Medical Officers of Health and a suitable medium for the advertisement of official appointments vacant in the health service. Space is also available for a certain number of approved commercial advertisements. Application should be made to the Executive Secretary of the Society, at 1, Thornhaugh Street, Russell Square, London, W.C.1.

Editorial

A Survey of the National Diet

The first report* of the Advisory Committee on Nutrition appointed by the Minister of Health and Secretary of State for Scotland in 1935, gives the results of the preliminary survey of the whole field. The Committee, which has held some 40 meetings, has by no means completed its task, for in several directions it has initiated large scale inquiries which are only just beginning. The special questions to which the Committee in this report addresses itself are:—

(1) Is there sufficient food produced and imported into the country to ensure for everyone a diet in conformity with the principles of modern knowledge?

(2) Are the diets of different sections of the population adequate in every respect in the light of recent advances in the knowledge of nutrition?

(3) Is the "state of nutrition" (*i.e.* the physical and functional bodily condition so far as it is dependent on food) of every section as good as it could be made by the application of modern knowledge?

To answer these questions the Committee has had to collect and review all relevant information from existing records, and then to initiate plans to fill gaps in knowledge. The report aims specially at showing in what directions changes in the national diet are desirable. Thus it combines ascertained facts as to amounts of foods actually consumed with opinions as to amounts desirable in view of increasing knowledge in the science of nutrition.

The practical significance of some recent advances in the knowledge of nutrition can be indicated in a few simple statements understandable by any layman. The most essential of these is that correct feeding is more important for expectant and nursing mothers and young children than for other members of the community, as the effects of a dietary deficiency during childhood or adolescence may persist through life. Further, that most people instinctively consume sufficient of the energy-giving foods (if money and opportunity suffice), hence inclusion of adequate "protective" foods (milk and milk products, green

*Advisory Committee on Nutrition, Ministry of Health. First Report. H.M.S.O., 1937. Pp. 52. 1s. 0d. net.

Contents

Editorial

A Survey of the National Diet	245
Powers for Compulsory Pasteurisation of Milk	246
The Health of Scotland	247
Construction and Cost of Acute General Hospitals	248
Hospital Administration in London	249

Special Articles

Physical Education. By Henry Herd, M.A., M.B., CH.B., D.P.H.	251
The Assessment of Nutrition. By J. G. Woolham, M.D., CH.B., D.P.H.	258

News and Abstracts

The Teaching of Parentcraft	261
Administration of the Housing Act, 1935	263
The Control of Whooping Cough	264
Combined Subcutaneous and Intranasal Immunisation against Diphtheria	266
Recent Appointments in the Public Health Service	250

The Society of Medical Officers of Health

Branch and Group Reports...	267
-----------------------------	-----

Book Reviews

The Public Health Act, 1936	271
Rural Health Practice	272
The History of the Acute Exanthemata	273
The Health Education Year Book, 1937-38	273
The Diagnosis and Treatment of Venereal Diseases	274
Manual of Radiological Diagnosis	274
Meat Inspection	274
Sims-Woodhead Laboratory Bulletin, 1936	274

Correspondence

Measles Serum (E. H. T. Nash)	274
-------------------------------	-----

vegetables, fruit and eggs) will ensure correct nutrition. The Committee considers that the diet of the people is now more in conformity with physiological principles than in pre-War years, owing to work carried out at health clinics and schools, to the rise in standard of living, to the greater availability of the food of the right kinds, and to the improvement of public health services in other directions; and that this is shown by the improved physique of school children and the decreasing incidence of certain nutritional diseases (rickets, chlorosis, etc.).

A comparison of the food supply of the country for the average of two years (1934 and 1935) with standards suggested by the Technical Commission of the League of Nations Health Organisation, gave the following results:—

(a) *Calories*, with allowance of 10 per cent. for waste, well over standard. This is borne out by results of dietary studies, and points to the conclusion that, except for a relatively small fraction of the population, all obtain the full amount of calories they require.

(b) *Fats*, the consumption of which has in recent years increased, show in the aggregate no deficiency, but among the poorest there is some deficiency.

(c) *Proteins* also show a sufficiency when animal and vegetable are combined. But as the consumption of animal protein falls with falling income there is probably some shortage of this also among the diets of the poorest.

(d) *Milk*. In the Memorandum published in March, 1936 (Nutritive Value of Milk, H.M.S.O., 8d.) the requirements of milk were estimated at seven-eighths of a pint per head daily. The actual consumption in liquid milk is less than half of this amount (milk consumption has declined slightly since 1909). Even with dried and condensed milk included the amount only reaches 60 per cent. of that suggested by the Commission. This deficiency is regarded with special concern.

(e) *Fruit and Vegetables*. The Committee prefers at this stage to make no quantitative comparisons, but considers there is good reason to believe that the consumption of these items is below the optimum, and that the deficiency is again chiefly in the diets of the poorer section of the population.

It will be seen that these five sections answer questions (1) and (2) of the three in the first paragraph, namely, that the food available in this country provides enough energy constituents, but not enough "protective" substances, and the deficiency is particularly evident in the diets of the poorest sections. The fact that in the memorandum "The Nutritive Value of Milk" the quantities recommended would mean doubling the present milk consumption gives some answer to question (3), though study by the Committee of various methods of assessing the nutritional state has proved none of them reliable. One of the main points stressed in the report, and stressed over and over again is the value of milk, skimmed milk as well as whole milk. Other recommendations

as to improvement in diet are to increase the consumption of sea fish, particularly herring and mackerel, as supplement for protein, iodine and vitamins A and D, also of potatoes as a substitute for some of the sugar and highly-milled cereals so largely consumed. But the consumption of sufficient milk is regarded as the "key to proper nutrition."

The report contains four appendices: foodstuffs for human consumption; reproduction of the memorandum on the nutritive value of milk; extract from the report of the League of Nations Technical Commission, with energy, protein, fat, mineral and vitamin requirements and dietary schemes for pregnant and nursing women and children up to 14; and an account of investigations now proceeding to revise, if necessary, the existing conversion factors for meat.

The whole report contains 52 pages and will require and repay close study.

Circular 1519 has been issued by the Ministry of Health to Maternity and Child Welfare Authorities almost simultaneously with the Advisory Committee's report, and urges them to review and if necessary to improve their arrangements for the supply of milk (efficiently pasteurised if possible) and of other protective foods to expectant and nursing mothers and young children. It is perhaps unfortunate that this circular has arrived after the grants in respect of welfare services have been fixed for the next five years, but the Minister suggests that the distressed areas may take into account the additional financial assistance afforded by the recently passed Local Government (Financial Provisions) Act.

Powers for the Compulsory Pasteurisation of Milk

The desirability of local authorities of large urban areas obtaining powers to prohibit the sale of raw milk and require its efficient pasteurisation is again coming under consideration. Manchester a few years ago proposed to obtain these powers but subsequently the clauses were withdrawn. Both Glasgow and Poole are now seeking such powers. This is not to be wondered at in view of the extensive enteric fever outbreak in Bournemouth and Poole last year and the renewed evidence of infectious diseases spread by milk.

Both proposals are supported by valuable reports issued from the public health departments. That from Glasgow* is of particular interest, in that not only does it give a good account of the diseases

* A Review of the Milk Supply of Glasgow in relation to Pasteurisation," by Dr. Ian McCracken (Divisional M.O.) and Mr. A. M. Stewart (Senior Food Inspector).

spread by milk and the case for pasteurisation but it contains interesting particulars of the milk supply of Glasgow. With a daily liquid milk supply of about 71,500 gallons, 44.8 per cent. is already efficiently pasteurised, 39.5 per cent. is given some measure of pasteurisation but not under licence and so quite uncontrolled, 3.5 per cent. is raw tuberculin-tested milk and 12.2 per cent. is consumed raw and ungraded. In view of the fact that over 90 per cent. of the milk supply passes through milk depôts, mostly dealing with 1,000 gallons or more, the enforcement of compulsory pasteurisation should be a comparatively simple matter. Opposition to pasteurisation is always very vocal on the part of the producer-distributor and in Glasgow this difficult type of milk distribution, from the point of view of control, only accounts for about 2 per cent. of the milk supply.

The recent experience of the inhabitants of Poole should bring home to them the need for the powers which are to be asked for, and this will assist to reduce opposition. Dr. R. J. Maule Horne reinforces the need by a valuable report* dealing with the dangers of milk and the need for these powers. He does not, however, give an analysis of the present position as regards milk distribution, so we are unable to compare milk distribution methods in Poole with those in Glasgow, nor is information given as to the proportion of milk efficiently pasteurised at the present time in this borough.

The medical profession in general and the public health service in particular are emphatic that the present position as regards milk control is in the highest degree unsatisfactory and we welcome with satisfaction the efforts of those two important areas to set an example to the rest of the country and ensure a safe milk supply for their inhabitants.

The Health of Scotland

The eighth Annual Report of the Department of Health for Scotland for 1936, issued recently† again shows rather unfavourable contrasts between health conditions in Scotland and those in England—whether these are due to economic or climatic factors or perhaps to both.

Two instances may be taken to illustrate the Scottish position. Firstly, the report states that "High infantile and maternal death rates constitute one of the most stubborn and difficult of Scottish health problems"; the infant death rate in Scotland rose from 76.8 in 1935 (this being a low record) to 82 per 1,000 last year as compared with

* Printed in the *Medical Officer*, April 10th, p. 150.
† Obtainable from H.M. Stationery Office. Price 3s. post free.

England's rates of 57 and 59 respectively. The maternal mortality rate of Scotland fell from 6.3 to 5.6 per 1,000 live births, but the figure is still too high.

Secondly, the survey of overcrowding made under the Housing (Scotland) Act, 1935, emphasises the magnitude of the Scottish housing problem. "Overcrowding in Scotland is relatively six times greater than in England: more than 22 per cent. of Scottish houses are overcrowded and a minimum of 160,000 new houses is needed merely to relieve these conditions" apart from the urgency of slum clearance. It is clear that the Scottish Department views bad housing as the main factor in retarding the health advancement of the Scottish people.

The slight rise in the Scottish death rate for 1936, 13.4, compared with 13.2 in 1935, seems to have been mainly due to the prevalence of influenza. Infectious diseases showed an increase of about 18,000 over the notifications for 1935, mainly owing to heavy incidence of measles; poliomyelitis was also unusually prevalent in the autumn and diarrhoeal diseases seem to have been more common, as in other countries. This last tendency is regarded with some disquiet as likely to be affecting infantile mortality.

An interesting feature of the report is the reference to morbidity among the insured population. The Department has, since 1930, carried out a statistical analysis of sickness among the insured population. The report states, "The latest available figure places the rate of incapacitating sickness at eleven days per insured person per annum and the figure is not declining. . . . Certain features of sickness experience stand out prominently year after year—that the chief causes of incapacity for work are not, in the main, the principal causes of death, but are rather of the type of minor respiratory catarrhs, colds and influenza, digestive disorders, rheumatism, accidents, skin conditions and sepsis, and that there is a definite tendency to increase of chronic sickness even when due allowance is made for the ageing of the population." It is proposed to undertake, with the co-operation of medical practitioners, an investigation to see how much can be done to prevent the establishment of chronic disease.

The report refers to the recommendations of the Committee on Scottish Health Services, which produced the first comprehensive survey of all the services which have a bearing on the health of the Scottish people. It is said that these recommendations, designed to bring the standard of the health of Scotland nearer the attainable standard, are receiving active consideration.

Construction and Cost of Acute General Hospitals

The first report of the Departmental Committee on the Cost of Hospitals and Other Public Buildings has just been issued and is a document which should be carefully studied by all who are interested in hospital work. It deals almost exclusively with the layout, construction and building costs of acute general hospitals, the question of the cost of maintenance being deferred for future consideration. The constitution of the committee was such that a really comprehensive and practical report was to be expected. Appointed in 1933, they have obviously made an exhaustive study of the problem referred to them and have interviewed over 60 individuals likely to have expert knowledge of some branch of hospital work, planning or construction; among the witnesses were representatives of all the bodies and associations with experience of hospital building or practice.

An important point is made early in the report on the necessity for close co-operation between all concerned from the very beginning. The following paragraph in the section dealing with the formulation of a building scheme will receive general acceptance:—

"For the production of a well-conceived scheme the closest collaboration of medical, nursing, administrative, architectural and engineering advisers will be necessary and, if possible, their combined advice should be obtained even before the site is selected. This collaboration should continue throughout all the subsequent stages."

Too often in the past has the strongest member of the team, be he medical officer, architect or chairman of committee, been allowed to ride his hobby horse to the prejudice of the scheme. The question of selection of site and the points to be considered before deciding on the general layout are discussed and the established general principles reiterated. The pros and cons of "high versus low buildings" are dispassionately stated and interesting comparative cost figures are given. The general conclusion is that there is much to say for each type and that the choice should depend on the area of site available. Emphasis is laid on the necessity for planning the administrative and services section in such a way that they will be readily adaptable for possible extensions of the hospital.

Much attention has been paid by the Committee to the optimum size and arrangement of a ward unit. Thirty beds, 26 in a main ward or wards and four single bed units, is suggested as most suitable for control by one nursing sister. No decision was made as to how the main wards should best be

divided although the advantages and disadvantages of the long ward of 26 beds as compared with its subdivision into smaller units are tabulated. We should have thought that modern practice is strongly in favour of wards of not more than ten beds so arranged that the difficulty of nursing control is not materially increased. The vexed question of the arrangement of beds in a general ward is considered at length: here again the conclusion is that much can be said for all the methods, the ordinary transverse and the various longitudinal dispositions. Suggestions are given for the types of screen for separation and the number of beds to be included in each bay. General agreement was reached on ward dimensions and bed spacing although certain members of the committee could not agree that the width of a main ward should be as great as the suggested figure of not less than 25 feet. Valuable suggestions are given as to the type and size of the ancillary rooms in a ward unit, of the operating theatre suite, of the reception and out-patient and of other special departments.

The requirements of kitchens, waiting rooms, staff accommodation, training school, laundry, mortuary, etc., are considered and, while many of the suggestions are contentious, e.g., that the offices of the medical superintendent, matron and steward should be near the main entrance; that there would be no occasion for large numbers of visitors were the number of visitors per patient restricted—and while no reference is made to the increasing demand that trained staff should be allowed to become non-resident with its probable effect on the extent of accommodation necessary—this section is full of important, practical points.

The chapters dealing with methods of construction, materials and finishing generally, and those which describe the engineering services are exhaustive, the comparative advantages of the different methods of heating being discussed at length.

It is impossible even to touch on many of the excellent features of the report and apart from repeating the advice already given that everyone interested should make a careful study of it, there is just one general comment which we must make in the hope that the second report will not fall short in the same direction. Many readers will wish that the report was less non-committal on most of the points on which guidance is so often needed by the medical officer, the architect and the engineer of a local authority which is embarking on the erection or extension of a hospital. The advantages and disadvantages of different methods are stated in detail, but the reader is left to form his own conclusions as to which has really proved most satisfactory in practice. It should surely have been

possible for such a committee to come down more definitely on one side of the fence or the other. As it is, the officers of local authorities will still have to decide on the very points on which they expected unequivocal advice.

Hospital Administration in London

The increasing number of public health officers now interested in hospital administration, will find much stimulating information in the report* recently published on the administration of the London County Council hospital services since March, 1934. The report brings up-to-date the account of the steps taken since 1930 in improving the structure, staffing and equipment of the transferred institutions.

The total accommodation for the sick at December 31st, 1936, was 35,338 beds, and in this connection it is pointed out that side by side with the provision of new accommodation there has been a reduction in existing bed accommodation due, mainly, to two causes: (1) the modernisation of existing unsatisfactory wards involving the partitioning of portions of them for duty-rooms, ward kitchens and annexes, etc., and (2) the necessity for reducing the number of beds in overcrowded wards, particularly as the result of the standards of bed space which the Council laid down in July, 1935, for various categories of patients.

Many of the schemes at fever hospitals relate to the provision of isolation accommodation for the purpose of reducing the risk of cross-infection. Isolation accommodation is required for patients who, for one reason or another, cannot be treated in the main wards, but should be isolated in single-bed wards. These are, for example, cases of secondary infection, mainly due to patients admitted with one disease being in the incubation period of another infectious disease which does not develop until some days after admission; cases in which the diagnosis is doubtful on admission; and cases of comparatively uncommon disease for which a larger ward is not available. The accommodation consists of single-bedded wards separated by partly glazed screens, with duty-rooms so placed that the nurses can keep the patients under observation.

The large increase in maternity cases dealt with at the hospitals has necessitated the provision of additional accommodation; the total number of maternity beds available at the end of 1936 was 853, an increase of 187 on the number available at the end of 1933. The provision made enabled the last maternity wards in a public assistance institution to be closed a few months ago.

*Report of the Hospitals and Medical Services Committee, L.C.C. 11th Feb., 1937. P. S. King & Son, 3d.).

At the general hospitals may new units have been established under the supervision of distinguished specialists during the past three years. These include a thoracic surgery unit at St. Mary Abbots hospital, a unit at St. Giles' hospital for the removal of foreign bodies from the upper air and food passages, a unit at St. Mary, Islington, hospital for treatment of persons suffering from urological complaints, a unit for cardio-vascular disease at Lambeth hospital, and a unit for the treatment of congenital malformations in children at Queen Mary's Hospital for Children, Carshalton.

Considerable progress has been made in the development of a scheme for the provision of a complete pathological service to meet the needs of the hospitals. Under this scheme, the simpler pathological examinations are carried out on the hospital premises in "hospital" laboratories, whilst the more important investigations are undertaken in what are called "group" laboratories or in the histological laboratory.

Each of the group laboratories undertakes pathological investigations for a group of hospitals, and the pathologists in charge are responsible for all the pathological work carried out in the hospitals in their area. The histological laboratory undertakes the microscopic examination of diseased parts of the bodies in respect of all the hospitals and the histologists attached thereto act as consultants in the hospitals as and when required. The antitoxin establishment at Belmont, Surrey, is administered as part of the pathological service, and here are made the antoxins and certain other biological products which are used in the treatment of patients in the Council's hospitals.

In connection with district nursing, the report notes a large increase in the number of visits made by the District Nursing Association to cases referred to them by the Council, an increase due largely it is stated to the number of visits necessary in connection with the administration of insulin to diabetic patients, particularly in East London.

In the administration of the Council's tuberculosis scheme it was decided in 1934 that no contributions towards the cost of residential treatment or of the boarding-out of children under the powers conferred by the County of London (Tuberculosis) Regulations, 1930, should be asked for. The reason for the change was the strong view the Council took that tuberculosis is a disease in dealing with which it is essential that nothing should be done which might give cause for financial anxiety to the patient or the patient's family during treatment or be likely to lower the resistance of the family to the disease. Voluntary contributions are accepted from those who feel that they would like to make a payment and can afford to do so. It has further been decided that no contributions, other

than amounts due from any benefit society, shall be asked for by the Council in respect of dentures provided for patients receiving residential treatment of tuberculosis.

The standards formerly in existence with regard to the dimensions of sick wards in general hospitals had been mainly standards of cubic capacity and did not afford sufficient guidance to enable the wards in general hospitals to be planned with due regard to economy in construction and efficiency in management. On the principle that the comfort and well-being of the patient and his efficient treatment should be the determining factors in deciding the dimensions of a ward, the Council, on July 16th, 1935, decided that the standard width of all types of wards to be erected in future at general hospitals should be 26 feet and that the other dimensions of the wards should be as follows:—

(i) Acute wards, including maternity, tuberculosis, venereal diseases and acute mental wards—wall space per bed, 8 feet; height, 11 feet up to a length of 50 feet and 12 feet when the length exceeds 50 feet.

(ii) Chronic wards—wall space per bed, 7 feet (8 feet if offensive cases are treated); height, as for acute wards.

(iii) Cot wards—wall space per bed, 7 feet; height, as for acute wards.

(iv) Single-bedded wards—to be not less than 11 feet by 10 feet and the height to be 10 feet in conformity with general plan.

In connection with nurses' accommodation, the Council decided in 1934 that bedrooms in new nurses' homes and in extensions of nurses' homes at hospitals and institutions should normally be of an area of approximately 99 square feet for nurses and 110 square feet for sisters when there is no site or other restriction on the planning, and from 96 to 99 square feet for nurses and 107 to 110 square feet for sisters in other cases, according to local conditions and exigencies of planning.

Formerly, at four of the general hospitals, the cleaning work and miscellaneous ward duties were carried out by ward orderlies (female), subsequently re-designated women orderlies, but at the majority of these hospitals this work was performed by probationer nurses during their first year of training. It was considered highly desirable that the latter should be relieved of these duties in order to enable them to devote more time and concentration to their training, particularly in elementary nursing duties, to their own and the Council's advantage; and to this end, the employment of women orderlies was extended to all the acute general hospitals, the total number being increased from 124 to 550.

The report also contains intimations that the further development of dental services in connec-

tion with general hospitals will be considered, that food supervisors have been appointed to six general hospitals with a view to improving the hospitals' dietetic arrangements, and that the development of the almoner service to secure that the fullest benefit accrues from it is a matter for further consideration.

RECENT APPOINTMENTS IN THE PUBLIC HEALTH SERVICE

The following are some recent appointments to the public health departments of various local authorities.

The Editor will be grateful if members of the Society will notify him at once of any new appointments, giving details such as salary, date of appointment, etc.

Barrow-in-Furness C.B.: A.M.O.H., Dr. Alexander R. Forrest.

Bristol C.B.: A.M.O.H., Dr. J. L. Bunting.

Cambridge M.B.: A.M.O., M. & C.W., Dr. Margaret C. Patterson (A.M.O., M. & C.W., Manchester). Salary, £600; rising by £50 to £800.

Darlington C.B.: A.M.O.H. & T.O., Dr. R. G. A. McLaren. Salary, £550; rising to £700.

Dumbarton C.C.: A.M.O.H., Dr. Samuel Harvey.

Durham C.C.: A.M.O.H. & C.W., Dr. Margaret Hegarty.

Fife C.C. (Wemyss District): M.O.H., Dr. Hugh Somerville.

Holland (Lincs.) C.C.: Deputy M.O.H., Dr. James S. Cookson.

Huddersfield C.B.: A.S.M.O., Dr. G. P. M. Marshall.

Ipswich C.B.: M.O.H. & S.M.O., Recommendation, Dr. J.W. Hunter (Dep. M.O.H. & T.O., Kensington Met. B.). Commencing salary, £1,000.

Leicester C.C.: Deputy C.M.O.H., Dr. A. A. Lisney (A.M.O.H. & Senior A.S.M.O., Leicester C.C.).

Leicester C.C.: A.C.M.O.H., Dr. A. W. S. Thompson (A.C.M.O.H., Northampton C.C.). Salary, £700; rising to £750.

Lowestoft M.B. and Port: M.O.H. & S.M.O., Dr. V. R. Walker (Dep. M.O.H. & S.M.O., Swindon M.B.). Salary, £900; rising to £1,000.

Perth C.B.: A.M.O.H., Dr. Christina Crawford.

Salford C.B.: A.M.O., M. & C.W., Dr. Kathleen Boyes (A.M.O.H., Swinton and Pendlebury).

Thornaby-on-Tees M.B.: M.O.H. & A.M.O., North Riding, Yorks, Dr. Arnold Brown (M.O.H., Runcorn).

Wellcome Physiological Research Laboratory, Beckenham: Senior Officer in Charge, Dr. R. F. Montgomerie (Veterinary Investigation Office at the University College, North Wales).

In the reference, on p. 226 of the last issue, to the appointment of Dep. M.O.H., Bootle, Dr. G. J. Roberts' present post should have been described as Dep. C.M.O.H., Denbighshire (not Derbyshire).

Physical Education*

By HENRY HERD, M.A., M.B., CH.B., D.P.H.

School Medical Officer, City of Manchester.

It is significant that in the last report of the Chief Medical Officer to the Board of Education, after the introductory chapter, the two leading sections are devoted to nutrition and physical education, the two aspects of health and its conditions which predominate in public interest at the moment. And it is of additional significance, whether it is intentional or not, that they are dealt with in the report in that order. It gives me the excuse at least to re-assert as so many before me have asserted, though sometimes with political rather than scientific motives, that satisfactory nutrition is the essential preliminary to physical education. The modern physical training lesson puts a fairly severe strain upon the poorly-nourished child and the army recruit would not justify his enrolment if he were not well fed. While the object of physical education is to produce fitness, we must not forget that the community must be made fit for physical education. Sir John Orr has stated that an adequate diet is possible at present only for less than 50 per cent. of the nation. I am not going to be so foolish as to assert that 50 per cent. of our people or of our children are unfit for physical education, but certainly one cannot educate physically in an adequate manner the child or man who is markedly undernourished. We need good nutrition to produce fitness in the first place, and can maintain that fitness by physical exercise, for fitness, like mental capacity may run to seed if not utilised.

The True Object of Physical Education

* The Medical Research Council, in its Annual Report just issued, mentions that the full value of physical education and games can only be gained by "those whose bodily and mental qualities have been developed to their innate maximum by proper feeding." That phrase "innate maximum" serves to remind us that there is a limit fixed by heredity to what both nutrition and physical education can do for us.

No paper on physical education appears to be considered complete without a reference to the Greeks, but it does seem almost superfluous to remind you that we are to-day only re-discovering ideas and ideals which were familiar as household words to the Athenian of the fifth century B.C. The ultimate object of education in Greece was the ideal of a beautiful people. They did realise that all true education must be education of body,

mind and spirit, and must duly blend physical training with literary and artistic culture—such, at least, was the ideal for the free man but not for the slaves. That ideal soon passed from men's minds, but between then and now physical education has never been without its advocates, and sports and games never without their devotees. Even Martin Luther, whose name we do not usually associate with such a movement, was an advocate of recreation and especially fencing and wrestling. It was only in the nineteenth century, however, that in Denmark and Sweden, what we may call a national scheme of physical training was inaugurated, both in schools and training colleges, and that we find some recognition of the old Greek ideal. It was only then, also, that physical education became democratic. Up to that time it had been confined, as in Greece, to the aristocracy.

England, in particular, has been justly reputed for its sports and games. Indeed, it is sometimes made a point of criticism, of public schools especially, that they neglect the mind at the expense of the body. A cynic has remarked that we nearly lost the last war "on the playing fields of Eton." The love of sport is common to all classes of the community. That love, however, in the case of many, is condemned to be expressed only in raucous acclamings of the efforts of others, or in that somewhat attenuated enjoyment which is made possible by the audition of running commentaries.

Physical education, however, as understood to-day, is much more than sports and games, and in this respect we have advanced beyond the Greek point of view, for the gymnastics which were part of education in Greece correspond more or less closely to what we call to-day athletics or sports, which we now believe to be insufficient in themselves. Sports and games have been regarded and are even still regarded, as a something apart from the rest of one's life, as activities designed for recreation, a change from labour and no doubt incidentally fostering physical health. Now we are using this new descriptive term physical education, an education and exercise of the body, as something which should be part of our general education and designed to promote not only physical but mental and spiritual health. In the term physical education, the noun is as important as the adjective. That, at least, is the new ideal—an education of the whole man, of which physical education should be an integral part. Dr. L. P. Jacks, a preacher himself by profession, has been preaching this doctrine for

*Paper read to an Ordinary Meeting of the Society, March 19th, 1937.

some years. The Greek technique, he says in one passage, had been lost. "Education had come to be regarded as a superior operation performed on the mind and recreation as an inferior process of joyful antics indulged in by the body—one reserved for the schoolroom and presided over by a person of dignity and consideration, the other dismissed to the playground and left to the mercies of coaches, gymnasts and drill sergeants, with results we see in the disastrous antagonism between culture and athletics and in the growing commercialism of sport." Again he says, "Let us get rid of the patchwork conceptions and piecemeal practice—the mind to be educated by one method, the character by another and the body by a third, or perhaps not educated at all, but left to be looked after by the Ministry of Health and cared for by medical science." Conditions in some schools are still not much better than are described by Dr. Jacks, but gradually we are discovering that there are educational possibilities even on the play side of life and we can see this new ideal in practice in a very considerable proportion of our elementary schools to-day.

Sports or Gymnastics

Games and sports in themselves often cause a one-sided physical development rather than the harmonious balanced development which is the object of modern physical education. Postural defects of considerable degree are not uncommon among public schoolboys. Dr. Jacks in another passage says, "If you inspect a crowd in the streets of any great city, you will see large numbers of bodies, some healthy and some that might be called athletic but very few even educated. The crowd of spectators that watches the Derby and bets on the horses would be none the worse as sportsmen if every one of them had been taught to carry himself upright, to control the movements of his legs and arms, to move naturally, to govern his voice and to speak distinctly." Elsewhere, Dr. Jacks describes us as a nation of "physical illiterates." Even sports may not remove that illiteracy. The athlete in Greece, giving a large part of his life to the pursuit, acquired a poise and carriage often sadly lacking in the modern athlete, who can only give his leisure time. Many of the occupations of our modern life give rise to faults of posture which even sports do not correct.

We have, therefore, to recognise these two forms of physical training: that of sports which is a direct continuation of past methods and a descendant from Greece, and that of gymnastics. Both have somewhat similar aims, physical, mental and even moral, but gymnastics in particular aims, on the physical side, at the production of poise, carriage, the strengthening of muscle but harmoni-

ously and not in a lop-sided way, and the prevention of ungraceful habitual positions and movements of the body. This it does by a series of exercises definite in form but varied in such a way that there is no over development of one part of the body at the expense of others. The older gymnastics of which possibly many of us had experience in our own school life did not have this aim clearly in view, and, as is remarked in the B.M.A. report, "too often produced strength rather than balance and a broad strong figure at the expense of agility." As another writer on this subject remarks, "The old idea that drill is mainly to strengthen muscles and produce the ponderous strong man, dies hard." We want to develop strength by all means, but not at the expense of agility and balance. Muscles must be ready for sudden strain and ready to act quickly. A good system of exercises graded from infancy upwards and coupled, of course, with games and later with sports should prevent much of the minor but not negligible deformity which one can find in Senior Schools and especially in Secondary Schools—round shoulders, head poked forward, hollow backs (very common) and clumsy posture and gait—and should prevent also many minor ailments. It has to be admitted, however, that evidence that physical training definitely promotes health is still lacking, I mean in the sense that physical training may lead to longer life or to less liability to illness. Indeed, if we were to take our examples from record-breaking athletes, probably the opposite might be found to be true.

Mental and Moral Effects of Physical Training

These are the physical objects. Mentally the chief gain is in alertness. One need only watch a 20 to 30 minutes lesson of an elementary school to see what a training in alertness it provides, an alertness which has repercussions upon the child's more intellectual activities, for alertness means a quicker reaction to stimulus and itself stimulates to greater concentration. A Danish writer, Lindhard, a medical man who is Principal of the Danish Gymnastics Institute, has emphasised also the importance of all forms of physical exercise producing a feeling of pleasure in the performer, a feeling of well-being at the end of the training lesson, a feeling which also serves as propaganda for physical training in the mind of the performer. This can be seen in any elementary school where training is under the guidance of a keen teacher alive to the necessity of creation of interest in the minds of the pupils.

What then of the moral effects of physical training? Here, I think, we must beware of cant. That athletic games and physical training, that is

athletic games and gymnastics, contribute to the formation of habits of co-operation and also self-mastery cannot be denied. Certain forms of athletics are, of course, definitely competitive and individualistic in character. Record breaking is necessarily self-regarding though sometimes it garbs itself in the cloak of patriotism, but games in particular and physical education as, for example, one sees it at work in the schools both sink the individual interest. They are partaking, either as a whole class or in groups, in rhythmic activities in which each one is part of a whole. Man, in any case, does possess by nature a social or gregarious instinct and in games or physical training, there is one means to our hand of fostering it, for it is an instinct which requires to be fostered otherwise it tends to atrophy. Do not let us be deceived—strong, self-assertive tendencies fostered, it may be, by environmental conditions, may not be conquered by the self-restraining influence of physical education. It is now a long time since the psychologists told us that special cultivation of any one mental faculty in relation to any one form of activity may not be readily applied to the acquirement of another kind of activity, and it is still possible that a man who has learned to subordinate self in his sport may be utterly selfish in other activities of his life. Playing the game may not be extended beyond the game.

The Physical Objects of Training in Schools

Let us now consider a little more in particular the specific physical object of physical training lessons as apart from games as practised in the schools to-day. In the Board's syllabus, which outlines a system applicable to infant and junior schools, it is stated that one of the primary objects of physical training is the maintenance of good posture, the cultivation of a habit of correct position of the body in sitting and standing and in ordinary activities. Bad posture is one of the indices of malnutrition, one to be noted in those nutritional surveys so dearly loved by the Board, but it is a symptom which, if too much stress is laid on it in such a survey, might result in an alarming increase in the amount of malnutrition recorded by School Medical Officers. The real fact is that much of this bad posture is unnecessary; it is the result of sheer bad habit and should be corrected by sound physical training. Poise then and balance are the primary purposes of the training and so all the exercises cultivate a sense of posture and are meant to strengthen the muscle groups which influence posture. We have to convert what is an effort at first into a habit. Modern physical training does not develop as old drill did unnatural rigid positions which often resulted in lordosis. With greater use of rhythmic movements it fosters

an easy effortless posture. It does not concentrate so much on head and shoulders positions as on the hips. The mobility of joints must be maintained also in producing good posture. Hence, in the movements which exercise the joints to their fullest limits, in such exercises as trunk bending downwards and arm stretching, the real value is got out of the last bit of effort.

As you know, physical training is now an established department of education in the public elementary schools. In those schools more than others, with the exception of girls' secondary schools, physical training can be found at work in many areas in a way which approaches to some degree at least, the ideal. At the same time, as is remarked in one of the Board's circulars, "There still remain schools and even whole districts where the teaching tends to be dull and lifeless and to lack that atmosphere of enjoyment and exhilaration which is now so striking a feature in many schools."

In the elementary schools the training is in the hands of the usual teaching staff, but some senior and central schools have the advantage of specially trained teachers. Every teacher who takes a two years' course in a training college has physical education as one of his subjects, for physical education is now a compulsory subject in the course and in the examination for a teacher's certificate. The syllabus of the Board assumes 100 hours of the course to be devoted to this subject. It has been suggested, however, that the whole training course is too crowded and should be made one of three years, and some difficulty arises from the fact that many of the students have had very little physical training previously, while attending secondary schools. Teachers in an area where organisers are on the staff usually have the benefit of special courses.

As regards the time to be devoted to the subject, the B.M.A. Committee recommended that there should be at least one daily period of organised physical exercises in some branch in infant and junior departments. A somewhat similar recommendation was also made regarding children in senior and central schools, for whom three normal length periods of gymnastic training each week are prescribed, with, in addition, a weekly period for games and swimming. These recommendations of the B.M.A. Committee have been endorsed by the Board in a recent circular with the additional suggestion that for girls, dancing may occasionally be substituted for games or swimming.

In senior schools, gymnasia are gradually increasing but are still relatively rare. Gymnasia with changing rooms and shower baths should in time become the rule in all senior and central schools. At the moment, the Board does not insist at all on gymnasia in elementary schools,

but in its last circular states that it "will welcome proposals for the provision of suitably equipped gymnasia in senior schools," with the additional suggestion that these should be made available for the training of young people who have left school.

The question of clothing is still a difficult one. In many elementary schools one can still see children taking part in physical training in ordinary clothing and in heavy shoes. Through the enterprise of teachers, in co-operation with parents, some schools are gradually overcoming this difficulty. The girls should only wear a loose blouse and knickers and shoes, and boys a singlet, or none if the weather permits, shorts and shoes.

The provision of playing fields for games and athletics, as the B.M.A. Committee states, "leaves much to be desired," and they might quite justifiably have expressed themselves more strongly. In the meantime, however, the Board goes no farther than to suggest mildly that authorities should survey the needs of their areas and especially in relation to new housing schemes. Obviously in this matter rapid progress is scarcely feasible.

In my own area, it is an understood thing that in the elementary schools there should be some physical activity every day—in infant schools 15 minutes in a morning, 10 minutes in the afternoon; in junior schools, three periods of physical training are insisted upon; in senior and central schools, three half-hour periods of physical training plus organised games and swimming. There can be no doubt that this work in the elementary schools has been most stimulated in areas which have provided themselves with an organiser or organisers. They can control the work of individual teachers in the schools and advise and hold classes for teachers. Curiously enough, in some areas teachers have vigorously opposed the appointment of organisers and are still doing so. The number of authorities possessing organisers was stated in the last report of the Medical Officer of the Board of Education to be 128.

When we turn to secondary schools, the picture is not so pleasing, especially on the boys' side. Here there may be adequate gymnasia but an inadequate use of them. Quite often unsuitable costume is worn. The provision of playing fields and swimming facilities is often unsatisfactory. The time given is usually far too short. In one of the Board's circulars it is stated that there are schools where only one period a week is given to physical training and where boys over 14 receive little or no physical training. The time given, indeed, is rarely more than two periods per week, and in upper forms often only one or even none. The B.M.A. Committee and the Board again agree in recommending that three periods a week of normal length should be devoted to gymnastics

and physical exercises in addition to the time given to games and swimming.

There is, however, unquestionably still a tendency both in secondary schools and in public schools and private schools of secondary type, to look upon games as all that is necessary. Ex-sergeant instructors lacking in training in modern methods are still common and there are even schools where physical training appears to be left in charge of an older boy.

In connection with these schools, the B.M.A. Committee's report took notice of the excessively competitive character of much secondary and public school athletics and of the danger particularly of long, compulsory runs, leading sometimes in individual cases to early loss of physical ability in adult age. It suggested that in school sports some limit should be placed upon the number of events for which any boy enters. This is obviously a matter with which we are concerned.

In girls' secondary schools the position is more satisfactory. Here trained gymnastic teachers are the rule who have taken a three-years' course of training at a recognised college and can organise their own work. The training colleges in gymnastics for girls in England owe their origin, as you possibly know, to the efforts of a Swedish teacher, Madame Osterberg, and it is to these efforts that we owe the fact that we have in girls' secondary schools physical education taught by a trained woman. The course at one of these colleges is a three year one. In girls' secondary schools also gymnasium accommodation is usually more satisfactory. Suitable costume is nearly always worn. Generally, large playing fields are attached to boarding schools but day secondary schools under Education Committees are not always so well equipped, although the position is gradually improving. The time given, however, to this work is not always adequate in these schools. Here again the B.M.A. Committee recommended at least three sessions of gymnastic training.

I think all will agree that physical education in senior, central, secondary and public schools should be combined with and co-ordinated with some teaching of simple principles of hygiene, and these will be based upon the teaching in general biology. It is appalling that so many children still leave school with practically no knowledge of their own bodies and their functions. We teach them to use their bodies but nothing of the bodies they are using. I am not sure that we, as Medical Officers, are pressing this matter as much upon Education Authorities as we ought to do.

Training of Teachers

At this point I should like to say a few words about the training of teachers. There are in Great

Britain seven Physical Training Colleges for women and two for men. The Carnegie College for men gives a one year course. The others give three years' courses, but in two of the colleges there is an option of a one year course. The three year courses are designed for training specialist teachers of physical education and very often students take also the examinations of the C.S.M.M.G. The one year course is naturally of use for training in gymnastics those who have received their teaching qualification in other subjects elsewhere, and these courses might with great advantage be much increased in number. Students, for example, who take their training in teaching in a University practically never have any training in gymnastics and even in games they often take very little part.

The B.M.A. Committee was much impressed by the value of the three years' course of the physical training colleges for women and thought that students who had had this training should be given the status and pay of graduate teachers. They were strongly of opinion, however, that women should be given the opportunity of an alternative course which should include academic subjects and lead to a University Degree. It was pointed out that there is a time limit to the full efficiency of a physical training instructor which is shorter than that of the teacher of ordinary subjects, and that, therefore, a physical training woman teacher should have a training which will fit her to carry on the teaching of other subjects when her fitness for physical training teaching has begun to decrease. It was thought also that a mixed course would attract girls of higher intellectual capacity than are attracted by the purely physical training course. It would also remove that tendency still to be found on the part of teachers of the more intellectual subjects to despise the gymnastic teacher, and it would make it more manifest that physical education is an integral part of general education. The establishment of the three years' physical training courses to prepare specialist teachers has tended to perpetuate the segregation of the physical from the intellectual side of education, which we all deprecate.

The Appointment of Organisers

A few words should also be said about the question of organisers. There can be no doubt that so far as the schools are concerned, the interests of physical education are best served when organisers are appointed and in future such organisers will have important functions to perform also in relation to physical education among adolescents. The Board in one of its circulars regards organisers as the keystone of the whole structure of physical education, and undoubtedly

in areas where organisers are in existence, the standard of work is higher. The B.M.A. Committee was so impressed with the importance of these appointments that it made definite concrete recommendations as to the number of organisers required in the different areas according to their school population—I need not trouble you with details. In the selection of organisers, it is essential, of course, to obtain one with experience in the teaching of physical training, but most essential of all is to secure men and women with real capacity to lead, to act as propagandists amongst teachers and voluntary bodies concerned with the adolescent and with sufficient strength of personality to impress all with whom they come in contact. It is, of course, of almost equal importance that each teacher of the subject should possess personal qualities of enthusiasm and keenness. The same is true for teachers of any subject, but we all know that it is not always obtainable, and I have seen something of the difference between a physical training lesson given by a real enthusiast with his eye on every child in the class and one given by a teacher who is apathetic and merely mechanically taking a lesson. Here, a good organiser can be of inestimable value in "gingering up" the laggards.

The School Medical Officer and Physical Education

What, then, is to be the relation of the School Medical Officer to physical education? Obviously, he ought to support physical training organisers in their attempts to secure for their subject adequate recognition, adequate time and equipment and staffing. On such matters, it is doubtful whether the School Medical Officer is ever consulted.

Perhaps of still greater importance is the study of the individual child in relation to physical training. This is a field in which very little has so far been done. It has always been customary to suggest restrictions upon and often complete abstinence from physical activities for cardiac cases. Such restrictions have, in my opinion, been often too arbitrarily and too automatically imposed, and very generally more upon the basis of the heart murmur heard with a stethoscope rather than the condition of the heart muscle. A simple mitral systolic murmur conducted into the axilla is not in itself necessarily justification for stopping "drill," as it is still often so inappropriately named. Sir James Mackenzie has taught us that symptoms are of greater significance than physical signs and if a child can go through a physical training lesson or a game without over-fatigue, distress, marked breathlessness or palpitation or pain, we may safely allow him to continue. Each case should be studied in this practical way on its merits, and here obviously we must

be assisted by the observation of the teachers. Such matters ought not to be settled by a mere medical examination.

Some time ago, I made an enquiry into the reaction to a physical training lesson of some 50 cases known to have heart disease regarded as organic and who were taking physical exercises and games regularly. In 38 of the 50 no symptoms of any kind had ever been noticed. All of these but one were cases of mitral regurgitation. One had mitral stenosis. Of the remainder, one other was a case of mitral stenosis and one of aortic disease who had marked breathlessness in games. The others gave occasional evidence of fatigue or breathlessness or, in one or two cases, palpitation.

Physical training, however, may cause distress or over-fatigue in other than heart cases. A teacher referred to me some time ago twelve boys who showed signs of what he called "flagging" in a physical training lesson. Only one of them, it is interesting to note, had a heart murmur. There were a few anæmics, a bronchitic child, one who had a recent illness and a few were somewhat subnormal in nutrition, as we might expect. My own medical staff has instructions in the course of their nutritional surveys to make a special note of children reported by teachers as showing distress symptoms in physical training lessons, and I hope that in this way we may obtain some information which may be practically useful. In our day open-air school, children are allowed to take part in physical work unless symptoms are reported. I am inclined to think that physical training shows up latent "debilities" of which there may be little other evidence. We are asking to-day for functional tests to help us in the determination of the nutrition of a child, and in some areas in the country children are vigorously blowing through mercury tubes, pulling dynamometers, hanging from horizontal bars or standing in a fixed position for ten minutes à la Romberg—all this with the object of enabling the more scientifically minded amongst us to discover some new method of determination of fitness or grade of nutrition. Here, however, in physical training, we have a functional test which is going on every day in our schools, and of which I feel certain much more use might be made. As you know, I am one of those who advocate a somewhat freer method of medical inspection than is at present authorised and I am inclined to think that School Medical Officers might more frequently be better employed in watching the reaction of children to physical training lessons and games and selecting children for more particular examination on the basis of their observations than in doing much of the routine work to which they are condemned. They would, I believe, not merely find functional deficiencies

but would discover deformities which otherwise they would not have noticed.

Nutritional surveys, in so far as they survey the child at rest, are incomplete; but in so far as they are surveys of the child in action, they give something of much significance.

A further question concerning the School Medical Officer in connection with physical training is the possibility or otherwise of teachers carrying out remedial work in individual cases of slight deformity, say flat feet or spinal curvature. In elementary schools, of course, this would be impossible and undesirable, but in secondary schools where the teacher may possess the certificate for massage and medical gymnastics, the control of remedial work might quite rightly be given to the teacher under adequate medical supervision, if, and this is a fundamental point, there can be assurance that time will be given for the exercises. It was precisely on this point of time that an experiment of my own in this direction in a secondary school broke down. There can be no doubt that in connection with remedial work where a child, if the treatment is to be efficient, must necessarily carry out certain exercises regularly at home, one can never be certain that the directions are carried out and if it were possible to allot sufficient time in a school for the exercises of individual cases to be carried out daily under the supervision of the teacher, possibly quicker remedy of the so-called minor deformities could be achieved.

I have said enough to make it clear that physical education is a matter in which Medical Officers of Health and School Medical Officers should take an active interest. The Annual Report of the Physical Training Organiser is, as you know, included in the Annual Report of the School Medical Officer, and I think possibly in many cases, that that is the entire extent of collaboration between these officers. Physical education must be recognised by medical officers as ranking with other measures such as housing, nutrition, sanitation, etc., in making a contribution to the health of the nation. The B.M.A. Committee in its report referred to the progress of physical education from being a national speciality in the hands of instructors and coaches with a limited training and apprehension to the coming of a national service which aims at securing greater health, fitness and happiness for the people as a whole. It is true that this development has occurred almost independently of the effort of medical officers, differing in that respect from such matters as housing, sanitation and nutrition, but medical officers must take their part in stimulating authorities towards a proper development of the system of physical education both in the schools and for the post-school ages.

Dr. J. Allison Glover (Senior M.O., Board of Education) first presented apologies for the absence of Capt. S. J. Parker, staff instructor in physical training to the Board, who was to have followed Dr. Herd, but had fallen a victim to influenza. Dr. Glover then continued: "The State, which already gives physical education to some five million school children, is now about to assume some measure of responsibility for the physical education and recreation of adolescents and others who have left school. It will assuredly look to the medical profession for our approval or, if we cannot give unqualified approval, for our constructive criticism."

"The State will want to be assured that this training is the best that can be given, to know how far it is consistent with modern physiological knowledge, and how far the claim can be justified that this physical training is in fact an integral part of preventive medicine."

"The present system is based upon the principles formulated by Ling in accordance with his far-sighted appreciation of the physiology of his day—the early nineteenth century. It is a remarkable tribute to his genius that practical experience has so little modified these basic principles, but physiological knowledge has progressed enormously since his day, and in consequence the foundations of the training, however apparently justified by experience, are in fact somewhat empirical."

"There are considerable differences of opinion on certain important questions such, for example, as the value of breathing exercises, trunk bending, the use of active and passive tension to break down resistance and to increase suppleness, and how far cardiac distress can be permitted."

"The proper arrangement of the syllabus of training, the value of certain rhythmic exercises to increase flexibility, the establishment of a standard method for testing exercise tolerance, and for the physical assessment of the student all await investigation."

"The relationship between diet and training, and the increased nutritional needs in school children and other pupils undergoing physical training have scarcely been explored. Section 84 of the Education Act, 1921, empowers Local Education Authorities to provide meals for children who are unable by reason of lack of food to take full advantage of the education provided for them, and in administering this section greater emphasis may need to be placed on the fact that the education includes physical as well as mental education."

"The development of 'Keep Fit' classes for the middle aged, the advocacy of physical exercises in the treatment of various physical and mental diseases, and the orthopaedic aspects of exercise raise numerous problems. Many questions of posture are involved in the search for industrial efficiency and in the prevention of certain forms of fibrositis and arthritis."

"Research for the elucidation of these and many other uncertainties is clearly needed, and we may hope (with some admixture of faith) that the new National Physical Training College will possess a Research Department worthy of itself and of the great reputation which English Physiology has won."

"Then there is the added duty of medical supervision of physical training, not only of the students in such a college, but much more generally. For this we must remember that the medical supervision of physical education has been sadly hampered by the fact that the special training which it demands is not provided by the

education or experience of the ordinary doctor. We hope that the new college will provide post-graduate study for young medical men and women to get this special training, together with practical work."

"We (I mean the medical profession) shall probably have to organise some facilities for medical inspection of a voluntary kind for persons desiring to participate in physical training, about whose fitness for it either their instructors or themselves are doubtful."

"Dr. Herd has ably expounded the doctrine of the B.M.A. Committee upon which I had the honour to serve with him. I cannot end better than by quoting a passage from the Report of the Physical Education Committee of the British Medical Association which summarises the case thus (p. 48):—

"... partnership between medical service and physical education... seems essential for rapid and sound development. Medical science can offer the much-needed research into the physiological basis of exercise, can exert the steadying influence of scientific control, can assure that experimental methods are not empirical, but are applied under informed direction. It can help to give physical education that status and position as part of the educational system from the university outwards which it has never yet enjoyed. On the other side, physical education can inspire medical science with a new vision of health a new understanding of what bodily fitness and a wise use of leisure mean to the ordinary man and woman, and the doctor's responsibility in aiding them to achieve this."

Dr. E. H. T. Nash (M.O.H., Heston and Isleworth) referring to school athletics, said that he suspected that the strain of team races might be greater than that of individual efforts. He thought that there was only one Public School (Haileybury) where the medical officer was himself an expert and also in charge of the school physical training. Speaking of remedial exercises, he referred to the over-treading of shoes by women as a minor horror of everyday life which might have been prevented. Lastly, he said that the essential factor in efficient physical education under local authorities must be co-operation between teachers and school medical officers.

Dr. T. N. V. Potts (C.M.O.H., West Riding) said that the assistant school medical officers were already heavily occupied with routine duties and that some responsibility on the physical training side would be an additional burden on them.

Major R. W. H. Jackson, R.A.M.C. (ret.), told the meeting of the beneficial results which he had observed in a party of elderly people travelling on a foreign tour and enjoying good food with a fair amount of exercise.

A lady member said that she had hoped that more would have been said in the discussion as to the nutritional aspect, and Dr. Nash, in supporting her, expressed distrust of the school medical records of nutrition standards.

Dr. Henry Herd, replying to the discussion, agreed that the assessment of nutrition was inadequate. The Board of Education, Class "B," might be regarded as the average standard of nutrition, but it should be remembered that the average was perhaps a low one. He welcomed Dr. Glover's suggestions as to the need for further physiological research.

The President (**Dr. Ernest Ward**) conveyed a very hearty vote of thanks to Dr. Herd for his paper and also to Dr. Glover for his contribution to the discussion.

The Assessment of Nutrition*

By J. G. WOOLHAM, M.D., CH.B., D.P.H.
Senior Assistant School Medical Officer, Manchester.

To the lay mind, defective nutrition means starvation: bad nutrition is not recognised by the man in the street unless there is a bodily condition due to actual want. A diagnosis of defective nutrition can be made, acceptable by medical and non-medical persons:—

- 1. When the amount, quality and variety of the foods consumed are regularly deficient.
- 2. When the amount of money usually spent per head on food is too small.
- 3. By noting a good reaction to proper feeding.
- 4. By testing bodily functions and finding a sample of a population, as a whole, to be of lower quality than usual.

The last method of testing will show a certain percentage of persons of poor quality even though all the individuals in the sample are fed well and in good circumstances, because there will be some who do not properly assimilate their food.

Defective nutrition may be due to want of food or to poor assimilation of it and a difficulty presents itself in the determination of the basic cause of bad nutrition in individuals unless there is a reliable history of each case.

Mendel's experiments showed that the probabilities of the transmission of "factors" in inheritance are equal. When two factors, in one seed, are studied, A being one factor and B the other, it is found that, in the progeny, A and B appear singly and in combination in the proportions of 1AA, 2AB, 1BB. If A is dominant, it will obscure the B factors in the 2AB, but the B factors are present because they become evident, in definite proportions, in the progeny of each one of the 2AB, but not in that of AA which breeds true. If two pennies are tossed many times, the proportions of H. and T. that appear are 1HH, 2HT, 1TT: the appearance is according to equal chance happenings of heads or tails.

In the human body, where there are many factors in the provinces of function, the hereditary basis of nutrition is more complicated. It can be deduced that heights, weights, cephalic indices, vital capacities, strength of grips, chest circumferences and other measures derived from a population have had, through a succession of generations, equal chances of deviation to either side of the average, because it is known from actual experience that the number and size of their grouped measures and the distribution of them are,

for all practical purposes, equal and symmetrical on each side of their averages.

From this basis of there being an equal chance of opposite qualities being transmitted through generations, one may proceed to take, as an example, the simple case of the transmission of such provinces of the bodily functions as the (1) nervous, (2) cardio-vascular, (3) respiratory, (4) digestive, (5) assimilative, (6) muscular, (7) endocrine, and (8) excretory systems in all their possible combinations, when good and bad only.

Table A shows all the possible combinations of these two qualities of functions, with the percentages that have such combinations.

TABLE A.
COMBINATIONS OF GOOD AND BAD QUALITIES OF BODILY FUNCTIONS.

Good + Bad	Combina- tions.	Per- centage.	
8 " 0	1	0.39	Individuals with good functional quality.
7 " 1	8	3.12	
6 " 2	28	10.94	
5 " 3	56	21.87	Average individuals.
4 " 4	70	27.36	
3 " 5	56	21.87	
2 " 6	28	10.94	Individuals with poor functional quality.
1 " 7	8	3.12	
0 " 8	1	0.39	
Combinations = 256		100.00	

There is no "favouritism": a person is simply lucky or unlucky in the combination that falls to make him a human being, for good or bad parentage is a matter of chance.

In the more complex case of each of many functional provinces (handed down through many successive generations) having an equal chance of one of many different degrees of opposite qualities (within the limits of the human scale) a calculation, using the area under a normal probability curve to represent the population, would give the number of persons who would be in each of a chosen number of grades of quality. If nine grades were chosen, the percentage in each would be:—

0.24, 2.01, 9.24, 22.94, 31.08, 22.94, 9.24, 2.01, 0.24.

The Chief Medical Officer of the Board of Education in "The Health of the School Child," 1935, dealing with the returns from School Medical

Officers of the numbers of children in four grades of quality of nutrition, gives the percentages in the four grades as follows:—

Excellent. A.	Normal. B.	Slightly Subnormal. C.	Bad. D.
Percentage. 14.6	Percentage. 74.1	Percentage. 10.6	Percentage. 0.7

These values were derived from the results of examination of 1,687,331 children at routine inspections.

If five grades of quality, A¹, A, B, C, D were chosen instead of the four grades A, B, C, D of the Board of Education, the calculated percentage of the school population in each grade, calculated on a basis of normal probability, ranging from the better to the poorer end of the scale would be A¹1.77—A22.41—B51.64—C22.41—D1.77. These values would depend upon there being no disturbance of quality by external adverse conditions such as poverty and all that it means, lack of sunshine and fresh air, shortage of food and other disabilities. If there were adverse conditions, a larger percentage at the poorer end of the scale should be expected. Absence from school of some of the very low grade children might lower the percentage.

The percentages in the grades of the two different ranges given above may be compared if the grade A (Board of Education) be divided into A¹ and A. The average would then be the B group, with two groups on either side in each assessment. The B grade is here regarded as an

average and not as a biologically normal grade.

The differences between the corresponding percentages in the two assessments possibly may be caused by the assessing medical officers not having stable and similar standards of nutrition to guide their judgment. The dissimilarity between their standards appears to be so great, as shown by recent tests of the ability of medical officers to classify similarly, in four grades, the children in one large sample, that the returns to the Board of Education concerning nutrition do not appear to be worth the labour of compilation.

This is apart from the fact that poor bodily states due to illness, idiosyncrasy and want of proper food and attention are all returned under the description "subnormal nutrition."

Appearance is not a satisfactory index of nutrition. A pale-faced child, if it is not known that he has 100 per cent. haemoglobin in his blood, may be given a wrong assessment. Fat is a tissue which may very greatly improve the appearance, but it hardly improves the function of the essential organs; its presence may lead to an erroneous classification, if quality of the body comes into the diagnosis. If it can be said of a child that it would benefit by a change to fresh air in the form of sea breezes and by a change to more varied and nicely-served good food with other good conditions of life—then the child is sub-something.

The question may be asked whether the actual measures of quality of any part of the body conform to the measures expected in a sample, that is, to the number and value of the measures obtained by calculation from the average and standard deviation, using a probability curve.

TABLE B.—RESULTS OF ESTIMATION OF HAEMOGLOBIN IN TWO SAMPLES OF 100 CHILDREN.

Sample 1.

	55 per cent.	65 per cent.	75 per cent.	85 per cent.	95 per cent.	105 per cent.	115 per cent.	Scale of Hb. per cent.
Actual number found	2	6	23	45	24	0	0	= 50 Boys and 50 Girls. Hb. average = 89 per cent. ± 9 per cent.
Number found by calculation	—	5	24	42	24	5	5	

Sample 2.

	70 per cent.	80 per cent.	90 per cent.	100 per cent.	110 per cent.	120 per cent.	Scale of Hb. per cent.
Actual number found	3	19	55	23	0	0	= 100 Boys. Hb. average = 96 per cent. ± 6.36 per cent.
Number found by calculation	1	21	56	21	1	1	

*Paper read to the North-Western Branch, February 12th, 1937.

TABLE C.—RESULTS OF TESTS OF RESPIRATORY FUNCTION.

Grades ...				Bad.		Good.				
				1	2	3	4	5	6	7
Number of boys actually found				1	8	18	29	18	5	2
Number found by calculation of size of 7 areas under a normal probability curve... ..				1	5	19	31	19	5	1

Estimation of the quality of the blood, as represented by the percentage of haemoglobin, has been carried out by the Manchester School Medical Service and the percentage actually found in two samples of 100 children each agreed closely with the percentage obtained by calculation. (See Table B, previous page.)

All who receive similar nutriment do not necessarily have the same percentage of hæmoglobin in the blood for, besides inherently different abilities to use available food, there are differences in ability to manufacture this blood colouring compound and, possibly, alterations in the amount present because of disease. However, if sufficiently large random samples are taken, persons showing these differences will be included in truly representative numbers and the samples will be comparable. The samples which were chosen for investigation were taken from children living in the country in fresh air and sunshine, well-housed, well-fed, properly clothed and with regulated hours of work, play and sleep.

In the tables of figures shown, actuality comes very close to expectation.

Measures of the quality of the body—assessed by means of tests of respiratory function—fall into groups in a manner similar to hæmoglobin percentages. Table C shows (a) the actual number of boys in each grade on a scale and (b) the numbers, representing the size of seven corresponding areas, under a probability curve, when the chances are even that boys will tend towards “good” or “bad.”

Here, also, is a close correspondence between the numbers found by assessment by tests and the numbers found by calculation.

It is obvious that the result of an assessment does not show the cause of the degrees of quality found in individual cases but, if the result is taken as a whole as a basis for judgment, it may be said whether or not a sample is equal to a good standard when that standard has been found.

DISCUSSION.

Dr. F. Hall (C.M.O.H., Lancashire) thought that it was very important from an administrative point of view, that we should be able to say whether a child was under-nourished. Many people evaded the issue by acting on an income scale, but without a careful social investigation, an income scale would not provide much informa-

tion about nutrition. The assessment of nutrition by medical officers showed very wide variations. To under-nourished children milk was given, then members of the local authority urged that meals should be given and later both milk and meals, some of the meals probably not being so valuable as milk. Behind lay discussion of malnutrition was a political influence.

Dr. Henry Herd (S.M.O., Manchester) expressed his indebtedness to Dr. Woolham for his search for suitable tests for the assessment of nutrition, as clinical estimates were far too unsatisfactory. Although the work had only passed through the early stages, he had found some tests which gave results corresponding with the fitness of the child. Clinical assessment by medical officers was absolutely fallacious, as shown by one test in which 36 children were graded as A, but only three were agreed upon by all the medical officers. The difficulty is greatest when it comes to a question of grading children in groups B or C. The selection of children for free meals had been left on an economic basis, and this at present was obviously the best.

Dr. John Yule (M.O.H., Stockport) thought that we should be scientific if possible in assessing nutrition, but that if we were too scientific we might fail. He thought that whatever scientific test was used, the economic approach still remained the best.

Dr. F. T. H. Wood (M.O.H., Bootle) said that school meals were formerly provided for poor schools and nothing was done for malnourished children in other schools. Meals and milk would improve the nutritional condition of sub-normal children, and the practical question was the extent to which the social services could be used in this connection. He enquired as to the value of the relationship of weight to height, as apart from weight for age, in checking the improvement in undernourished children receiving milk or meals.

Dr. Jean Mackintosh (A.M.O.H., Stockport) said that she had investigated the hæmoglobin content in a number of pregnant women, and found that its variations correspond closely with the economic circumstances.

A vote of thanks to Dr. Woolham for his excellent address was proposed by Dr. James Bennett (Warrington Rural) and seconded by Dr. Margaret McCash (Burnley).

In replying, Dr. Woolham expressed the opinion that the height-weight ratio was not a good criterion, as height was only a single dimension whereas weight corresponded to volume. He thought that the circumference of the chest multiplied by the sitting height corresponded to weight if a suitable factor was applied to it. In fact, a formula of this kind had been devised and was used by him to ascertain the “standard weight” of children.

THE TEACHING OF PARENTCRAFT

At a meeting of the Maternity and Child Welfare Group held at the house of the Society on Friday January 15th, there took place a discussion on the teaching of parentcraft, opened by Dr. Letitia Fairfield, C.B.E. (Senior Medical Officer, L.C.C.), who spoke mainly from the point of view of “The Teaching of Mothercraft.” She pointed out that in this country we were faced with special difficulty, as British youth did not like to regard itself as a prospective parent. They did not face the prospect deliberately and self-consciously as was done on the Continent. But we consoled ourselves by believing that what parents were was more important than what they knew, and we tried to give them an interest in family life and a sense of values.

Before approaching the question of teaching it was necessary to decide what sort of people we wanted as future parents. The most important thing to a child was a home in which there was a real sense of security and an understanding of the word sacrifice on the part of the parents. Any factor in education which gave to the growing boy or girl a sense of loyalty was going to count towards parenthood, and this was learned largely by imitation. It was not possible to provide a new parent in an unsatisfactory home, but the attitude towards the ideal of parenthood was affected by the attitude towards parent surrogates such as teachers, royalty, etc.

As regards specialised teaching she said that we knew what we wanted the parent to be. We wanted the father to be a useful person about the house; a good provider; to bring home a fair proportion of his earnings; and to have a sympathetic understanding of the wife’s difficulties in bearing and rearing her children. In addition, the children wanted from him equable quiet; a play-fellow, and someone who was reliable whatever their own vagaries. We wanted the mother to be a good housewife, cook, and nurse, and to be able to understand and to obey ordinary medical instructions. The teaching of these qualities rested on a foundation which began during childhood. Domestic work depended on imitation at home and whether a girl came from an orderly home where everyone took their share in its activities, rather than on specific instruction. On the other hand the home of the too house-proud mother was not necessarily the best, children should be encouraged to do their small share and their desire to help should not be snubbed. Too much should not be expected of the elementary school, for children left at 14, and if a child of that age were overburdened with elaborate teaching it was apt to fail. The school was only a beginning, and it was no use teaching cooking or infant welfare unless there was a chance of practice at home, where poverty was not so grinding that there was no margin for childish experiment.

In this country advice and teaching in this subject for young people over school age must be linked up with their general interests and activities such as the Junior classes in Women’s Institutes, Red Cross Classes, evening schools, and so on. It was, however, often extremely difficult to persuade a young girl to attend such classes; she was usually more inclined to spend her time on dress and cosmetics and mixed social activities where she was likely to make boy friends.

Dr. Fairfield then discussed the question of specialised domestic teaching in schools where the girls were training for professions or other vocations. Such training should not be allowed to prejudice a girl if she wanted to go on to any other kind of education. She pointed out that the best-kept homes and children were not necessarily those of women with domestic training.

The speaker then mentioned specific training in sex instruction as being an important part in the training for parenthood. The facts of sex should be taught during childhood at biology, literature, and other classes. There should also be classes for young people about to marry.

Dr. J. A. Scott (M.O.H., Fulham) then dealt with the aspect of “The Teaching of Fathercraft.”

He said that so far every activity of the public health services had been based on easily demonstrable facts. For instance, sewerage, water supply, refuse removal and the isolation of infectious diseases became community concerns because of the dangers and discomforts caused by their absence; a high infant mortality rate and a high incidence of preventable disease and disorder in older children led to maternity and child welfare and school medical services. Their essential nature and their outstanding success necessitated the closest examination of all new proposals lest the curtailment of the necessary should become involved in the failure of the new.

The public service, paid for from rates and taxes, was properly a conservative service and should only adopt measures of proved value. This limitation placed no undue restriction on research; indeed, the use made of the biological material and records available to the health department was inadequate. But the field for the hasty application of theoretical ideas is limited.

Were we justified in considering the inclusion of fathercraft in the maternity and child welfare services?

Its meaning of fathercraft was a little vague. Just as the mother’s first care was the feeding of her child, so in a civilised community, the corresponding function of the father was probably the earning of the family livelihood in his daily work, and this was a problem not medical but economic. The average father had no strong personal interest in his offspring until it reached the age of six to nine months and began to show individuality.

Opportunities for fathercraft in its more intimate relationship with the baby in the first twelve months therefore mainly took the form of floor walker during colicky bouts and emergency meal-maker and napkin changer. The child’s physiology was the mother’s concern at this stage; any instruction to the father was a matter of re-duplication and any substitution of the father for the mother a change for the worse.

The father’s share in teething, walking, growing, talking and exploring, was not a matter for teaching; the normal parent found out for himself and participated cheerfully. Crises like bumps and mumps are a matter for the expert, the family doctor, not so much for the sake of the child as for the parents’ peace of mind, and no amount of education would alter it. Childhood was the prerogative of the school. Fortunately, the average child attaches as much importance to what the teacher says as to what either parent opines, and the parents’ influence is, in the main, a matter of example. Correct

living and correct thinking on the part of the parents was, therefore, a matter of importance, but even with bad examples the school was a healthy corrective.

Could the teaching of fathercraft teach correct living and correct thinking? The doctor, the teacher, the parson and the lawyer were all concerned with different aspects of the individual. Medicine was fundamental.

Was there anything which could be specifically taught as fathercraft? Elementary anatomy and physiology, diet, rest, exercise, hours of sleep, work and play were matters of ordinary health education (best imparted in the schools, not necessarily by the ordinary teacher) on which both parents required instruction. Minor ailments and first aid were similar.

In the matter of instilling a modicum of discipline the father was equipped by nature to play a part and teaching would not be of much value. Despite the enthusiasts for giving children reasons and explanations it was occasionally necessary to use parental authority empirically.

There remained the teaching of sex knowledge. He thought that this was better done by the teacher or the family doctor in many cases than by the parent, for whom and for the child, the intimate personal relationship was a handicap. Who would be prepared to expound the subject authoritatively to a class of fathers?

It would serve our work best to keep in mind Napoleon's dictum that "the future destiny of the child is always the work of the mother."

Dr. John Hunter (Deputy M.O.H., Kensington) then spoke on "A Father's Council and How it Works."

He said that his views on this subject had been similar to those just expressed by Dr. Scott until he had himself worked with a "Fathers' Council" and become completely converted. He stressed the point that the father is a very important factor in the family unit and in running the home.

The inception of the original father's council was due to constant reports by wives that their husbands did not consider dental treatment necessary for them. The Medical Officer therefore got the fathers together and discussed general health topics with them. Finally the Lancaster Road "Fathers' Council" was founded.

The objects of the Council are to discuss topics of general interest to fathers, advance the interest of the Welfare Centres, and to raise funds for the centres.

In forming such a Council the Medical Officer of Health should be the local President, and he should arrange for offices to be held by people who are interested, such as the local librarian or other officials. The fathers should be invited to give their own contributions to the meetings, such as lectures, etc.

At Kensington everyone joined in the discussions and they were now learning what it was the father wanted to know, an effort being made to get their difficulties out of them. It had now been running for about 16 years and was worked on the voluntary system. The subjects discussed were not necessarily confined to fathercraft; questions such as traffic problems, the Hospital Savings Association, housing trusts, tuberculosis propaganda, ante-natal clinics, etc., had been included and considerable enthusiasm was shown at the meetings.

He concluded by saying that they would be pleased to send out people to start Councils elsewhere.

The discussion was opened by the **President** who said that mothers ought to know how to manage their babies and a boy should be taught citizenship, which included responsibility to one's offspring. She advocated more co-ordination between the teaching given by outside organizations, and authoritative teaching in the mothercraft centres. The question arose as to who should teach mothercraft teachers, and she suggested that it should be done by M. and C.W. doctors and nurses. She wondered why mothercraft was not taught more in Evening Institutes. She herself had started a mothercraft course in the Willesden Polytechnic, and she hoped that it would become a regular thing to have mothercraft included in all continuation teaching.

Dr. Stella Churchill said that if we were going to do anything about parents, we should deal with them together, and quoted experiments like the Peckham Health Centre. She considered that there was particular need for direct instruction to fathers in psychology as so much harm was often done during the first year of life, owing to ignorance. As regards sex instruction, she considered that class teaching was not the best method, the time to answer questions on this subject was when they were asked. English children were taught to be shy of their functions, also parents often found it difficult to deal with the subject properly. Physiology should be properly taught either by parents or at school.

Dr. Grace Calver said that she was very interested in the teaching of parentcraft, and that in her opinion the best approach was on the psychological side. Parents were always very interested in the psychological development of their children, and it was her experience that fathers were waiting to be educated on this subject, such instruction, however, should be about normal, not abnormal children. As regards sex instruction, she said that all children should be taught the "facts of life" before they were 12 years old; the child was interested in its own physiology at that age and took the information unemotionally and simply.

Dr. Maitland Radford had enjoyed the psychological exposition of this subject given by Dr. Fairfield. He deprecated the common tendency to typify people, the "typical" man or woman were probably myths. The world was full of womanly men and manly women, and arguments based on the type psychology of men or of women were likely to be false. Homecraft, he said, was ideally taught by family tradition, but this had been lost to the poor classes in London. Parentcraft was an attempt to recreate a tradition of life for the people who had lost it under modern conditions.

Dr. Smithard touched a lighter note when he said that he agreed with Dr. Scott and considered that a child should be allowed to bring itself up, preferably in an orphanage.

Dr. Makepeace said that in Birmingham fathers' councils were encouraged, lectures were given, practical carpentry was taught, etc. They were run by a committee of parents with a health visitor as secretary.

Dr. Saunders-Jacobs suggested the more extensive use of girls' clubs for the holding of mothercraft classes.

Dr. Agnes Young said that in Warwickshire teaching in domestic subjects was only given to dull and backward girls.

Dr. Balsillie suggested that these subjects should rank say with matriculation subjects.

In her reply **Dr. Fairfield** said that she agreed with nearly everything that had been said. She referred to the comprehensive syllabus of the mothercraft course which had been drawn up by the L.C.C. There was a disappointingly small demand for these classes.

Dr. Scott said that everyone heartily supported the idea of mothercraft teaching, but that the fathers presented a more difficult problem and that the numbers who did attend fathers' councils were relatively small.

Dr. Hunter agreed that the family unit should be put back on its old basis. He said that in Kensington the Fathers' Councils provided a stimulus for the work.

ADMINISTRATION OF THE HOUSING ACT, 1935

At a meeting of the North-Western Branch held at Manchester, on January 8th, Dr. A. M. M. Grierson, Assistant Medical Officer of Health, Manchester, opened a discussion on the "Administration of the Housing Act, 1935, in Relation to Overcrowding." The opening paper and discussion are summarised below.

Dr. A. M. M. Grierson

Section 6 of the Act imposes upon the local authority the specific duty, on application by the landlord, of informing him of the permitted number of persons for each house, and to enable this duty to be carried out local authorities have employed additional temporary staff to canvass the district and measure the houses. In Manchester an overwhelming number of applications are anticipated and it was resolved to measure up all the houses during the year and supply the necessary information to all house-owners as it was ready without waiting for them to apply for it. Two types of cards are sent to the owners, one in cases in which the house is let as a single dwelling, the other in cases in which the house is sub-let. The latter card not only gives the permitted number for each room separately but also the permitted number for the various combinations of rooms, and the principal tenant is advised to consult the Health Department when sub-letting various combinations of rooms. If any occupier sub-lets part of a house and informs his sub-tenant of the permitted number of persons for that part of the house he is advised not to assume that the permitted number for the remainder of the house is the difference between the number for the whole house and the sub-let portion.

In October informal notice was given to the owners of all overcrowded houses and it has been found that they have dealt with many cases of overcrowding. In a few instances objection has been raised against the permitted number, particularly when a bath has been installed in a bedroom, which has in consequence not been taken into account in assessing the permitted number, and in some instances the room has been divided subsequently to form a bedroom and bathroom.

It has been found that in rows of apparently similar houses there is a variation in the permitted number for each house, a fact which has been questioned by some of the owners. This variation has arisen, where rooms have approached the minimum dimensions for a given number of persons, owing to inaccuracy in bricklaying

or variation in the thickness of the plaster producing a variation in the dimensions sufficient to reduce the superficial area below that required for the given number of persons. In such cases the measurements have been checked by the Housing Inspectors and it has been found that in some instances measurements made by the temporary staff have not been accurate. It is advisable, therefore, to have all measurements checked by a competent inspector before legal action is taken.

Some landlords have intimated that it is their intention to insert in the rent books a figure smaller than the actual permitted number. It is doubtful whether this would be legal but there is apparently nothing to prevent them doing so.

Now that the appointed day has arrived it is the duty of local authorities to abate existing cases of overcrowding and to see that no new cases of overcrowding arise. In large towns where extensive schemes of slum clearance are being carried out it may not be possible to build at once sufficient houses to abate all the overcrowding. In Manchester the extensive slum clearance programme will abate 42 per cent. of the 3,970 cases of overcrowding while nearly 4 per cent. of the cases of overcrowding which are in corporation houses can be relieved by re-lets as houses are vacated. The owners are doing a certain amount to abate overcrowding in privately-owned houses, but it will be some time before houses can be built to deal with all the cases.

The question of providing suitable alternative accommodation for overcrowded families will be a difficult one. Such accommodation is defined in the Act but it will involve extensive inquiries into the place of the breadwinner's work and the total income of the family. Some of the families may be able to afford larger houses, but some will certainly require rent rebates.

The bulk of the overcrowding has been found to exist mainly in houses with four or fewer rooms and the overcrowded families in the main consist of less than an equivalent number of seven and a half persons. Overcrowding is due principally to the shortage of houses with three bedrooms.

To draw a comparison between the overcrowding standard of the 1935 Act and the Manchester standard:—According to the Manchester standard 10,216 or 11.3 per cent. of the houses in the city were overcrowded, a figure practically five times that when the standard laid down by the Act is applied. Although the standard set by the Act is very low local authorities will be occupied for some time in dealing with overcrowding on this standard.

DISCUSSION.

Dr. E. H. M. Milligan (Glossop) pointed out that a difficulty in dealing with overcrowding will be the provision of rent rebates, as the Act does not provide a subsidy for houses built to relieve overcrowding. It is estimated that the number of houses which are required for the relief of overcrowding will be approximately half the number of overcrowded families. He also questioned the position of local authorities who had not provided the necessary number of houses when the appointed day for the district arrived.

Dr. J. E. Spence (Eccles) pointed out that much of the overcrowding arose on account of the sub-letting of

rooms to young married couples with one or two children, and that many of these overcrowded families could be accommodated in small houses rendered vacant by the removal of large families. It had been found that owners and agents as a rule were willing, when the corporation accepted one of their tenants for a corporation house, to accept a tenant nominated by the corporation for the vacant house. Referring to the Ministry's Circular 1591 he thought the owner-occupiers of small new houses would constitute a real difficulty. Local authorities would be very unwilling to purchase these houses as the permitted number of some, built by speculative builders, was as low as three and a half, one bedroom being less than 50 square feet in area.

It was estimated that the number of houses required to relieve overcrowding would be about 50 per cent. of the number of overcrowded families, as many cases of overcrowding would be dealt with by the transfer of families and the re-letting of corporation houses. A proposal to lease larger unoccupied houses for the accommodation of very large families had been rejected and it was proposed to build a certain number of larger houses so designed that they could be divided into two at a later date when no longer required for large families.

The next problem to be faced after the abatement of gross overcrowding will be the housing of families containing adolescents of both sexes living under conditions in which separate bedroom accommodation is not available for each sex. A survey of the housing records has revealed the fact that in approximately 5 per cent. of houses, in which the permitted number is not exceeded, there is not sufficient bedroom accommodation to permit of the separation of the sexes where there are children over the age of 10 years.

Difficulty was also being experienced in following up removals and changes in the size of families since the census. The clerk in charge of housing records corrected the records each week with the Registrar's returns of births and deaths; all removals were reported to him as they were discovered by sanitary inspectors, health visitors and school nurses; information concerning all changes in supply were notified by the electricity department, and information was also supplied by the Public Assistance Department. But even by using all these sources of information it was not possible to be cognisant of all removals. An attempt to enlist the co-operation of furniture removers was not successful.

Dr. J. Bennett (Warrington R.D.), wished to know whether other local authorities when removing tenants into new houses made any attempt to segregate them so that bad and dirty tenants were not placed next door to the better type of tenant. He also wished to know how it would be possible to continue the supervision of overcrowding and whether periodical census would be necessary.

Dr. W. St. C. McClure (Manchester), referring to landlords putting in the rent book a number less than the permitted number for the house supplied by the local authority, expressed the opinion that the duty of the local authority ended when they had supplied the permitted number and it was no concern of theirs if the landlord put in a smaller number.

Replying to the discussion, **Dr. Grierson** said that in

case of legal proceedings only the permitted number supplied by the local authority would be taken into account and that no attention would be given to any smaller number inserted in the rent book by the landlord. The landlord would be at liberty to see that the permitted number that he had inserted in his rent book was not exceeded, but no legal action could be taken on it.

In Manchester segregation of bad tenants had not been practised and they had found that bad tenants had improved when removed to the new estates. He felt that it was most important that re-housing for slum clearance areas should be pressed on with first and new houses for the relief of overcrowding be provided afterwards. In the meanwhile the re-housing of slum tenants and the judicious re-letting of corporation houses would do much to relieve overcrowding.

At the conclusion a vote of thanks to Dr. Grierson was proposed by Dr. J. Bennett and seconded by Dr. Kershaw (Accrington).

THE CONTROL OF WHOOPING COUGH

A joint meeting of the Fever Hospital Medical Service and School Medical Groups was held on February 26th at the house of the Society, Dr. H. S. Banks, Vice-President of the Fever Group, took the chair, and there took place a discussion on "The Control of Whooping Cough," which is summarised below.

In opening the discussion, **Dr. A. B. Donald** (A.M.O., North-Western Hospital, L.C.C.), summarised briefly the points in favour of *B. pertussis* being the sole causative agent of whooping cough, as opposed to the view that a virus is the aetiological agent.

This he followed by an estimation of the value of the various specific and non-specific diagnostic methods; he laid special emphasis on the cough plate as the only certain method during the early and highly infectious period. In a series of 61 cases of whooping cough, during the first three weeks, positive cough plates were obtained in 57 (93 per cent.), and during the fourth and fifth weeks positive plates were obtained in 23 cases in a series of 74. All primary positive plates were sub-cultured and agglutinated by a known serum.

Stress was laid on the complement fixation test as a means of diagnosis in late and atypical cases. The test becomes positive in the fourth week onwards with a rising titre which falls, or even becomes negative, about the twelfth week, being highly specific. A series of control cases of bronchitis, kept in the whooping cough wards, gave repeatedly negative tests.

He discussed also the value of the relative lymphocytosis, during the early stages of the disease, and also the retardation in the blood sedimentation rate as described by American workers.

Having obtained a virulent strain of the bacillus, a series of skin tests was carried out, using the killed organism as antigen, but results failed to show any specificity, a finding which is in complete agreement with the results of most of the other workers in this field.

Dr. William Gunn (Div. M.O., L.C.C.), in congratulating Dr. Donald on his success in overcoming the

difficulties usually associated with the isolation and identification of the Bordet-Gengou bacillus, pointed out that the cough plate method is necessarily based on the assumption that this organism is the causal agent in whooping cough. "In point of fact," he said, "the latest experimental work would appear to indicate the necessary association of a specific virus with bacillus such as has been proved to exist in hog cholera and canine distemper. The matter is not of great practical importance as the Bordet-Gengou bacillus can almost invariably be isolated in whooping cough at some stage of the disease and is found in no other disease. The cough plate method finds its highest application in the detection of early or abortive cases which might otherwise be missed or only be recognised when much damage had been done by spread in a highly susceptible community. The need of some such method to secure early diagnosis has been felt more acutely since the abandonment of quarantine and exclusion of contacts in favour of a policy of close supervision of contacts with prompt removal of cases. It is possible that under suitable conditions the interval between onset and diagnosis on clinical grounds may be shortened by 7 to 14 days. The method has recently been made use of in one of the residential schools under the control of the London County Council where sporadic cases of whooping cough had been occurring for some months; as events proved, the outbreak was at an end as none of the suspects gave positive plates or developed whooping cough subsequently. Cough plates will probably be found of little value in deciding when a particular patient could be regarded as non-infectious. Positive plate findings have been obtained in a number of cases up to the eleventh or twelfth week from the onset, at a stage when clinical experience suggests that they are innocuous. Probably as little attention will be paid to their presence at this stage as is given to haemolytic streptococci; nearly one-half the patients discharged from fever hospitals after scarlet fever are known to harbour the organism on release but only a very small proportion give rise to 'return cases.'"

Dr. A. R. Thompson (Sen. A.M.O., South-Eastern Hospital, L.C.C.) agreed with Dr. Donald that the intradermal response to Sauer's vaccine was of no value in assessing the state of immunity to whooping cough. A recent investigation carried out at the South-Eastern Hospital had led him to the conclusion that the reaction following this vaccine was inflammatory in nature rather than a specific allergic response, and considering the strength of Sauer's vaccine (10 billion organisms per c.cm.), this was not surprising. Quite satisfactory reactions could be elicited with dilutions up to 1 in 10 of this vaccine and in a series of control tests carried out with a vaccine prepared from a non-pathogenic organism (*Chromobacterium prodigiosum*), the ensuing reactions were still more marked even with suspensions as weak as 100 or 10 million organisms per c.cm.

He had obtained more consistent reactions, which were presumably allergic in nature, using a pure pertussis endotoxin which gave some evidence of cutaneous allergy in about 80 per cent. of children with a past history of whooping cough but also in about 30 per cent. of individuals with no history of the disease. The latter phenomenon, considering the low attack rate sometimes

observed, might be explained by latent immunisation through frequent contact in an urban community, though it remained to be proved whether a positive reaction indicated merely sensitisation or immunity to pertussis. These views were supported by observations on a large number of cases including a series of infants under one year of age with no history of pertussis and in whom contact could be definitely excluded, half of whom gave strongly positive reactions with Sauer's vaccine and none of whom reacted positively to endotoxin in suitable dilution. The speaker concluded his remarks by referring to the practical difficulties that arise in the taking of cough plate cultures. In his experience, an induced cough was just as effective in obtaining a positive plate as the uncertain method of waiting for a natural paroxysm, and if this were the case it appeared to be a point of considerable practical importance in the application of this method of diagnosis.

Dr. T. P. Puddicombe (Dep. M.O.H., Essex) spoke of practitioners awaiting the whoop before making a diagnosis and wondered what percentage of whooping cases never whooped. The school practice was for patients to be isolated for six weeks after the development of the whoop and for contacts to be excluded for three weeks. It was a fact that many children who were out and about progressed well while some children who were carefully nursed developed broncho-pneumonia. Dr. Puddicombe also gave some personal recollections of an attack of the disease after he commenced practice.

Dr. A. Topping (Sen. M.O., L.C.C.) suggested that, on the analogy of diphtheria, there might be avirulent *B. pertussis*. The presence of the organism might therefore not imply infectivity. He suggested that hospitalisation of the disease would not be very popular, because of the long stay in hospital considered necessary.

Dr. Robert Cruickshank (Pathologist, N.-W. Group Laboratory, L.C.C.), in commenting on the strikingly good results obtained by Dr. Donald with the cough-plate (93 per cent. of 61 cases positive in the first three weeks) emphasised some of the requirements for the isolation of *B. pertussis* by this method, e.g. proper exposure of the plate, experience in recognising the very small colony and perhaps most important a good nutrient medium containing upwards of 50 per cent. blood and carefully prepared so as to give a smooth surface with the minimum of "pitting" on incubation. He thought the cough plate method would be particularly useful in tracing early cases in residential and boarding schools, although it must be remembered that four to five days were required for the identification of the organism. The cough plate might also be used for early dismissal from hospital, more than half the cases being free of infection in the fourth week.

The Chairman (**Dr. H. S. Banks**) referred to the practical difficulties associated with the cough plate in diagnosis and as a "release" test of infectivity. In this country Gardner at Oxford, and later, Westwater followed by Donald at the North-Western Hospital, had obtained a high percentage of positive results, similar to those obtained by certain special workers in Denmark, Canada and U.S.A. But such results appeared to depend upon specialised technique and experience, and one could not yet obtain them consistently in the course of

routine laboratory work. He had tried to observe the rules for collection of specimens yet had been unable to obtain even 20 per cent. of positive results in the second and third weeks of whooping cough. It was useless to advocate the cough plate as a routine administrative procedure until the details of technique necessary for success could be applied also as a routine.

In view of the endemic prevalence of whooping cough in infants' homes he enquired whether preventive inoculation with Sauer's Vaccine or endotoxin should not be carried out on the lines laid down by Madsen and Sauer. In the treatment of unresolved pneumonia following whooping cough, he had found inhalations of CO₂ combined with postural treatment beneficial as judged by X-ray films and clinical signs. Inhalations of CO₂ could also be used to regulate spasms and vomiting in severe cases, and so prevent loss of nutrition through vomiting.

COMBINED SUBCUTANEOUS AND INTRANASAL IMMUNISATION AGAINST DIPHTHERIA

Professor Claus Jensen, of the State Serum Institute of Copenhagen, gave an interesting description of the combined subcutaneous and intranasal method of immunisation to a meeting of the section of Epidemiology and State Medicine held at the Royal Society of Medicine on April 9th.

He said that from the point of view of practical administration, it was desirable to obtain a "one-shot" diphtheria antigen which would give sufficient immunity without causing undue reactions. In Denmark use was made of a diphtheria toxin detoxicated by formaldehyde and heat, thoroughly purified and mixed with a sterile suspension of aluminium hydroxide. One injection of 1 to 1.5 c.cm., equal to 35-50 flocculation units of the purified toxoid, stimulated antitoxin production in 96 to 98 per cent. of cases. There were seldom reactions in children below 7 years of age (82 per cent. none, 11 per cent. slight local reaction, 7 per cent. moderate to strong local reactions or some fever). Older children showed more often a slight local reaction within 24 hours, and in adults reactions were more frequent but did not last more than a day or two. Immunity might be developed as early as two weeks after the injection, and it appeared to last for a considerable time.

The effects of increasing the dose to as much as 400 flocculation units had not indicated any significant increase in response in the groups of patients who had responded most poorly, so attention had been turned to a combination of subcutaneous and intranasal methods of administration. Describing experimental work with rabbits, Prof. Jensen said that the antitoxin response to nasal instillations of increasing doses of purified toxoid showed that in previously immunised rabbits as compared with untreated, the nasal method was a potent secondary stimulus. Parallel investigations were made with children, the rabbits receiving generally one-tenth of the human dose. The highly purified toxoid was used for both the

subcutaneous injection and the nasal instillation, but for the latter was more diluted.

The investigation in regard to groups of children and nurses in Copenhagen institutions showed that the protection given by a single injection of purified aluminium-hydroxide toxoid was reinforced and prolonged considerably by giving the children, four weeks after the injection, a few drops of the diluted prophylactic intranasally. This treatment was repeated one week and two weeks later (each child receiving three nasal instillations altogether) and the result was that a group of poor responders became good ones. In 100 per cent. of the cases the antitoxin production was 0.01 unit or more six weeks after the injection, and in 96 per cent., it was 0.1 unit or more. Nine months later, the immunity appeared to have fallen off, but nasal re-immunisation after twelve months gave an even better response than the original combined treatment.

Three different methods of immunisation were next tried on 596 probationer nurses, some receiving exclusively nasal instillation, others repeated subcutaneous injections and the remainder (319) the combined treatment. Of the combined treatment group, 94 per cent. developed more than 0.01 unit and 85 per cent. more than 0.1 unit, while 1 per cent. proved refractory.

The dosage was the same in the probationers as in the children's groups, *i.e.*, for the injection, 1 to 1.5 c.cm. purified toxoid with 10 volumes per cent. of aluminium hydroxide, followed after an interval of six weeks, by three or six nasal instillations (25 flocculation units).

Professor Jensen held that these investigations justified the adoption of the combined method on a large scale without preliminary or control Schick-testing. He thought that intranasal immunisation as a means of reviving and prolonging the active immunity against diphtheria given by the subcutaneous method lent itself to successful propaganda, and he urged that in children below 6 years of age the nasal instillations should be repeated each year in September and at the beginning of and during epidemic periods. Nasal instillation alone, though not usually to be relied upon, might be employed as an emergency measure at the outbreak of a diphtheria epidemic.

In the discussion which followed, Surgeon Rear-Admiral S. F. Dudley, President of the Section, said that it might be of great advantage to the public health service to follow up the primary injections by nasal instillations, though he doubted whether mothers should be entrusted with the procedure as in Denmark. Professor W. W. Jameson thought that the method would be feasible if carried out by health visitors. After Dr. A. Joe had expressed some doubts as to nasal instillation, Sir Henry Dale said that we might in future put these procedures into the hands of parents, just as thousands of diabetics were now administering insulin to themselves.

At a joint meeting of the Royal Sanitary Institute and the Welsh Branch of the Society to be held at Monmouth on May 7th, Dr. W. R. Nash, M.O.H., Caerphilly U.D., and Dr. W. Panes, A.M.O., Monmouthshire, will open a discussion, on "Diphtheria Immunization," and Mr. J. J. Evans, S.I. Monmouthshire, on "Public Health Acts as affecting Rural Areas."

The Society: Branch and Group Meetings

WELSH BRANCH.

President: Dr. W. A. Murphy (M.O.H., Ogmore and Garw U.D.).

Hon. Secretary: Dr. D. J. Thomas (M.O.H., Rhondda U.D.).

The second meeting of the Session was held at Cardiff on November 13th, 1936; the President occupied the Chair and twenty-two members were present.

A discussion on the Midwives Act, 1936, was opened by Dr. D. Rocyn-Jones, County M.O.H., Monmouthshire. The provisions of the Act and the procedure specified therein and in the Memorandum published by the Minister of Health, were described in detail, and a complete account of the scheme proposed to be adopted in Monmouthshire was given. The numerous difficulties in formulating the scheme were noted and the methods of overcoming these difficulties were discussed. It was suggested that the conditions of service should include appointment subject to medical examination of the nose, throat and gums and that the midwife's home surroundings should be satisfactory. The refresher courses provided under the Act should be as personal as possible and the instruction should concentrate on the weak points of each midwife. An estimate of the cost of the county scheme was given, including details of equipment, etc. Use was made of a large scale map to illustrate the urban and rural nature of the County and samples of equipment to be used by the midwives were shown.

Dr. Lewys-Lloyd (Merionethshire) emphasised the difficulties in evolving a whole time midwifery service in a rural county and Dr. Catto (Newport) suggested that local authorities should aim at uniformity in their scales of salaries.

Dr. Marsh (Swansea) apologised on behalf of Dr. T. Evans for his absence and conveyed the latter's suggestion that the idea of team work should be introduced into the municipal midwifery service with a "sister-midwife" in charge of each group of five or six midwives.

Dr. Greenwood Wilson (Cardiff) mentioned that existing health visitors would have a grievance if midwives were placed on the same scale of salaries, and consideration might be given to a lower scale for existing midwives, while future appointments might be made at the recognised scale of salaries.

Dr. Colston Williams (Glamorgan) thought it was better to make a conservative estimate of the number of midwives required in view of increasing hospitalisation of midwifery cases. As regards nurse midwives employed by voluntary organisations, there was no security of tenure of office and the question of superannuation of these officers might lead to difficulties. The relations between midwives and medical practitioners would also be substantially affected by the provisions of the Act.

Prof. R. M. F. Picken (Cardiff) thought that the better class of midwife would be attracted to the service by offering good salaries and that the midwives employed through the medium of the voluntary organisations

should be absorbed into the schemes to be administered under the Act; these organisations would probably cease to function in a short time in so far as the provision of a midwifery service was concerned.

Dr. Betenson (Brecon) and the President also spoke.

In replying to points raised in the discussion, Dr. Rocyn-Jones expressed the view that the refresher courses should be arranged in accordance with the wishes of the local authorities and agreed that local authorities should have some degree of uniformity in the schemes they proposed to adopt. The grading of salaries according to training and experience appeared to be equitable.

The third meeting of the session was held at the Guildhall, Swansea, on the morning of February 6th, 1937. Dr. Murphy occupied the Chair and eight members, together with twenty-six sanitary inspectors, who had been invited to attend, were present.

The main object of the meeting was to discuss the provisions of the Public Health Act, 1936. Prof. Picken introduced the discussion and gave an account of the work of consolidation involved in the drafting of the Act under discussion; a brief and concise account of the implication of the amendments of existing legislation introduced in the Act was also given. It is hoped that Prof. Picken's contribution will be published in *PUBLIC HEALTH*.

Mr. T. L. Spickett (Sen. San. Inspector, Barry U.D.C.) dealt in detail with several points in Parts II, V and VIII of the Act. It was emphasised that in future building bye-laws specifications of the materials to be used may be required and, in order to improve public cleansing, authorities are empowered to insist on covered dustbins and to provide and maintain such bins at a cost not exceeding 2s. 6d. per annum. The new definition of a water closet will prove useful and also Section 154 dealing with the distribution of toys by rag collectors.

Inspector Robert Rees (Milford Haven, U.D.C.), dealt with nuisances and offensive trades. He noted the significance of the definition of a nuisance as being "prejudicial to health," and that the provisions relating to water supplies enabled local authorities to make bye-laws regarding water fittings. The new definition of common lodging house was important as was also the provision for preventing inconvenience to residents in the neighbourhood thereof. The provisions dealing with vans, sheds, etc., were also mentioned.

The President, Drs. J. W. Miller, T. Evans and D. A. Powell, and Inspectors D. Owen and R. E. Williams subsequently took part in the discussion.

The fourth meeting was held at the Institute of Preventive Medicine, Cardiff, on April 2nd, 1937, when the President occupied the Chair and seventeen members were present.

After the correspondence had been dealt with, a discussion ensued on "The Functions of Public Health Officers in Air Raid Precaution Schemes." This was introduced by Dr. E. T. Glenny, of the Air Raids

Precautions Department of the Home Office, who enumerated the various duties allotted to Medical Officers of Health, and emphasised the important functions of recruiting and training personnel, the selection and training of Wardens, the organisation of first-aid parties and posts, the training of ambulance drivers, the organisation of the decontamination services, selection and adaptation of mustard laundries, the provision of public gas shelters, the storing and distribution of bleaching powder, respirators, etc.

Dr. Glenny dealt in considerable detail with each of these functions paying particular attention to the provision of public gas shelters and to the physiological principles underlying the ventilation of gas-tight rooms; he demonstrated an improvised model of an apparatus for introducing decontaminated air into a sealed chamber and suggested that the provision of such apparatus would greatly assist in maintaining the confidence of those who would be crowding into shelters or rooms in the event of gas attacks.

Dr. W. P. Phillips (Deputy M.O.H., Cardiff) described the provisional arrangements which had been considered at Cardiff; he thought that first aid parties should consist of six persons and that an adequate number of reserves should be ensured.

Dr. Colston Williams stated that the major stress in the preparation of schemes would devolve on areas where there are large aggregations of population and if hostilities occurred it was important to bear in mind in selecting personnel for air raid precaution schemes that the younger elements of the population would be on military service.

Dr. Betenson (Brecon) foresaw that considerable difficulties would be experienced in adapting buildings such as village halls, etc., for use as first aid posts and in the provision of adequate drainage for such buildings, the expense incurred would be a serious problem.

Dr. H. R. Tighe (Swansea) suggested that the internal arrangements in first aid posts might be simplified, and was rather sceptical regarding the possibility of rendering rooms in ordinary dwelling houses satisfactorily gas proof.

Prof. Picken agreed that in the recruitment of personnel, the age of the persons available in times of war should be borne in mind, though the danger from gas attacks would not be so imminent in Wales as compared with other parts of the country. It was important to consider any possible means of ventilating the large number of gas shelters which are likely to be required.

Dr. Rocyn-Jones emphasised that the duties of medical officers of health would be to co-ordinate the services and the schemes should be drafted in accordance.

Dr. T. Evans (Swansea) put forward the plea that the most important measure was to develop an air-precaution mindedness amongst the whole population; if every member of the community were properly instructed the gas casualties would be negligible, so that no enemy would consider it worth their while to launch gas attacks. He was disappointed that the education services had not taken an active part in educating the public in this direction.

Dr. Glenny replied to many questions and stated that his ambition was to educate the public so as to secure a 100 per cent. immunity from gas casualties.

HOME COUNTIES BRANCH.

President: Dr. R. P. Garrow (M.O.H., Hornsey).
Hon. Secretary: Dr. C. Herington, M.O.H., Valence House, Becontree Avenue, Dagenham.

By kind invitation of Messrs. United Dairies, Ltd., members of the Home Counties' Branch were entertained at their Central Laboratory, Wood Lane, on Friday, April 9th, 1937, at 3 p.m.

On arrival members present were divided into two groups which were conducted round the various departments. The latest methods of ascertainment by chemical and bacteriological technique were explained by the heads of the various sections.

At the end of the proceedings the Branch was entertained to tea in the library, after which Dr. H. J. Milligan fittingly expressed to the Company the appreciation felt by the members.

MIDLAND BRANCH.

President: Dr. Arthur Massey (M.O.H., Coventry C.B.).
Hon. Secretary: Dr. R. H. H. Jolly, Town Hall, Wolverhampton.

The fifth meeting of the Session was held at the Medical Institute, 154, Great Charles Street, Birmingham, on Thursday, March 4th, 1937, at 5.30 p.m.

The President (Dr. A. Massey) and 44 members were present.

The Hon. Secretary read a letter from Lady Robertson thanking the Branch for its expression of sympathy on the death of her husband.

It was agreed to accept the invitation of Cow & Gate, Ltd., to visit their factory at Wincanton during the coming summer.

A discussion on "Co-operation between the Health Visitor, the Midwife and the Ante-natal Clinic in relation to the Midwives Act, 1936" was opened by Dr. D. Makepeace, Dr. A. Massey and Dr. Wyndham Parker.

Dr. Makepeace tried to define the duties of the Health Visitor and Midwife in relation to the expectant mother and the Ante-natal Clinic as they would apply in a large town. She suggested that a Health Visitor should visit the home once in the ante-natal period in order to ascertain the social and economic circumstances of the family. The midwife should attend at the Clinic with her patient, remain in the doctor's consulting room during the examination and make notes of the doctor's findings and recommendations.

Dr. Massey pointed out that the Health Visitor's duties were educational and preventive, whilst those of the Midwife were clinical. On this basis the relationship of the two classes of officers could, and should, be clearly defined, especially in regard to home visitation. Although a Municipal Midwife was a whole-time officer her duties need not be restricted to midwifery and she might be assigned work at an Infant Welfare Centre if her midwifery cases were insufficient to employ her fully.

Dr. Wyndham Parker dealt with the question from the county standpoint. He stated that in many counties whole-time midwives would not be employed, the work being done through county nursing associations, whose nurses performed all the district nursing and the health visiting and the midwifery. He urged the need for

limiting the clerical work required of these nurses and was particularly anxious to arrange for regular courses of lectures on midwifery to be given them. He also referred to certain general practitioner schemes of ante-natal care.

Dr. Newsholme believed that the ideal policy was for ante-natal supervision to be carried out in the home rather than at an Ante-Natal Clinic, although admitting that the clinic method was the easier to adopt. Dr. Paul foresaw a tremendous extension of post-natal clinics as a result of the Municipal Midwifery Schemes.

Other speakers included Dr. Marris, Dr. Cassie and Dr. Hamilton Wood.

Dr. Paul then moved that in view of the success of the later hour of the meeting (5.30 p.m.) all future meetings of the Branch be held at this time. Dr. Blaker proposed as an amendment that ordinary Branch meetings be held alternately at 3.30 and 5.30 p.m. The amendment was carried.

NORTH-WESTERN BRANCH.

President: Dr. S. T. Beggs (M.O.H., Middleton).
Hon. Secretary: Dr. J. E. Spence, Town Hall, Eccles, Lancs.

The ordinary meeting of the Branch was held in the Public Health Laboratory, York Place, Manchester, on Friday, March 12th, 1937, the President occupying the chair. Twenty members and guests were present.

The Hon. Secretary reported that the following nominations had been received for the Presidency of the Society:—

Dr. E. H. T. Nash (M.O.H., Heston and Isleworth), nominated by the Home Counties Branch.

Dr. J. Johnstone Jervis (M.O.H., City of Leeds), nominated by the Yorkshire Branch.

Dr. James Fenton (M.O.H., Kensington), nominated by the Metropolitan Branch.

A ballot was taken and it was resolved that the Branch support the nomination of Dr. E. H. T. Nash.

The President then introduced Dr. Gilmour, of the Evans Biological Laboratories, who gave a short explanation of the procedure followed in the preparation of diphtheria toxin, anti-toxin and prophylactics and then exhibited a film made at the Institute.

In proposing a vote of thanks to Dr. Gilmour for his address and film, Dr. F. Hall (Lancashire County Council) asked whether it would not be possible for a film to be made illustrating this subject but suitable for public exhibition as propaganda for diphtheria immunisation. Dr. Lissant Cox seconded the proposition and Dr. J. Bennett and Dr. R. M. Galloway also spoke. In replying, Dr. Gilmour thought that a film suitable for propaganda purposes could be produced but he did not think the Institute could undertake its production.

WEST OF ENGLAND BRANCH.

President: Dr. T. Peirson (M.O.H., Plymouth).
Hon. Secretary: Dr. P. H. Stirk, Hunsdon Lodge, Heavitree, Exeter.

A meeting of the West of England Branch was held at the Guildhall, Gloucester, on Saturday, February 6th, 1937.

There were present Dr. J. Middleton Martin (in the chair) and ten other members.

In the regrettable absence of the President owing to ill-health, Dr. Middleton Martin was voted to the chair, and the Secretary was instructed to write a letter of condolence to Dr. Peirson, and express the hope that he would soon be quite well again.

The Secretary reported that two more nominations had been received—in respect of Dr. Fenton and Dr. Johnstone Jervis—in addition to the previous nomination of Dr. Nash for the Presidency of the Society.

The Secretary reported correspondence with Mr. Elliston, Executive Secretary, on Dr. Peters' suggestion that there should be added years in the case of Medical Officers of Health for pension purposes, and it was thought that as it was in the hands of the Headquarters, the Branch, for the present, could take no further action.

A letter was read from Dr. Blackett as to the Branch presenting a portrait of the recently retired President, Dr. Savage, to Headquarters, and the Secretary was instructed to get into touch with Mr. Elliston as to this and proceed with the matter.

Dr. Cookson then read his paper—"The Medical Profession in Public Health Services"—which was listened to with great interest and evoked a healthy discussion. It was decided that the paper *in extenso* should be forwarded to the editors of PUBLIC HEALTH.

Those taking part in the discussion which followed were Dr. Middleton Martin, Dr. Remmett Weaver, Dr. Colquhoun and Dr. Page.

Votes of thanks were passed to the Mayor of Gloucester for the use of the Guildhall, and to Dr. Cookson for making the arrangements.

A meeting of the West of England Branch of the Society of Medical Officers of Health was held at Canynge Hall, Bristol, on Friday, April 9th, 1937.

There were present the President (Dr. Peirson) and 16 members and visitors.

The minutes of the last meeting having been read and confirmed, arising out of the minutes the Secretary reported correspondence and estimates for the portrait of Dr. Savage to be presented to Headquarters, and received instructions thereon.

The Secretary presented a letter from the Executive Secretary *re* recruitment to the Society. The Secretary was instructed to circularise the officers on a list supplied from Headquarters with a view to obtaining nominations, and also to notify the Medical Officers of Health concerned that this was being done, giving the names of the officers concerned.

Under recruitment a letter was read from Mr. Jeffrey Fletcher asking for names of dental officers with a view to their recruitment, and it was decided that the Hon. Sec. should ask Medical Officers of Health to forward a list of their dental officers when writing them *re* the recruitment of their staff.

Mr. F. S. Needs, Public Analyst of Bristol, read his paper on "The Administration of the Food and Drugs Acts," which proved of a very interesting and instructive character, and was supplemented by Mr. W. T. Lloyd, Senior Food Inspector of Bristol, on the practical difficulties of sampling. A good discussion followed the papers, and those taking part in it were Drs. Peirson, E. Ward, Middleton Martin, A. H. Wilson, C. Cookson, J. F. Blackett, R. H. Parry, and Mr. F. O'Brien.

A hearty vote of thanks to the speakers was unanimously passed, proposed by Dr. E. Ward and seconded by Dr. T. Peirson. It was decided to forward a copy of Mr. Needs' paper to the Editors of PUBLIC HEALTH.

At the conclusion of the meeting, a vote of thanks was passed for the use of the room, and tea, kindly provided by the Department of Preventive Medicine, University of Bristol.

YORKSHIRE BRANCH.

President: Dr. J. C. Pickup (M.O.H., Wombwell).

Hon. Secretary: Dr. James Mair, Public Health Department, Harrogate.

Joint Meeting with Yorkshire Dental Sub-Group.

A joint meeting of the Branch and the Dental Officers' Sub-Group was held at the County Hall, Wakefield, on Friday, February 26th, 1937, at 3 p.m.

The President occupied the chair and was supported by some 40 members.

Mr. W. H. Gilmour, L.D.S., Emeritus Professor, University of Liverpool, read a paper on "Dental Fitness—the Young," which was followed by an interesting discussion in which most of the dental members present took part.

At the conclusion of the discussion, on the motion of the President, seconded by Dr. Potts, a very hearty vote of thanks was accorded to Professor Gilmour.

An ordinary meeting of the Branch was held on Friday, April 2nd, at 3 p.m., in the Civic Hall, Leeds.

The President occupied the chair and was supported by 15 members.

A letter was read from Colonel H. T. Bates, of Ilkley, thanking the Branch for their congratulations on his appointment as Honorary Physician to the King.

A letter was also read from the Minister of Health on the point raised by the Branch as to the standard of disinfection of woollen rags to be exported to China, in which the Minister stated that he feels unable to establish a definite standard of disinfection as it appears to him to be within the discretion of the Medical Officers of Health giving certificates of the kind referred to, to base them on such methods of disinfection as they consider necessary.

On the proposal of Dr. Buchan, and seconded by Dr. Pickering-Pick, it was resolved that a Sub-Committee of the Branch members actively interested in the disinfection of rags should be formed to consider the establishment of a definite standard of disinfection.

It was unanimously agreed on the proposal of Dr. Pickup, seconded by Dr. Potts, that a recommendation be sent to the Council of the Society that Dr. J. Buck, M.O.H., Hunslet, be appointed a Life Member of the Society.

Dr. G. A. W. Neill, Assistant School Medical Officer, Huddersfield, then read a paper on "The Typing of Corynebacterium Diphtheriae and the small Public Health Laboratory," and illustrated his remarks by passing round tables and specimens showing the cultural characteristics of *C. diphtheriae*.

An interesting discussion followed, on the conclusion of which members expressed a strong desire that Dr. Neill's paper should appear in PUBLIC HEALTH.

EASTERN BRANCH.

President: Dr. Irene B. M. Green (Assistant S.M.O., Norfolk C.C.).

Hon. Secretary: Dr. V. F. Soothill (M.O.H., Norwich).

The third meeting of the session was held at the Haymarket Picture House, Norwich, on Thursday, February 4th, when eleven members were present and one guest. The minutes of the previous meeting were read and signed.

The Hon. Secretary reported:—

(a) Letter from the Executive Secretary dated June 5th, 1936, which had been deferred from previous meetings *re* Methods of Appointment of Medical Officers of Health. After discussion Dr. W. B. Christopherson moved, and Dr. R. O. Morris seconded, that this Branch support the suggestions made in the memo. of Professor W. W. Jameson and Professor R. M. F. Picken.

(b) Correspondence *re* Presidency 1937/8. RESOLVED that the Branch do support the candidature of Dr. E. H. T. Nash, M.O.H., Heston and Isleworth.

(c) Death of Dr. E. F. Rose, M.O.H., Wayland and Swaffham R.D.C. RESOLVED that the sympathy of the Branch be forwarded to the widow.

It was with great pleasure that the Branch entertained the Executive Secretary of the Society at the conclusion of the meeting. Mr. Elliston provided a most interesting talk on the aims, policies and achievements of the Society. This was followed by a general discussion and his visit was much appreciated by the members.

SOUTHERN BRANCH.

President: Dr. A. E. Druitt (formerly A.M.O.H., Hampshire).

Hon. Secretary: Dr. E. Croft Watts, Lothian House, Fareham, Hants.

A meeting of the Southern Branch was held at the Army School of Hygiene, Aldershot, on April 5th. Twelve members were present.

Col. Hammond Searle, the Commandant of the School, welcomed the Branch and gave a most interesting address on the work of the R.A.M.C. in connection with all branches of hygiene as affecting the health and physical and mental fitness of the soldier. The address was listened to with the greatest attention and was warmly applauded. Col. Hammond Searle, Majors Sandiford, Hilton, Sergeant and Mackenzie then conducted the members round the Museum and School, showing the methods employed by the R.A.M.C. in safeguarding the health of the soldier in the field and examples of the research work which was continually going on to bring the service up to a still higher state of efficiency.

After the meeting, the members were entertained to tea at the School.

DENTAL OFFICERS' GROUP.

President: Mr. Jeffrey Fletcher, L.D.S. (S.D.O., Devon C.C.).

Hon. Secretary: Mr. J. F. Pilbeam, L.D.S., Dental Clinic, Lodge Road, Croydon, Surrey.

A general meeting of the Group was held on Saturday, April 10th, at the house of the Society, with the President in the chair and 21 members and visitors present.

Mr. G. G. Exner read his paper entitled "Surgery of the Mouth." Mr. Exner delivered a very lucid and racy address in which he covered the surgery of the removal of buried roots and impacted wisdom teeth, root canal fillings and apicetomies, operations on dental cysts and a review of some of the less common pathological conditions seen in the mouth.

Mr. Exner outlined his methods of surgery and explained his reasons for using bone cutting burs instead of chisels. He demonstrated how it was possible to save single-rooted teeth which had become abscessed by means of a solid root canal filling followed, in a certain number of cases, by resection of the apex of the tooth.

The lecture was illustrated by numerous diagrams, radiographs and photographs.

The President opened the discussion and he was followed by Messrs. Latham, Wilshaw, Pilbeam, Digby Came and Taylor.

On the motion of Mr. Wilshaw, seconded by Mr. Jones, a vote of thanks to Mr. Exner was put to the meeting and carried with great enthusiasm.

Date of next meeting.—The President announced an alteration in the date of the next meeting to Saturday, May 8th, at 3 p.m., and the meeting ended.

MATERNITY AND CHILD WELFARE AND TUBERCULOSIS GROUPS.

A Joint Meeting of the Maternity and Child Welfare and Tuberculosis Groups was held at the house of the Society on Friday, April 16th, at 5.30 p.m.

Dr. Agnes Nicoll, President of the Maternity and Child Welfare Group, occupied the Chair, and thirty-three members and visitors attended.

An instructive and useful discussion on "Problems Common to the Tuberculosis Dispensary and the Maternity and Child Welfare Centre," was opened by Dr. Ivor Davies (Tuberculosis Officer and Deputy M.O.H., Hammersmith Met. B.). He read a paper in which he dwelt particularly on the problem of the tuberculous pregnant woman and the tuberculous mother. He also suggested the formation of "Adolescent Advisory Committees or Clinics," and the employment of a "Liaison Officer" between the Tuberculosis and Maternity and Child Welfare services.

Dr. Isobel Wright (Assistant Medical Officer, Middlesex C.C.) followed with a comprehensive survey of the problems and difficulties encountered in Maternity and Child Welfare work which could best be solved by co-operation with the tuberculosis officers.

Dr. Norman Tattersall (Tuberculosis Officer, Leeds County Borough) further discussed some of the points raised by the previous speakers and gave a number of figures illustrating the high mortality of infants in homes in which there was an open case of tuberculosis.

Drs. Agnes Nicoll, Maule Horne, Donnelly, Smithard, Jessie Balsillie, Violet Russell, and others took part in the subsequent discussion, and Dr. Davies replied.

Dr. Maule Horne and the President thanked the speakers for their interesting papers and for giving the meeting the benefit of their advice and experience.

Book Reviews

THE PUBLIC HEALTH ACT, 1936.

The Law of Public Health, 1936. By W. IVOR JENNINGS, M.A., LL.D., of Gray's Inn, Barrister-at-Law. Reader in English Law in the University of London. London: Charles Knight & Co., Ltd. 1936. pp. cxii + 791. Price 42s. 6d. net. (Postage 8d.).

The long interval which elapsed between the passing of the Public Health Act of 1875 and the appearance of its successor, the Public Health Act, 1936, was marked not only by the development of public health legislation as a result of amending acts, but also by an increase in the scope of all the activities which may be grouped broadly together under the term "preventive medicine." Some of the legislation which was effected in the interim was redundant, and a consolidating measure has long been demanded. The Departmental Committee which was entrusted with this onerous task pointed out that the consolidation of the existing law in a single measure would have led to an act of undue length, and the Committee therefore chose to effect the consolidation by means of a series of shorter acts—each dealing with certain large branches of public health and local government activity. The first two consolidating measures have been the Local Government Act, 1933 (covering all the provisions which dealt with local authorities and local government) and the Public Health Act, 1936 (covering all the provisions of a strictly public health nature). There remain a certain miscellaneous collection of provisions which relate to such diverse matters as streets, food, recreation grounds, burial and cremation, "police" matters, and rivers pollution. This piecemeal method of carrying out the consolidation will probably be justified by its results in the future; but at the present time it has the disadvantage that the reader, if he is dealing only with the 1936 Act, cannot always be sure that the whole of the existing law on the particular subject which he is considering is contained in that measure. This is particularly unfortunate because it implies that, unless a complete index to the enactments at present in force is available, an administrator may have to consult several volumes before he is able to get the law on any particular subject in complete perspective.

Dr. Ivor Jennings, the author of "The Law of Public Health, 1936," is evidently well aware of this difficulty, and he has offered a completely satisfactory solution. The book extends to nearly 800 pages, and only a little over half of this number are devoted to the 1936 Act. The second portion of the book contains the text of those sections of Acts relevant to public health matters which have not yet been repealed, and the very complete index enables the reader to refer rapidly to the whole of the existing law on any section of public health activity. The notes to the 1936 Act are in general very full, but those relating to other enactments have been wisely curtailed. In dealing with a volume of this size selection is unavoidable. Without in any way reflecting on the other portions of the book, therefore, it may be said that the notes on sewage, sewers and drains, nuisances, and water supply are especially valuable. Criticism of details in a work which must necessarily have taken considerable labour to compile may be

considered unkind; but, for his information with regard to the preparation of the next edition—which will probably not be long delayed—the author will probably be glad to note the following minor errors and omissions: On page 23, under the heading “County Council,” sections 84, 85 and 86 should be sections 85, 86 and 87, and after “sections 171-175” should be added “section 176: Blindness”; on page 181, in paragraph 1 (6), “section 93 (5)” should read “section 94 (5).” It should be added that errors and omissions appear to be singularly few in number.

Dr. Jennings is the author of many books which are standard works. This new work will certainly rank as one of the most complete, if not the most complete, single volume annotated edition of the law of public health.

Glen's Public Health Act, 1936. Being the 15th edition of Glen's Public Health. Edited by E. BRIGHT ASHFORD, B.A., of the Middle Temple, Barrister-at-Law, with the assistance of NORMAN P. GREIG, B.A., of the Inner Temple, Barrister-at-Law, and W. R. HORNBY STEER, M.A., LL.B., of the Inner Temple, Barrister-at-Law, Recorder of South Molton. Consultant Editor, SIR LYNDEN MACASSEY, K.B.E., LL.D., one of His Majesty's Counsel. London: Eyre & Spottiswoode, 1936. pp. xxiv + 685. Price 45s. net.

The Public Health Act, 1936. By DAVID J. BEATTIE, LL.M. (VICT.), Solicitor of the Supreme Court, Assistant Solicitor to the Beckenham Corporation. Introduction by SIR GWILYM GIBBON, C.B., C.B.E., D.S.C. London: The Solicitors' Law Stationery Society, Ltd., 1937. pp. lxxiv + 503. Price 40s. net.

Fifty years hence, the year 1936 will probably be as big a landmark to the public health administrator as is the year 1875 to us. The Public Health Act, 1936, like its great predecessor of 1875, is an attempt to consolidate the scattered provisions of other Public Health measures. The Departmental Committee was appointed “with a view to the consolidation of the enactments applying to England and Wales (exclusive of London) . . . to consider under what heads these enactments should be grouped in consolidating legislation and what amendments of the existing law are desirable for facilitating consolidation and securing simplicity, uniformity and conciseness.” The Committee was advised by the Minister of Health to confine itself to such amendments as would be unlikely to provoke controversy. Most will agree that the Committee has done its work well, and that the resulting Public Health Act is a measure which will, indeed, “simplify” the work of administrators. This “simplification” must inevitably be for some time a source of inconvenience to those who are familiar with the provision of the old acts, for new section-numbers will have to be learned, and much of the old case-law will no longer apply. A few books have already appeared on the subject of the new Act, and the two under review are representative of their class.

Those who have been in the habit of using “Glen” in the past will welcome this new edition. The first

edition of this work appeared in 1848, and consisted of 72 pages. The accumulation of statute and case-law caused the successive editions to become larger; the 14th edition contained nearly 3,000 pages. It is gratifying to observe that the editors have succeeded in keeping the present edition within the comparatively moderate compass of 685 pages. The book opens with an excellent introduction, which deals historically with earlier enactments, and also in detail with the recommendations made by the Departmental Committee in its Second Interim Report. The notes to the various sections are sufficiently comprehensive, and—a point which is often important to medical men who do not work surrounded by legal books and case reports—in most instances the main findings in the leading cases to which reference is made are described. The actual references are relegated to footnotes, so that the commentary itself is very readable. An appendix contains the text of various regulations which have not been repealed. The editor and her collaborators must be congratulated on having performed their task so well.

Mr. Beattie also provides an excellent guide to the new Act. In this book the notes to each section are full, but the writer often confines himself to references to the cases, so that the book should appeal to those who have access to a legal library. A noteworthy feature of the book is the series of introductions to each section of the Act. The printed copy of a Parliamentary Bill shows opposite each clause the sections of previous Acts which are represented by the particular clause; when the Bill becomes law and is printed as an Act, these references disappear. In this book they have been reproduced in an appendix. Table II of the appendix also contains information which should be useful for reference.

These two books, each in its own way, appear to be highly commendable. Both are excellently printed and produced, and their early publication should permit of detailed study before the Act comes into operation on October 1st, 1937.

Rural Health Practice. By HARRY S. MUSTARD, M.D., Professor of Public Health Administration, Johns Hopkins University. New York: The Commonwealth Fund. London: Humphrey Milford, Oxford University Press, 1936. pp. 603 with index. Price 17s. net.

In most text books, “Rural Hygiene” as it is called, is relegated to a small chapter near the end where a few oddments about water supply, sewage disposal and cow-sheds are perfunctorily referred to, while the administrative side is conveniently ignored. The name and position in the Public Health world of the author of this volume, although his experience has been gained mostly in the Southern States, is sufficient guarantee that his subject will be adequately and authoritatively dealt with, indeed, he is careful to point out in his “Foreword” that “rural health practice . . . involves human relationships and personal reactions as well as factual information” and that “public health practice is a more inclusive term than public health administration.” This holds true for either side of the Atlantic, and the essential difficulties of rural sanitation arise, as the author states in his opening chapter, from the inherent self-sufficiency of the rural dwellers who, for

generations, have depended upon their own individual efforts for providing the amenities of life that are collectively supplied to town dwellers; in consequence, they become bound by customs and traditions and are not amenable to team-work. The former difficulties of distance and intercommunication have now been so greatly reduced, that they no longer form insuperable obstacles nor an excuse for indifference to rural requirements. The first postulate for an efficient health service in the country is a reasonably, well-organised State administration and the second, a close relationship between the different branches of the health service. These the author proceeds to outline in detail, both in regard to scope of activities, personnel and financial arrangements. Next, he proceeds to describe the “Local Health Programme,” i.e., survey of the health statistics, special local problems and the proper allocation of services, then follows the various “steps,” school service, maternity and child welfare, control of communicable diseases and sanitation generally; meanwhile, “health education and publicity should be threaded through each activity, sometimes preceding it, always accompanying it.” Methods of inquiry in regard to outbreaks of disease are well described, and many useful suggestions are made, particularly in regard to systematised investigation. Charts, tables and diagrams for giving a graphic representation of results or of indicating present position and progress are plentifully sprinkled throughout the text. Chapters and sections are clearly “headed,” and a very full index gives ready access to any special point one desires to look up.

The facile objection that “American methods are not applicable in this country” is not of serious import in regard to this work. General principles are valid throughout the Public Health Service, and are not modified by local or territorial considerations and, although there are essential differences in detail, any capable administrator could readily effect the necessary adaptation. With this proviso, Mustard's “Rural Health Practice” may be confidently recommended as well worthy of a place at hand on the bookshelf of the County Medical Officer.

The History of the Acute Exanthemata. The Fitzpatrick Lectures for 1935 and 1936, delivered before the Royal College of Physicians of London, by J. D. ROLLESTON, M.A., M.D., F.R.C.P., F.S.A., Medical Superintendent, Western Fever Hospital, London. London: William Heinemann (Medical Books) Ltd., 1937. pp. 114. Price 7s. 6d. net.

In these lectures, Dr. Rolleston has given a very complete account of the development of our knowledge of the recognition and prevalence of small-pox, chicken-pox, scarlet fever, measles and rubella. He has purposely refrained from dealing with enteric and typhus fevers, which were reckoned by our forefathers amongst the continued fevers and not the exanthemata. By the exclusion of these two diseases the author has been able to devote more space to the others and so to quote at length in most instances the very words in which the writers of the past pointed out the differences between the various diseases and expressed their views on many points connected with diagnosis and treatment.

These quotations from the originals, together with an extensive bibliography, should prove most valuable to the student of the history of medicine. Some of them read very quaintly now. Yet Dr. Thomas Fuller's fifteen “particulars” of a good small-pox nurse, set forth by him in 1780 and reproduced in full by Dr. Rolleston, might well be printed and circulated amongst the nurses of the present day. Interest is also added to the book by the insertion of several portraits of physicians who have been eminent in the history of the infectious diseases.

There are, however, two or three statements concerning which we must differ from Dr. Rolleston. Rhazes was not one of the originators of the curious notion that small-pox and measles arose from a retention in the patient of his mother's menstrual blood; and the doctrine was first confuted not by Fernel but by Gentili, two hundred years earlier. Neither was Fernel the first to propose the miasmatic origin of pestilences, nor Boerhaave amongst the first to maintain the spread of small-pox by contagion. We think, too, that Dr. Rolleston might, in his reference to the recognition of the harmlessness of the desquamation in scarlet fever, have mentioned certain English writers, such as Killick Millard, who, earlier than the Austrians, Pospischill and Weiss, drew attention to it. However, these are small defects when we consider the general excellence of a book which we heartily recommend to all who are interested in medical history.

The Health Education Year Book, 1937-38. Published by the Central Council for Health Education, 1, Thornhaugh Street, London, W.C. Pp. 143. Price 5s. net.

It is now some three years since the Central Council for Health Education last issued their *Handbook of Lectures, Films, etc.* The usefulness of that publication is far exceeded by the new *Year Book* which is certainly the most complete guide to all the bodies, official and voluntary, and to all the material now available to the M.O.H. who undertakes an intensive campaign of propaganda or wishes to make this a regular part of the health department's work. One is indeed surprised by the wealth of the resources which are at hand for the education of the people on any subject which falls within the scope of public health.

In a foreword, Dr. James Fenton, Chairman of the Central Council, points out that “in no period of the history of the Local Government Service has more interest been shown in the need for a greater knowledge of the fundamental laws of personal and civic hygiene. . . . Now, therefore, is the time for an intensive development of health education activities throughout the country. . . . By publishing it the Central Council is fulfilling one of the first essentials of coordination by bringing together supply and demand.”

The *Year Book* is divided into seven sections, the titles of which will indicate its thoroughness. They are:—I, The Central Council for Health Education; II, Health Associations; III, Publications; IV, Posters; V, Exhibitions; VI, Lectures; VII, Films, Projectors and Lantern Slides.

The only criticism which might be made, that of the number of advertisements, will be disarmed by the usefulness of the advertisements themselves in giving

ready information about many articles which are of interest to health departments.

We heartily commend this *Year Book*, which does real credit to the reconstituted Central Council as its first important publication.

Practical Methods in the Diagnosis and Treatment of Venereal Diseases. For Medical Practitioners and Students. By DAVID LEES, D.S.O., M.B., D.P.H., F.R.C.S., F.R.S.E. Third Edition. Edited and revised by Robert Lees, M.B., F.R.C.P. (EDIN.), and other contributors. Edinburgh: E. & S. Livingstone, 1936. pp. 624. Price 15s. net.

The third edition of this book is a tribute to the memory of the late Dr. David Lees.

This standard work maintains the high level of the two previous editions with the elimination of redundant material. Consequently it has been possible, without increasing the size, to re-write the chapters on syphilis of the nervous and cardio-vascular systems, chancroid, phagedena, inguinal bubo and vulvo-vaginitis of children. It is appreciated that too frequent irrigation and the use of too strong lotions leads to the production of chronic urethritis.

Mention is made of the advantages of resting the patient from all treatment for fourteen days in gonorrhoea when testing for cure, and also of the value of iron in dealing with chronic infections. No reference, however, is made of trichomonas vaginalis in the diagnosis of chronic vaginal discharge which has recently loomed to the fore in the investigation of this condition.

The book is a comprehensive survey of the present knowledge of the subject and the illustrations, both coloured and otherwise, enhance its value.

Manual of Radiological Diagnosis. By IVAN C. C. TCHAPEROFF, M.A., M.D., D.M.R.E., Asst. Radiologist and Radium Registrar, St. Thomas's Hospital. Cambridge: W. Heffer & Sons, Ltd., 1937. pp. 256. Price 21s. net.

Amongst the specialised branches of medicine, radiology has become of great importance, and although its scope has extended rapidly of recent years, we are nowhere near the full realisation of its possibilities. The use of X-rays for diagnosis has, perhaps, the most general appeal. Dr. Tchaperoff's book should prove invaluable to the student who wishes to get a comprehensive introduction to this subject. The book will also be of great service to more senior practitioners, for it indicates how great can be the help of diagnostic radiology in both medical and surgical problems.

The section on the radiology of the chest will probably be of most interest to our readers. The radiograms are very well reproduced, and have obviously been chosen with great care as typical examples of the cases they illustrate. One salutary effect upon tuberculosis workers, of reading about chest radiology in a general radiological handbook is that pulmonary tuberculosis is relegated to its proper place as only one amongst a large number of thoracic diseases.

It is a pity that this book, otherwise so well written and excellently illustrated, should have been marred by hasty proof-reading which has allowed some obvious errors to remain.

A Textbook of Meat Inspection. By J. DRABBLE, B.V.Sc. Sydney: Angus & Robertson, Ltd. London: Australian Book Co., 1936. pp. 353. Price 21s.

The author of this book is Veterinary Officer in charge of the New South Wales State Abattoir, and the book is based on the author's lectures delivered at the Sydney Technical College.

In the author's view, most of the textbooks hitherto available on this subject fail for various reasons to be of practical use to the average lay meat inspector. This book is intended to meet the deficiencies.

Part I (ten chapters) is devoted principally to anatomy. The cell tissues, osteology, the muscular, circulatory, lymphatic, respiratory, digestive, urinary and nervous systems. Part II (nine chapters) deals with food animals, comparative anatomy, preservation of meat, general pathological conditions, and general meat inspection; it also includes chapters on bacteria, parasites, and laboratory notes. A useful glossary of trade and technical terms, and a list of questions of the type set by examiners are given at the end.

The book is well arranged and illustrated. It is a useful addition to the literature on meat inspection, and should prove of much value to those for whom it is intended.

Sims-Woodhead Laboratory Bulletin, 1936. Papworth Press. pp. 60.

We welcome the report for 1936 of the Sims-Woodhead Laboratory, Papworth, as the first issued from this foundation. It is a well-illustrated booklet, describing investigations into a variety of subjects connected with the pathology of tuberculosis. The researches have been along orthodox lines, and the results in general agree with modern views on the subjects studied. An excellent radiological essay, which describes an appearance due to fibrosis of part of the upper lobe of the right lung following artificial pneumothorax, and resembling an azygos lobe, will interest all clinical tuberculosis workers.

Correspondence

MEASLES SERUM.

To the Editor of PUBLIC HEALTH.

SIR,—In your extract from my report to my Council on "Measles Serum" I find that by mistake an uncorrected copy was sent to you. The result is that a serious error occurs on page 235. In the first sentence of the second paragraph the word "convalescent" should be omitted. The word "convalescent" in connection with measles immunity is reserved for serum obtained from a patient actually recovering from an attack of measles.

I am,
Yours, etc.,
Thames View,
St. Peter's Road,
St. Margarets, Middlesex.
ELWIN H. T. NASH.
April 11th, 1937.

PUBLIC HEALTH

THE JOURNAL OF

THE SOCIETY OF MEDICAL OFFICERS OF HEALTH

No. 9. Vol. L.

JUNE, 1937

Subscription 81s. 6d. per annum, post free, in advance
Single copies 2s. 6d. post free.

"Public Health" is the Official Organ of the Society of Medical Officers of Health and a suitable medium for the advertisement of official appointments vacant in the health service. Space is also available for a certain number of approved commercial advertisements. Application should be made to the Executive Secretary of the Society, at 1, Thornhaugh Street, Russell Square, London, W.C.1.

Contents

Editorial

Dr. James Fenton : President, 1937-38	275
Refresher Courses for the Public Health Service...	276
Maternal Mortality	276
Deafness and Hearing Aids	277

Obituary

...	278
-----	-----

Special Articles

Shellfish and the Public Health. By R. W. Dodgson, O.B.E., M.D., M.R.C.P.	279
The Treatment of Children's Teeth. By A. T. Pitts, D.S.O., M.R.C.S., L.R.C.P., L.D.S.	285
The High Incidence of Physical Defects in 5- to 6-Year-Old School Children. By E. H. Wilkins, M.B., D.P.H.	291
The Bournemouth, Poole and Christchurch Typhoid Epidemic. By H. Gordon Smith, M.D., D.P.H.	295
A Clean Milk Competition. By W. B. Slott, L.R.C.P. & S., D.P.H., and H. Barkworth	297
Two Cases of Cerebro-Spinal Fever in One Family. By E. R. Gilmore, M.D., D.P.H., and A. Ashworth, M.B., D.P.H.	301

News, etc.

Recent Appointments in the Public Health Service	290
Contagious Abortion in Dairy Herds	303

The Society of Medical Officers of Health

Notices	303
Council Meeting	304
Other Reports	309

Book Review

What is Osteopathy?	310
---------------------	-----

Editorial

Dr. James Fenton : President, 1937-38

All members of the Society will wish to congratulate Dr. James Fenton on his election as President of the Society for the Session 1937-38, which is reported on page 309 of this issue.

The Society has a way of according this, the highest honour it can bestow, to men who have devoted their time and talents to its affairs. This is as true of Dr. Fenton as of his predecessors for, as a London medical officer of health and, therefore, more easily accessible by the central office than provincial members, he has been called upon, and has cheerfully and ably undertaken, the onerous responsibility of the Chairmanship of the General Purposes Committee for some years past and has, time without number, represented the Society at conferences and deputations. Apart from this, Dr. Fenton has been one of the Society's Trustees since 1933, and, during the year of Dr. Charles Porter's presidency, he assumed the editorship of PUBLIC HEALTH. In addition, Dr. Fenton acted as Hon. Secretary of the Metropolitan Branch for some years until he became President of the Branch.

Dr. Fenton has become a Londoner by adoption, but the list of his appointments in the public health service will show how well he is qualified to be the chief representative of a Society which comprises within its ranks all types and grades of public health medical officer. He has been successively assistant school medical officer at Birmingham, assistant medical officer in Hampshire and at Southampton, and later medical officer of health of the borough of Shrewsbury (with a war interval as bacteriologist with the Salonika expeditionary force) before he came to the Royal Borough of Kensington in 1920.

We foresee a busy year for Dr. Fenton, for apart from his presidential duties he is Chairman of the Central Council for Health Education, at the time when that body is organising on behalf of the Ministry of Health and the Board of Education the national campaign which is to be instituted in the autumn to encourage the wider use of health services. However, his successful services as Chairman of the Royal Sanitary Institute, lecturer

in public health at the London School of Hygiene and Vice-President of the Medical Defence Union are evidence that he is one of those fortunate men who thrives on useful work.

We wish him a very pleasant year of office, and we are confident that he will enhance the high prestige of the Society.

Refresher Courses for the Public Health Service

For some years past, many members of the Society have expressed a wish that there were available some channel of intensive post-graduate study which would enable them more easily to keep up with the advances in preventive medical science which have accompanied the great developments of public health activity. To some extent, Branch and Group meetings of the Society have enabled the exchange of ideas on scientific and administrative methods, and in fact the Maternity and Child Welfare Group have gradually developed an excellent series of short week-end meetings where specialists have given instruction on new advances in that department. Likewise, since 1924, the Joint Tuberculosis Council have run a useful series of courses at London hospitals and at the Cheshire Joint Sanatorium.

Other classes of public health medical officer, however, have had no facilities for this means of keeping their knowledge and practice up-to-date, and we hope that there will be a warm welcome for the scheme, which has now been accepted by the Council, to provide in the near future four-day refresher courses for medical officers of health, school medical officers, and fever hospital medical officers.

The full details of the proposed courses will be circulated shortly to all members, but for the moment it is only possible to say that the Medical Officer of Health course will be held at Cardiff from September 28th to October 1st (the co-operation of the Welsh National School of Medicine and that of the Cardiff City Council is being sought); the School Medical Officers' course at Manchester (with the co-operation of Dr. Henry Herd and the Manchester Education Committee); and that for Fever Hospital Medical Officers, in London (with the co-operation of the London County Council Fever Hospital Service).

The Ministry of Health and the Board of Education have signified their approval in principle of the desirability of such courses, and a circular letter will shortly be addressed by the Society to local authorities employing whole-time medical officers to seek their sympathetic support of the project. The numbers of medical officers attending the courses will of necessity be limited in order that each may obtain the greatest advantage from the

syllabus provided, but it is hoped that the organisation of these courses will become a regular feature of the Society's activities, so that all who wish may in turn have the opportunity of attending the course in which they are particularly interested.

The first year's scheme is perhaps experimental, but we trust its success will be such that these courses will be recognised as a real contribution to the interests of the public health service.

It should be said that the actual inception of these courses is largely due to Dr. George Buchan, to whose practical "foresightedness" the service has so often been indebted.

Maternal Mortality

The report* presented to the Minister of Health by Sir Arthur McNalty on an investigation into maternal mortality, is one of great interest and importance. The general conduct of the inquiry was in the hands of Dr. Hugh Macewen, and the investigation was carried out by a team of trained workers with whom were associated a distinguished obstetric consultant (Sir Comyns Berkeley) and Dr. Percy Stocks of the General Register Office. Its primary object was to ascertain why puerperal mortality had not fallen, despite the remarkable improvement in the general health of the country, and why, in certain regions of the country, it has tended to remain persistently high. A vast amount of material bearing upon the problem has been gathered together from various sources, and has been studied from different angles so as to determine, if possible, the influence of many social and environmental factors. In these matters, the report in general hesitates in making any definite pronouncements, and the reader is left to draw for himself any conclusion he thinks the facts given justify. The results of this social investigation are no less interesting on this account, and they serve to strengthen the general conclusion that it is the collective influence of many social and environmental factors, rather than the effects of any individual factor, that must be held responsible for the higher maternal mortality in certain areas.

The report becomes much more definite when it deals with maternity services and the standard of midwifery practice. A large volume of evidence has accumulated within the last ten years to prove that in many of the cases of maternal death the standard of midwifery has certainly not been high. Allowance has, of course, to be made for the general practitioner, when called to the patients' homes in an emergency, is often faced with problems of great difficulty with which he is expected to cope, without adequate assistance, in unsuitable

*Report on an Investigation into Maternal Mortality in England. H.M. Stationery Office. 5s. 6d. net.

surroundings and under unfavourable conditions. The report recognises that midwifery practice is essentially one for the co-operation of all the individuals engaged in it, and states quite definitely that the time for independent individual effort is past, and that the goal of safer motherhood will only be realised when all those engaged in every branch of the maternity service act together as a team. It is, therefore, recommended that there should be established an adequate service of obstetric consultants available for the locality; that the local supervising authority, in consultation with the local medical profession, should take steps to ensure that the best local obstetric skill is made available in all cases in which midwives are required, under the rules of the Central Midwives Board, to call in a doctor; that emergency units from maternity departments should be made available for domiciliary treatment when the condition is too grave to justify removal to hospital. These recommendations are new, but they will all be welcome as great improvements on our present practice. They will give rise to much discussion in the health service and in the general medical profession, but as this is a subject upon which there is no real divergence of views, it may be anticipated that early steps will be taken to put these recommendations into effect.

The report* on the parallel investigation in Wales, which was carried out under the supervision of Dr. T. W. Wade, of the Welsh Board of Health, is equally interesting and makes similar recommendations to those in the English report, while adapting them to the special conditions of the Principality. Wales, with its special areas and sparsely-populated rural and mountain districts, presents difficult problems of administration in regard to maternity services. Both the general female and the maternal death-rate in Wales are higher than in England and this correlation appears also between various areas.

The Ordinary Meeting of the Society held on May 21st afforded an opportunity for an interesting discussion on the administrative problems dealt with by these reports and the opening papers, by Drs. W. G. Savage and E. H. T. Nash, will be published in our next number with a summary of the discussion which followed.

Deafness and Hearing Aids

Recent years have seen a marked increase in interest on the part of the medical profession and scientists in the health, educational, economic and social problems associated with deafness. Within the past few months, the Medical Research Council has issued two important special reports

*A Report on Maternal Mortality in Wales. H.M. Stationery Office. 2s. 6d.

one dealing with the use of hearing aids and the other on hearing and speech in deaf children.* Together these reports constitute a valuable contribution to knowledge, both in respect of deafness itself and of the means and methods at present available for lessening individual handicap by the scientific assessment of the intimate nature of the disability and the selection and use of appropriate hearing aids.

The report on the use of hearing aids by Dr. A. W. G. Ewing, Mrs. I. R. Ewing and Dr. T. S. Littler deals with experimental investigations which have been carried out in the Department of Education of the Deaf in the University of Manchester. The writers lay special emphasis on the problem of ascertaining the reaction of the ear of a deaf patient to stimulation by loud sounds, particularly in regard to the extent to which speech may be made intelligible by amplification. The assessment of the hearing of a patient by means of the pure tone audiometer and the subsequent use of the information so obtained for the prescription of hearing aids is dealt with. The conclusion is drawn "that no hearing aid is capable in any circumstances of providing a deafened patient with the experience of hearing speech normally."

It is held, therefore, that the use of lip reading to supplement the hearing aid is advisable. The intelligibility of speech heard through hearing aids is affected by the acoustic properties of the room and lessened if the speaker mumbles, or in the presence of general conversation. As a result of their investigation on auditory fatigue, the authors conclude that the use of amplifying hearing aids does not cause any further deterioration of the power of hearing in a deaf patient.

The report on hearing and speech in deaf children by Dr. Phyllis M. T. Kerridge records details of investigations carried out in the Physiology Departments of the London School of Hygiene and Tropical Medicine and University College, London, and in the L.C.C. special schools for deaf children in which extensive practical trials and experiments on the use of group hearing aids for educational purposes were conducted in association with Dr. A. G. Wells. The section which Dr. Kerridge devotes to a critical survey and thorough examination of the methods of testing and assessing hearing by means of audiometers, the voice and tuning forks, will be of particular interest to otologists, while school medical officers

*Medical Research Council Special Report No. 219, 1936. IV.—"The Use of Hearing Aids." London: H.M.S.O., 9d.

Medical Research Council Special Report No. 221, 1937. V.—"Hearing and Speech in Deaf Children." London: H.M.S.O., 2s.

and educational authorities will find in the report as a whole much material of immediate value to them in their endeavours to lessen the handicap of deafness in the child population. Of special interest is the fact demonstrated by the controlled experiment of the L.C.C. schools which showed that the speech of severely deaf children benefits if they are enabled to make use of such residual hearing as they still possess and that this is possible if a group amplifier is systematically made use of in the course of education. It is estimated by Dr. Kerridge that 75 per cent. of the children in the London Schools for the Deaf would benefit from such a measure.

It is not possible to do full justice to either of these reports in this short annotation, but both will repay close study by anyone concerned with the problems of the deaf.

Obituary

CHARLES COLES, M.D. (STATE MED.) LOND.

We regret to record the recent death, in his 71st year, of Dr. Charles Coles, county medical officer of health for Oxfordshire from 1911 to 1932, and for the previous ten years M.O.H. for the Oxfordshire combined sanitary districts. He graduated from St. Bartholomew's Hospital in 1890 and took the M.D. (Lond.) with gold medal in 1892 and the M.D. in State Medicine in 1894. After two years as M.O.H. of Leicestershire and Rutland sanitary districts, Dr. Coles went to Oxfordshire, where he was to spend the rest of his time.

He was a member of the Midland Branch of the Society for 33 years.

L. G. DILLON, O.B.E., M.D., M.CH., Q.U.I.R.E., J.P.

The recent death, at the age of 75, of Dr. Luke Gerald Dillon, has taken away one who was for many years a well-known figure at Northern Branch meetings. After graduating at the Queen's University, Dublin, in 1881, he settled down to practise at Seaham Harbour, where he was M.O.H. of the urban district for some forty years. His interests were wide and varied, and he was a F.S.A. and J.P. for the county of Durham. Dr. Dillon was a Fellow of the Society from 1920 until he resigned membership on his retirement a few years ago.

W. L. M. GOLDIE, O.B.E., F.R.C.S. (ENG.),
D.P.H.

We much regret to announce the death on May 4th, at the early age of 56, of Dr. Walter Leigh Mackinnon Goldie, O.B.E., since 1920 medical

officer of health and school medical officer for the borough of Leamington Spa. Dr. Goldie was educated at Edinburgh University and St. Mary's Hospital, taking the London conjoint qualification in 1903, the Fellowship of the R.C.S. in 1905 and the D.P.H. in 1920. After hospital appointments, he served as A.M.O.H. and Tuberculosis Officer for the City of Norwich and in 1920 was appointed to Leamington, after five years' war service in the Royal Navy from 1914-19.

Dr. H. Gibbons Ward writes:—

"Goldie was such a striking personality, that it is difficult to think that we shall see him no more, and his untimely death creates a gap which it will be impossible to fill.

"It was not Goldie's original intention to enter the Public Health Service, or even to go into the Colonial Service in which he spent three years. Surgery was undoubtedly the career for which he had prepared himself, but circumstances did not permit of this.

"Even an association both as a colleague and friend for 17 years does not make it easy to write an appreciation of Goldie, but it is certain that he was a man of great experience and outstanding ability, how great the experience and ability it was my good fortune to realise.

"He had a sense of humour, an invaluable asset in the Public Health Service, and it is difficult to realise that we shall no more hear his humorous comments, always so full of sound common sense, at the meetings of the Midland Branch, of which he was President for 1927-8.

"In his capacity as Medical Officer of Health, his relations with his colleagues in the town were happy, in spite of a certain power of expressing himself with clarity and forcefulness when the occasion warranted it; and as would have been expected, the work of the Health Department was carried out with smoothness and efficiency.

"Goldie had a very large acquaintance, but did not make friends easily; once, however, that stage was reached, one could be certain that any demand of friendship would be met promptly and freely."

THE twenty-fifth year of the Chadwick Public Lectures instituted by the Chadwick Trustees was celebrated recently by the holding of a reception at Manson House. At the subsequent meeting, Sir William Collins, chairman of the Trustees, paid a charming tribute to Edwin Chadwick as a founder of modern public health, and Prof. J. G. Fitzgerald, of Toronto University and of the Connaught Laboratories, gave an interesting address on "Preventive Medicine—An Avenue of Good Will," in which he described his recent visits to medical schools the world over.

Shellfish and the Public Health*

By R. W. DODGSON, O.B.E., M.D. (LOND.), M.R.C.P.

Ministry of Agriculture and Fisheries.

I am anxious to go, in some detail, into the practical application of bacteriological methods to the analysis of shellfish; also into the vexed question of standards; and shall, therefore, have to skip a good deal of other matter, especially as I hope that what I have to say will stimulate discussion which cannot be otherwise than helpful.

I think it may be taken as an admitted fact that shellfish are, at best, a dirty, and, not infrequently, a dangerous food. Sewage pollution is constantly increasing, and no measures of improvement depending on deviation of sewers, or the sterilisation of effluents, come within the bounds of practical politics.

Some twenty odd years ago, the Ministry of Agriculture and Fisheries, realising that unless something were done the industry was doomed, set out to devise a method of purification of the shellfish themselves which should be an efficient safeguard of the public health, fool-proof in operation, and self-supporting. For twenty-one years such a system has been in operation at Conway, and has since been extended to Lytham and Brightlingsea—the latter plant for the treatment of oysters.

You will be able to see the details of the layout and the working of the purification tanks in a cinematograph film to be shown later. Briefly, the process consists of spreading the mussels on wooden grids in large concrete tanks; hosing them thoroughly before, mid-way through, and at the end of the process; exposing them for two successive periods of 24 hours to water sterilised by chlorine, but from which all trace of active chlorine has been removed by sodium hyposulphite, and, finally sterilising the shells by a bath of water containing three parts per million active chlorine. Oyster purification differs from mussel purification only in the following respects: Oysters will not function (that is to say, open and discharge their contents) at water temperatures which are easily tolerated by mussels, so that, in winter time, covered tanks are used and the chill is taken off the water. In the summer—when, by the way, the output is at its maximum—uncovered tanks, similar to those in use for mussels, are employed. Further, a storage tank is provided in which the oysters can be kept until required, the market for

them being more spasmodic than for mussels. We permit them to be stored, with daily changes of sterilised water up to a maximum of seven days. Finally, a different hosing device has to be employed as the shape of the oysters prevents thorough scouring by the single jet used in the case of mussels.

So much for the technique.

As regards the principles involved. The purification is done entirely by the shellfish themselves. By means of a series of ciliary mechanisms, each shellfish filters out and temporarily concentrates within itself the suspended matter from at least 10 gallons of water in 24 hours. In practice, the clearing of the water is relied upon as an indication that they are functioning satisfactorily. It may start by being very turbid, but within a couple of hours or less, it will become glass-clear, the suspended matter having been extracted by the shellfish.

Part of the suspended matter is ingested by the mouth, and is ultimately discharged as faeces in the form of fine threads or small pellets held together by mucus. These fall to the bottom, the bacteria discharged with them remaining imprisoned in the tenacious and practically insoluble mucus. Matter in excess of what can be ingested by the mouth is collected and rejected from the shell as pseudo-faeces. A certain number of bacteria are passed through the filtering mechanisms free into the water, but this number is reduced by successive filtrations. It is, of course, desirable that the shellfish should be under conditions favourable to the secretion of copious quantities of mucus, and, as suspended matter stimulates such secretion, pre-filtration or sedimentation of the water used would be definitely undesirable.

It has often been suggested that more complete purification might be achieved by the use of a sterilising agent, but we have found that chlorine, various hypochlorites, and simple and compound chloramines all interfere with normal functioning and elimination, and either prevent purification or prejudice it in some degree. Mussels can tolerate prolonged immersion in water containing active chlorine, and most of them will open and function normally as soon as the chlorine is discharged, but there will always be a small proportion which will not function for 24 hours or more afterwards and will not undergo purification. It is for this reason that the shell-sterilisation bath is delayed until treatment is complete.

*Paper read before the Metropolitan and Home Counties Branches of the Society of Medical Officers of Health, February 26th, 1937.

sample this season was reported to us as being caused by *B. lactis aerogenes* seems significant. As a general rule, tests carried out at the markets do not differentiate between typical *B. coli* and *B. lactis aerogenes*.)

Several strains of the bacilli in question including some of the "returned Birminghams," may multiply rapidly in tank water (sterilised by chlorine and dechlorinated with hypo), and in the shell-water of purified mussels (collected with due precautions to prevent laceration of the mussel tissues). As an example, one bacillus, obtained from barnacles increased in sterilised tank water at room temperature from 20 to 2,000 per 1 c.cm. in five days, and about 20,000 in nine days; surviving with several ups and downs for three weeks (when 150 per 1 c.cm. remained). Others of the R.B. (returned Birmingham) group increased five-fold in 48 hours in shell-water incubated at 20° C. In boiled or autoclaved water (both tank and shell) very high counts were obtained; in one case an increase from 3,000 to 12,000,000 per 1 c.cm. occurring in 48 hours.

Multiplication of lactose-fractors in sea water or living shellfish has not been previously noted as far as I am aware, but several observers have recorded great and rapid increase of coliforms in ordinary tap water and fresh water from other sources. Savage and Wood (1918) and Platt (1935) recorded multiplication in tap water sterilised by heat; Harold (1934) noted rapid multiplication and survivals for some months of an *Aerogenes* strain in Thames water sterilised by boiling; whilst an account of a very comprehensive research by Bigger (1937), in connection with the multiplication and survival of *B. coli* in tap water appeared last month. Bigger found that several strains of *B. coli* increased enormously (e.g., from hundreds to hundreds of thousands per 1 c.cm. in Dublin tap water, the numbers waxing and waning from day to day over periods of weeks or months. He found that autoclaving, filtration, exposure to adsorbents or to a vacuum, greatly enhanced the value of the water as a culture medium. From time to time, however, significant increase occurred in samples of raw water, especially if the nutrient properties of the water had been increased by the addition of a concentrate from a similar volume of the same water. A striking parallelism, in many respects, is to be noted between Bigger's results and those obtained at Conway.

Of course, Conway estuarine water is a very different proposition from Dublin tap water as a culture medium, containing as it does varying and indeterminate amounts of sewage, and variations in its value as a culture medium from day to day are perhaps not to be wondered at. An important

difference between the various fresh water experiments (except the case reported by Colonel Harold) and those at Conway is that in the former the experimental bacteria were "typical" *B. coli*, i.e., citrate negative, etc., etc., as against citrate positives. Since noting Bigger's results we have tried out several strains of *B. coli* (i.e., citrate negative and viable at 44° C.) obtained from polluted mussels at Conway. As a rule, they rapidly died out but several of them survived without diminution in numbers for considerable periods in raw tank and shell waters, that is to say, "raw" in the sense that the water had been sterilised by chlorine and dechlorinated by hypo but had not been subjected to boiling or autoclaving. In one case multiplication was observed, an initial population of 200 per 1 c.cm. increasing to 800 per 1 c.cm. in 24 hours at a temperature of 20° C. After remaining stationary for a few days, the numbers slowly decreased. In autoclaved tank and shell waters very marked increases (at 20° C.) were observed with several strains of citrate-negatives from polluted mussels, e.g., up to a thousand-fold increase in 48 hours.

The remarkable results obtained with autoclaved water are obviously of great interest, but they do not tend to throw any light on our abnormal Conway results. What I should like to stress here is that we have obtained on many occasions multiplication of the actual lactose-fractors, isolated during the abnormal period, in sterilised tank water as actually used and in the shell water of the purified mussels themselves.

The apparent wave or invasion last year of citrate positive lactose-fractors may be on all fours with the well-recognised waves in, for instance, the diatom population, to many of which no convincing reason can be assigned. That waves in bacterial flora may occur is suggested by the fact that for a period of years the residual red colonies in lactose plates were almost invariably found to be staphylococci, whilst during the last two years such cocci have been conspicuous by their absence.

This exposition of the case, as it affects mussels, though inevitably very scrappy, is perhaps sufficient to indicate that there can be no standard of purity for purified mussels, if we accept as criteria any methods of analysis depending upon the production of acid and gas in lactose media at 37° C. (and especially incubation, for 48 hours, about the validity of which I am, by the way, sceptical). It is true that we often describe these tests as "presumptive" only, but although this is legitimate in water practice, in shellfish practice it boils down to their being accepted as the final tests upon which verdicts are based. It is manifest, in view of the experimental results to which I have just referred, that such bacterial counts, especially

those made at the markets, cannot be a reliable measure of the original pollution of the shellfish, and it is this original pollution with which we are concerned.

It is perhaps hardly necessary to labour this point. Although the abnormal results recorded were on a grand scale, it is, I think, obvious that such results might be of almost any degree of intensity. Hence it would always be competent for us to claim that any departure from the normal was probably due to multiplication. Although the abnormal results have not reappeared, we must reckon on the possibility of their doing so at any time. As matters stand at present, we are liable to be suddenly confronted by reports from the markets, transmitted through the ordinary official channels, accusing us of marketing mussels perhaps twenty times worse than those described by Houston as outside the pale of recognition. Accepting the validity of the old standards, there is no answer to the accusation and we must submit to having the purification tank classified as a wholly insanitary area. This, I submit, is a *reductio ad absurdum*. Nevertheless, the health authorities both at the markets and locally are placed in an extremely invidious position. To close the tanks on the appearance of such abnormal results and to keep them closed for an indeterminate period is quite impracticable from the commercial point of view and, I believe, quite unnecessary.

I may mention here that certain authorities, after a very careful first-hand study of the purification process, hold the view that when carried out under adequate supervision, the said process is in itself a sufficient safeguard of the public health, but obviously it would be more satisfactory if we could obtain some assistance, at any rate, from bacteriological tests.

We have carried out a large number of tests on modified Eijkman principles, namely, at a temperature of 44° C., as recommended by Professor G. S. Wilson; and at 42° C., the temperature used in the laboratories of the Metropolitan Water Board. As there have been no abnormal results this season we have got nothing out of comparative tests of purified mussels, as the 37° C. results have been mostly negative. As mentioned earlier, the whole of the strains isolated during the abnormal period are killed out at 44° C., and fail to grow at 42° C.

With regard to the validity of tests for polluted mussels, we have done a long series of tests with Conway untreated mussels, and find that the lactose-fractor counts at both 42° and 44° C. are, on an average, about 30 per cent. less than parallel counts at 37° C.; that is to say, that about two-thirds of the lactose-fractors are so-called typical *B. coli*.

Professor Wilson (1935) has adduced a very large amount of evidence in favour of the validity of the 44° incubation test, in the case of milk analyses. My own view is that it affords a legitimate criterion in the case of mussels, especially in view of the fact that the lactose-fractors responsible for the anomalous results have so far shown themselves to possess very definite saprophytic characters.

I am inclined to advocate the adoption of a test based on incubation at 44° C., but there is one caveat—namely, that there is the possibility that citrate-negative lactose-fractors viable at 44° C. may take it into their heads to multiply in shellfish and in tank water. One strain, as mentioned earlier, has already shown itself capable of moderate multiplication in raw shell water. Further work in confirmation is necessary, but this observation, coupled with those in connection with rapid and heavy multiplication in autoclaved water is distinctly ominous. Later on it may be found that bacteria of the type in question may increase in shellfish at the markets which will mean that we can no longer accept even the 44° incubation test.

It may have occurred to some of you that, in view of the increase of organisms referred to, it may be possible that bacilli of the typhoid group also may multiply. Our own experience, in certain experiments designed for testing out Wilson's sulphite medium, is that they rapidly die out and there are numerous records in the literature in the same sense. A research into this matter would be of great interest and should certainly be done, but I think it will be agreed that before a negative verdict could be given an enormous number of experiments under a multitude of conditions and with many strains of bacilli would have to be carried out. Tests with fresh typhoid faeces, in addition to those with laboratory cultures, would be essential—a programme which might well give pause to the most lighthearted bacteriologist.

With regard to the question of bacteriological standards, as applied to unpurified shellfish from the layings or markets, on general principles, tests depending upon incubation at 37° C. may be open to the same errors as in the case of treated shellfish. My own very strong view, which has been expressed in season—and perhaps out of season—is that topographical observations, properly carried out, must provide the real criterion. In other words, the pollutability of layings is the essential matter. Bacteriological examinations are merely ancillary, often unnecessary and not infrequently misleading.

I could enlarge this theme indefinitely, but will spare you!

In judging a source of supply, epidemiological evidence must afford one of the most important criteria; a view endorsed by the Ministry of

Health in, for instance, an Explanatory Circular issued with the Public Health (Shellfish) Regulations. Since purification began 21 years ago, only one complaint has been received. In that case, immediately after what may be described as a banquet to celebrate a family reunion, at which Conway purified mussels, together with other luxuries, were served, several persons suffered from gastro-intestinal disturbance. Personal enquiry was made, revealing the fact that one of the chief sufferers had consumed no mussels.

In pre-purification days, a constant series of complaints was received from responsible quarters attributing outbreaks of illness including many cases of typhoid, to the consumption of Conway mussels, which earned a reputation worse than that attaching to those from any other fishery. In this connection the Annual Reports for the years just prior to purification, issued by the late Dr. Niven, M.O.H., of Manchester, who made a special study of the question of shellfish-borne typhoid, form a very formidable—and, I think, unanswerable—indictment of Conway mussels. The immediate and complete cessation of complaints from all sources, with the advent of purification, would seem to speak for itself. We may claim that purification has had a fair trial, nearly 12,000 tons of mussels having been marketed from Conway alone: that is to say, some 340,000,000 mussels, or say 20,000,000 "good feeds," to use the Lancashire parlance.

It is necessary to exercise much vigilance in the prompt investigation of complaints, of whatever nature from the markets. I may instance one case in which a trial bag of purified mussels was sent, at the request of a third party, to a vendor in one of the largest markets. The vendor, wishing for financial reasons to keep purified mussels out, substituted certain filthy mussels and called the Market Inspector's attention to them. They were rightly condemned and destroyed. Had more intelligence been displayed in the substitution, they might have got away with it. They had, however, left much brown seaweed in the bag. Comment is needless.

The remark is occasionally heard that shellfish-borne typhoid is now of so infrequent occurrence as to be almost negligible. Though not what it was in its heyday (say in the 'nineties) there is a fairly constant dribble of complaints in respect of oysters, mussels and other molluscs. Certain cases of fairly recent occurrence present—besides a tragic—a humorous aspect. For instance, a certain rival system of purification (rival in the sense that mussels were sent from an alleged purifying station, with an imposing certificate) was apparently responsible for a typhoid outbreak with three deaths. In another case, mussels taken

from a polluted bed closed by administrative order were illegally sold for human consumption to a distant inland market. Result: several cases and two deaths. The fishermen had been offered adequate financial assistance for the erection of tanks, but had scorned it. (In both the cases cited, the epidemiological investigations were in particularly competent hands.) Finally, we have the fisherman who, emphasising his contempt for purification, ate a quantity of virgin Conway mussels and had typhoid with a relapse; whilst it required typhoid with *two* relapses to convert a declared sceptic (in a very different position in life, by the way) to enthusiastic and active support of purification.

It has been claimed in various quarters that exactly similar results to those obtained by the Ministry's shellfish purification plant can be obtained by placing oysters in stored water in pits for a period. This is obviously true, provided the best conditions possible are forthcoming from day to day, and the human element can be relied upon. In certain attempts which have been made to achieve purification in pre-existing pits or tanks, some essential factor has always been omitted; for instance, provision of water at a temperature at which the oysters will cleanse themselves, and so forth. Again, small plants run by interested and sometimes ignorant parties are liable to be neglected and, in time, as we have ourselves noted, the operations—never believed in, and tackled without enthusiasm—are omitted altogether; certificates stating that purification has been carried out being issued nevertheless. Such attempts to short-circuit a properly conducted system are liable to be a source of danger to, rather than a safeguard of, the public health, and to bring the whole principle of purification into disrepute.

REFERENCES.

- Bigger, J. W. (1937). *J. of Path. & Bact.*, **44**, 167.
 Harold, C. H. H. (1934). 29th Ann. Report, Met. Water Board.
 Platt, A. E. (1935). *J. Hyg.*, **35**, 437.
 Savage, W. G., and Wood, D. R. (1917-18). *J. Hyg.*, **16**, 227.
 Wilson, G. S. (1935). Med. Res. Council, Special Report Series No. 206.

THE Central Council of Recreative Physical Training announces the organisation of two summer holiday camps for the training of leaders in recreative physical activity. The North of England camp is to be held at Heswall, Cheshire, from August 21st to August 28th, and the South of England camp at Downe, Kent, from August 7th to August 14th. Full details can be obtained from the Organising Secretary, The Central Council of Recreative Physical Training, Abbey House, Victoria Street, London, S.W.1.

The Treatment of Children's Teeth*

By A. T. PITTS, D.S.O., M.R.C.S., L.R.C.P., L.D.S.

Consulting Dental Surgeon to the Hospital for Sick Children, Great Ormond Street;
 Dental Surgeon to the Royal Dental Hospital and to the Middlesex Hospital.

The Conditions of School Dentistry

There is a natural tendency to consider the work of the school dental officer in terms of the conditions prescribed by his work. He is engaged in mass dentistry, and the number of those requiring his services always exceeds both his capacity and the time available. That these conditions will have a bearing on the nature of the work is both natural and obvious. The indications which will govern extraction or conservation and the methods used for such procedures, all tend to be considered from the special point of view of the school dental officer. I would suggest that this may bring with it a risk of making the dental officer forgetful of the basic principles of dental surgery, which are based on individual dentistry in contradistinction to mass dentistry.

The child who comes to the private practitioner comes as an entity demanding and receiving his sole attention, not as one of a large number who must all get some measure of treatment in a given time and thus can only receive a proportionate allotment of the dentist's time and energy. On the contrary, the dentist in private practice is free to give a child what he thinks is the best possible treatment. If several visits are necessary, they can be arranged. Statistics and their repercussion on the School Medical Officer, the Education Committee and the public need not be considered. If he feels that a tooth might be savable even though it may only last a few months, he is not hampered by the reflection that in spending time on a tooth which at its best may only last a little while, he may be depriving other children of the opportunity of receiving treatment. Given the consent of the parent and the co-operation of the child, he is free to do what he thinks is ideally best.

Now I am not so foolish as to imagine that individual treatment of this kind is possible in school dentistry; the very conditions of the service exclude it. But I would suggest that the existence of those conditions which press heavily on every dental officer, bring with them a tendency to forget the ideals of individual treatment and to force school dentistry into a rut of treatment from which it is difficult to escape. The school dental officer who has a clear idea of what might be termed the "unconditional ideal of treatment,"

*A paper read before the Dental Officers' Group of the Society of Medical Officers of Health, on November 13th, 1936.

is more likely to get nearer to the "conditional ideal of treatment" possible in school dentistry than one who accepts the latter as in itself complete and satisfactory.

The Deciduous Dentition

Much attention has been paid to the deciduous dentition and it is now rightly recognised that the milk teeth are just as important to their possessor as the permanent teeth to adults. The treatment of caries of the milk teeth, especially in very young children, presents many difficulties, but it is important that an effort should be made to conserve them when carious, and to do what we can even if we cannot do what we would. Two ideals must be aimed at: the restoration of function and freedom from infection. Unfortunately, these two ideals are often incompatible. The dentist who ruthlessly removes all carious milk teeth on the assumption that if not already septic they are likely to become so, achieves a clean mouth. But he is rather like the Roman general described by Tacitus, who created a desert and called it peace.

The dentist who thinks of the milk teeth in terms of preservation at all costs and tries to save as many carious teeth as he can, may achieve an apparent restoration of function, but he may fail to eliminate infection and may even increase it.

From the practical point of view, the deciduous dentition may be divided into two stages.

1. Up to 7 years: this covers the period when the child is dependent mainly and often entirely on the milk teeth for chewing.

2. From 7 to 11 years, when the value of the milk teeth steadily lessens.

I think this division has a practical value. In the first stage the milk teeth are an asset of much value. In the second stage, the first permanent molars are present; the permanent incisors have erupted and the milk molars are undergoing absorption. As an asset in mastication, the milk teeth are steadily lessening in value. If caries has occurred in the years up to seven, I would go further and say that the milk teeth from seven onwards become a liability rather than an asset.

Let us now consider the treatment of caries in the milk dentition in children up to 7 years.

In this group a still further division may be made into those in whom the caries attacks principally the incisors and starts with these teeth, and those in whom the teeth are affected are the molars.

In the first group presenting incisor caries, the disease may show itself at a very early age. Some years ago I gave a presidential address before the Metropolitan Branch of the B.D.A. on the occurrence of caries in very young children, which was based on many years experience at Great Ormond Street Hospital for Children. I had been struck with the very large number of children I saw with caries affecting the incisors. Their ages ranged from 1 year to 3 years. This condition is comparatively rare in children of the better classes and I have scarcely ever had an example of it in private practice. I found that in many cases it was associated with the use of a dummy dipped in some sticky adjuvant such as honey, syrup, treacle, etc. The only treatment possible is extraction of the carious incisors, and it should be carried out as soon as possible.

Deciduous Molar Caries

Caries affecting the milk molars may also start at an early age. I frequently see it in children of 3 years. In some cases it starts as an occlusal cavity in the second molars and may remain limited to those teeth. More often it commences as an approximal cavity in the first molars whence it spreads rapidly to the adjacent surfaces of the canines and second molars. The key tooth in caries of the milk dentition is the first molar, not because of its intrinsic value, but because of the difficulty of treating it.

If a first deciduous molar is bisected in the vertical antero-posterior plane it will be seen that the distance between the margins of the pulp chamber and the mesial and distal surfaces of the tooth is extremely small. I estimate that an approximal cavity extending inwards for about a millimetre or a little more will lead to an exposure. It is evident that only the smallest cavities can be filled with any prospect of permanence. Death of the pulp and sinus formation is extremely common. I would suggest that this tooth should be regarded as unsavable once approximal caries has commenced, and that it should be extracted as a routine procedure. If this is done, the more important second molar has its chance of lasting more than doubled.

If the mesial surface of the second molar is sound, it will remain so for its normal life. If caries has already started, the prospect of putting in a durable filling is greatly increased, and the risk of recurrent decay lessened.

The Treatment of Exposed Pulp

What should be our attitude to exposure of the pulp in a deciduous tooth? On general grounds, it cannot be approved. I do not believe that it is possible to remove the pulp of a milk tooth and

keep the tooth healthy. Root filling is certainly impracticable. To fill a root which undergoes a gradual absorption as a physiological process, appears to me highly irrational. Treatment with silver preparations or mixtures of antiseptic pastes in the dubious hope of mummifying the remains of the pulp and sterilising it, seems also of doubtful value. The test of whether the tooth remains comfortable is not conclusive, for a septic tooth is often free from symptoms.

Periodically in private practice, either at the urgent behest of the parent or because of the temperament of the child or else to prevent a subsequent loss of space, I am tempted to do my best to retain a milk molar which my better judgment tells me should be extracted. My experience has been unfavourable; signs of sepsis usually appear and I have to remove the tooth and feel that to spare the child the temporary discomfort of an extraction I have exposed him to a risk of infection which has not been justified.

I do not despair of some effective method being discovered which may enable us safely to conserve a second molar for the few years necessary to prevent a premature loss of space. Such a piece of research would be well worth while and its successful accomplishment a great gain to dental pediatrics. I am not prepared to condemn the dentist in private practice who makes the attempt providing that he sees the child at frequent intervals and watches such a tooth as a cat watches a mouse. I am, however, prepared to condemn without qualification such a practice as part of the routine in the mass dentistry inevitable in the public dental service.

Dental Sepsis in Children

This leads me to say a little about dental sepsis in children. It is common to see children of 6 or 7 years with all the molars and incisors carious and several sinuses present. The thinness of the alveolar plates leads to their rapid perforation by infective processes and the familiar "gumboil" follows. An examination of these children will show that they all have enlarged glands. Dental sepsis is one of the commonest cause of cervical adenitis in children.

Many years ago at Great Ormond Street Hospital, my chief, Mr. Warwick James and myself kept notes of the presence of glands in children with dental sepsis and the condition some months later when the teeth had been removed. We invariably found that glands which were large, soft and tender became small; hard nodules later. But it must be remembered that the glands in holding up infection may become damaged and less effective in combating infection. From this point of view, dental infection may be a

predisposing factor towards tuberculous glands.

The effects of dental sepsis on a growing child may be serious. The metabolism of a child needs to be at the highest pitch of efficiency if the child is to develop properly, for not only has the daily wastage of tissue to be provided for, but the child, unlike the adult, continues to grow, and anything which impairs metabolic efficiency may be reflected in retarded growth. It has been my frequent experience in hospital practice to see children with teeth so septic that almost a complete removal has been necessary. Despite the loss of masticatory power, these children often began to put on weight after the extractions, thus showing both the harmful effect of the sepsis and the benefit which the child derived from its removal.

General Lines of Treatment of Caries in Group 1

To sum up the general lines of the treatment of caries in children, in the first group up to 7 years. Carious incisors should be removed. If approximal caries is present in the first milk molars, these teeth should be extracted. The canines and second molars being thus isolated can be treated with a good prospect of success. Some loss of space may result from a forward movement of the second milk molars but of this I shall say more later. Such lines of treatment will give a child a clean mouth and though some loss of masticatory efficiency may result, yet this is more than compensated by the removal of sepsis. It may be pointed out that if teeth are tender a child will not chew on that side and thus may be better off if such teeth are removed.

Caries in Group 2; 7 to 11 Years

In this group, the deciduous dentition is a diminishing asset. The first permanent molars are present. The incisors are in process of eruption and the premolars come into place between 9 and 11 years. The treatment of the milk teeth when carious should be on the drastic side. Carious first molars if present should be removed. If the second molars are carious the advisability of retaining them will depend on the extent and site of caries. If the cavity is occlusal, then they may be worth saving provided that the pulp is not involved. If the latter is exposed, still more, if it is dead, extraction is the better course. If there is approximal caries distally, it must be remembered that the adjacent side of the first permanent molar will scarcely escape. For this reason a distal cavity of any size in the second milk molar, even though in theory savable, should be regarded as an indication for extraction in order to give the first permanent molar a better chance. The vulnerability of this tooth to caries

because of deep occlusal fissures or the presence of a labial pit, is not a factor under our control. But the liability to caries developing on the mesial surface, through extension of caries from an approximate cavity in the second milk molar can be lessened if not entirely prevented by a timely removal of the milk tooth. This may sound drastic, but I would suggest that it is based on sound principles and that its adoption would be of general benefit to the child and of particular benefit to the permanent molars.

The Effect of Premature Extraction of Deciduous Teeth on the Permanent Arch

Before discussing the problems in connection with the permanent teeth, I feel that I ought to say something on the effects of premature removal of the milk teeth on the permanent teeth.

Some dentists belong to what may be called the *ad-hoc* school. They deal with a tooth without much foresight for the future. There is a hole; if it can be filled they do so. Whether the milk tooth has long to run, whether it might give rise to trouble in the future does not worry them much. If extraction seems the easier way, then the tooth is removed. Such dentists may not be numerous (I hope they are not) but they exist.

There are others whose attitude towards the milk teeth is governed by the question of sepsis, actual or potential. They regard the necessity of giving the child a clean mouth as the prime consideration and look upon the possibility of malocclusion in the future as the lesser evil to sepsis.

Others again have always in mind the fact (which is undoubtedly true) that the milk dentition paves the way for the successional teeth and that anatomically the retention of the milk teeth for their normal span is most desirable.

Now I concede the truth of the premises of this last group and I do realise that a plan of treatment such as that which I advocate does tend to allow the first permanent molars to move forwards and crowd out of the arch the second premolars. But I am unrepentant, for I am convinced that sepsis in a growing child is so serious a menace that I am prepared to take deliberately the risk that the occlusion of the permanent teeth will be impaired. But I will go further and put in a piece of special pleading and urge that possibly this forward movement of the permanent molars may not be so detrimental as orthodontists would have us believe. During the last few years the problem of the lower third molar has come much to the front. It is now generally agreed that few of the Anglo-Saxon race can accommodate 32 teeth properly. Lack of room for the lower third molar is very common. It

brings with it pain and inflammatory sequelae sometimes serious. Even if the symptoms subside and the tooth struggles into some sort of position, the gum around it is rarely healthy, and I feel sure that much parodontal mischief starts in the gum around these teeth. In the old days, when 6-year-old molars were removed almost as a routine, we did not see so many of these cases. Now I am going to suggest as a possibility that when the deciduous molars are removed before their normal time, the forward movement of the first permanent molar may allow just enough room for the third molar to erupt without difficulty. This will not, of course, enable a tooth definitely impacted to right itself though it might prevent the impaction. If this supposition is correct, we should have an easy passage for the lower third molar to set off against the second premolar being squeezed out of the arch internally. Which is the greater gain? A third molar erupting without inflammatory symptoms and coming into place so that the gum round it remains healthy or a second premolar in normal alignment? Put in the opposite way, which is the more serious condition? A second premolar out of place and comparatively easily removed or a third molar trying to erupt into a jaw too small for it and removed with difficulty? Put in this way, I do not think anyone would hesitate to say which was the lesser evil and the greater gain.

I am not prepared to say positively that this gain would result if the milk molars were removed early, for the data on which such a view could be based is lacking. But I would suggest that there is *prima facie* reason to think that if the first permanent molar is allowed to drift forwards, then the risk of third molar trouble will be lessened. At any rate, I put forward this suggestion in the hope that someone will think it worth while to investigate it. The data would not be difficult to collect and if it should prove the correctness of my suggestion, we should have an easy way of preventing a serious dental condition and the school dentist would be in the position to perform a great service to the community.

The Permanent Dentition

The importance of retaining the permanent teeth needs no urging from me for it is self-evident. Septic teeth should, however, be removed, though conceivably an exception might occasionally be made in those distressing cases of fracture of upper incisors where for æsthetic reasons it is desirable to retain a central for a time. Exposed pulps present a problem. A small exposure might be capped; I have had some success with such teeth though I regard them as being on probation and I check them regularly, radio-

graphically and otherwise. Where caries is deep and likely to lead to an exposure if all doubtful dentine is removed, I should prefer to avoid an exposure by flooding the cavity with tricresol for a few minutes, putting in a thick lining of osteo and eugenol and base-plate gutta percha on top and watching the tooth for some months before finally filling. I have fancied that the addition of a crystal of silver nitrate to the osteo has had a preservative action on the pulp, but I am not sure. The reparative function of the pulp is higher in children than in adults and liberties can be taken with it which an adult tooth would not tolerate. But this must not be taken as an excuse for insufficient preparation. In children, as in adults, it is always best to prepare a cavity as well as possible and to remove softened dentine. The only exception to this rule is that it is wiser to leave doubtful dentine rather than to get an exposure which would jeopardise the life of the tooth.

Should Symmetrical Extractions Be Done?

I am not a believer in symmetrical extractions. But if I had to remove three first molars, then I should remove the fourth. It is, however, difficult to dogmatise. In the case of the lower jaw, I think it is best to remove both first molars rather than one, chiefly because it may assist the third molars to erupt into place. But if the first molars had already come forwards, so that third molar trouble was not likely, then if one molar required extraction and the other was sound, I should leave the latter. If it is obvious that a child has, or will have, insufficient room for the canines, then the necessity of removing the lower molars does not indicate the removal of the upper molars as well. The ideal treatment of crowded canines is the removal of the first premolars. It is a tragedy to see children with all four first molars lost and crowding still present in the canine region and be compelled to remove two sound premolars in addition. Sometimes the four molars are so carious that their extraction is inevitable, but I would put in a strong plea for the retention of the upper molars in such cases if possible.

Prophylactic Odontotomy

Hyatt's views on prophylactic odontotomy have much to commend them though the prophylactic cutting out of the fissures in small children is not such a simple method as he leads us to believe. I am strongly of the opinion that wherever a really sharp, fine probe will stick in a fissure, then that should be looked on as a potential cavity and filled.

A method which is simple and often effective is to clean the fissures and work into them a thin mix of Ames' black copper cement. It is extra-

ordinarily tenacious and remains in place for a long time and certainly preserves the teeth. It only takes a few minutes to do and might be regarded as a modified form of Hyatt's methods.

Filling Materials

Silver nitrate is a useful drug if used intelligently. It is essential that the surface to which it is applied should be smooth and as far as possible self-cleansing. It is no use to apply it to approximal cavities and I fear that the routine employment of silver nitrate as a substitute for fillings cannot possibly have the preservative action which some of its exponents seem to imagine.

I detest copper amalgam and have not used it for many years. I see nothing to justify its use in place of a good silver amalgam. I am not impressed by the claim that it has a preservative action on the teeth, while the argument which I have occasionally heard a school dentist use, that it remains plastic for a long time so that a mix sufficient to last a whole session can be prepared by the nurse before the work starts, seems to me to be beneath contempt. Time saved in such a way is not worth saving.

Base-plate gutta percha has a useful place as a filling material especially when children come just before returning to school with several fillings and a short visit in which to do the work. It will carry on a child to the next holidays, but I do not regard it as a substitute of equal value to a metal filling. Black copper cement will stick to anything and has a useful place, but it will not give good contact and should be reserved for those extensive shallow cavities in which retention of a metal filling is difficult.

But the technique of conservative dentistry in children demands a paper in itself and time does not permit more than these few brief comments.

The Extraction of Teeth in Children

No child should be submitted to an extraction without some measure to prevent pain. The use of cold steel on children is brutal unless a child asks for it as occasionally some spartans do.

I am not a lover of local anæsthetics for children though I admit the difficulties in public dentistry. It is a mental strain for most children, who find it difficult to distinguish between the tactile sensations which are not abolished by the anæsthetic and the painful sensations which are, or ought to be, eliminated. To a child, what is unpleasant is regarded as little less obnoxious than what is actually painful. The presence of sepsis is generally regarded as a contra-indication to local anæsthesia. I see no reason for departing from this rule in the treatment of children.

In young children of six or under, ethyl chloride

is the ideal anæsthetic. Extractions are usually multiple and soft, mushy milk teeth are not always easy to remove. I have seen many thousands of ethyl chloride anæsthetics given without a fatality, and in the hands of a competent anæsthetist I regard it as safe.

Nitrous oxide in older children usually gives a sufficient anæsthesia, though the addition of ethyl chloride for a fractious child or if the extractions are likely to be difficult will often save the situation and enable the dentist to complete his task.

Now let me say a little about the application of my remarks to the public dental service where mass dentistry under conditions often difficult has to be carried out by a staff always insufficient to cope with the demands on it.

What I have said about the general treatment of the milk teeth is more easily carried out in school dentistry than in private practice. The one thing which impresses me is that there is an urgent need for an extension of treatment to pre-school children. When children start school and come under the school dentist, caries is already rampant, and he starts under a handicap which he never catches up. School medical officers are apt to regard the efficiency of school dentistry in terms of teeth filled in comparison with those extracted. In the earlier years of school life, it is probable that the school dentist who takes out more teeth than he fills, is doing better work than he who does the reverse.

It would be instructive if some school dentists instead of grouping extractions and fillings in two totals would group them by year periods. It would show that the ratio of extractions to fillings is higher in the earlier years, and falls in the later years when fillings should outstrip extractions. A grouping of fillings and extractions to bring out the deplorable condition of the milk teeth when children start school would reveal the necessity for pre-school treatment on a more generous scale and might arouse public authorities to extend this neglected branch of public dentistry.

Conservative work should be as carefully done in school dentistry as in private practice. Good work is, in the long run, an economy of time. I would take as a test of the efficiency of a school dentist as an operator the occlusal fillings inserted in permanent molars.

Pinhole amalgams inserted as and when a probe will stick in them are a poor substitute for a radical cutting out of the fissures. Good contact points and clean, cervical edges are the basic principles in filling teeth and their observance is necessary at all times. Nothing can condone neglect of these fundamentals. The problem of how to extract teeth is very difficult. Some school dentists use nothing but local anæsthesia. I appreciate their

problem which in rural districts is acute, but I often wonder how they can reconcile it with their professional consciences to use local anaesthetics for the removal of septic teeth.

No doubt many administrative difficulties would be raised by school medical officers if all school dentists pressed for a wider use of general anaesthetics. But if a school dentist said bluntly that he regarded it as bad dentistry to use local anaesthetics for the removal of septic teeth and that this was the general opinion of the dental profession as a whole, would the local authorities persist in refusing to supply facilities for the administration of nitrous oxide?

At any rate, I feel that the practice of school dentistry should be based on the principles of surgery and pathology and not on expediency.

Would the school medical service consent to depart from what are generally agreed to be sound principles of treatment because of administrative difficulties? If pressure was brought on them to do so, I am sure that the outcry in medical circles would quickly be effective.

In concluding this pot-pourri of mixed observations let me venture on a few aphorisms.

APHORISMS OF DENTAL PEDIATRICS.

1. The best place for most mothers is in the waiting room, but it may call for much tact to keep them there.
2. Children have their own personalities which demand and deserve respect. It should be the aim of the dentist to co-operate with this personality rather than to attempt to overawe it by his own.
3. Sympathy, gentleness and a sense of humour are perhaps the most valuable qualities of the dentist who treats children. Patience is also necessary but he who has gentleness will not lack patience.
4. Never discourage a child's questions. A child who wants to know is more than half-way towards being a good patient.
5. A patient of mine, now middle-aged, told me that when he was a child the dentist he and his sisters went to was called by them "Old open-and-shut," for those were the only words he said. Needless to say, they disliked him.
6. When seeing a small child for the first time, try and learn as much as you can by inspection before using a mirror. Hands and fingers are familiar and cause no alarm. Mirrors and probes are not familiar and what is unknown may be dreaded.
7. A gingivitis limited to one side or the presence of unilateral sordes is a certain sign that a child has had tooth-ache on that side.
8. A lack of normal spacing in the incisor region in a child of five is itself a form of malocclusion and foreshadows crowding in the permanent dentition. It is possible that growth will occur to accommodate the permanent teeth but it is improbable.
9. Orthodontic treatment is most successful when it gives a push to nature in the direction which she ought to take.

10. It has been said that you should never make friends of your patients, but he who does not make his child patients his friends will never be very successful in the management of children.

RECENT APPOINTMENTS IN THE PUBLIC HEALTH SERVICE

The following are some recent appointments to the public health departments of various local authorities.

The Editor will be grateful if members of the Society will notify him at once of any new appointments, giving details such as salary, date of appointment, etc.

Barking M.B.: A.M.O.H., Dr. William Hogg (A.M.O., West Suffolk C.C.). Salary, £600; rising by £25 to £700 p.a.

Cambridge M.B.: M.O.H., Dr. Arthur J. Smyth (A.M.O.H., Cambridge M.B.). Salary, £1,000; rising by £50 p.a. to £1,200.

Dudley C.B.: A.M.O.H. and S.M.O., Dr. Ellis Taylor. Salary, £500; rising by £25 to £700 p.a.

Northamptonshire C.C.: M.O.H., Dr. C. Milliken Smith (Deputy C.M.O.H., Northamptonshire C.C.). Commencing salary, £1,100 p.a.

Nottingham C.B.: A.S.M.O., Dr. H. Mary Macleod.

Preston C.B.: Med. Supt., Sharoe Green Hospital, Dr. J. Laurie. Salary, £850; rising to £1,062.

Shipley U.D.: M.O.H., Dr. Edward D. Irvine (Chief A.M.O.H., Blackburn C.B.).

Somerset C.C.: M.O.H. and S.M.O., Dr. J. F. Davidson (C.M.O.H., West Suffolk C.C.). Salary £1,500 p.a.

Weymouth M.B.: M.O.H., Dr. Eric J. Gordon Wallace (Deputy M.O.H., Dudley C.B.). Salary, £800 p.a.

Dr. W. Archibald, who recently resigned his appointment as M.O.H. and S.M.O. for the Borough of Luton owing to ill-health, has received warm tributes from the Borough Council for his able services over 28 years.

THE R.S.I. HEALTH CONGRESS.—The programme of the Health Congress, which is to be held at Birmingham from July 12th to 17th, has recently been issued. The following are among the subjects to be discussed at the Congress:—

The Development of the Maternity Service.
Care of the Pre-School Child.
The Future of our Population.
Physical Education.
Incapacitating Sickness.
Health Education and the Insured Person.
Health Education of the School Child.
Antimalarial Marsh Reclamation and Drainage.
Housing Progress and Prospects.
Safeguarding of Bulk Milk.
Value of Medical Services to Industry.
Application of Physiology to Hygiene in Industry.
Disinfestation of Furniture.

The Earl of Dudley is the President of the Congress, and he will deliver an Inaugural Address. The Minister of Health, Sir Kingsley Wood, will also address a general session of the Congress.

The High Incidence of Physical Defects in Five- to Six-Year-Old School Children*

By E. H. WILKINS, M.B., D.P.H.

Assistant School Medical Officer, City of Birmingham.

This investigation was prompted by problems in the assessment of nutrition. For instance, it was felt to be incongruous to record as normal children who presented well-marked abnormalities of an anatomical kind. By "normality," I mean true biological normality; the normal in this relation has nothing to do with existing averages, which include the pathologically abnormal. The series reported on includes a total of 1,083 children from 5 to 6 years of age, and the data have been collected during the ordinary course of medical inspection.

In addition to recording defects and ailments calling for treatment, I have taken notes of the incidence and degree of certain deformities which previous observation had led me to believe were extremely common. These deformities are: bossing of the skull, depressions and irregularities of the chest wall, knock-knee and deformities of the feet. Faulty posture was recorded only when the defect was very noticeable, attention in this respect being directed primarily to the condition of the chest wall.

A count was also made of the number of temporary teeth in each child's mouth which were grossly hypoplastic, carious or which had been extracted or otherwise treated for caries. Dental probe and mirror were not used, and no exhaustive search for hidden spots of caries was made. At this age, none of the temporary teeth has been shed naturally. The average number of defective teeth was found by this method to be almost 6.82 per head or, in the aggregate, 34 per cent. of the total number of teeth. The number of complete, naturally sound sets of temporary teeth was 6.1 per cent. In other words, almost 94 per cent. of the children had suffered some decay or had some gross defect of the enamel of their temporary teeth. It should be emphasised that a complete survey of the child was not attempted; dental irregularity and narrowness of the palate, for instance, were not recorded.

Bossing of the skull is an accepted sign of rickets. Bossing of the parietal bone has been assessed in the manner described by Dr. G. C. M. M'Gonigle in the Report published in 1931 by the Board of Education Committee on the Association of Rickets and Dental Disease with Adenoids

*Paper read to a joint meeting of the Maternity and Child Welfare and School Medical Groups, May 21st, 1937.

and Enlarged Tonsils. The frontal boss, being less frequent, and, in its minor degrees, more difficult to assess with certainty, has not been systematically recorded in this series. In any case, where there has been the slightest doubt in my mind about the existence of bossing of the parietal bone, the child has been recorded as not presenting this sign. I quite agree with M'Gonigle that the even convexity of the parietal bone in some skulls is very different from that of the bossed skull. Whether all those skulls which I have recorded as "bossed" are pathological, is a matter which may call for further investigation. Authorities do not seem to be agreed about the persistence of rachitic bossing in children of school age. For instance, Park and Eliot of Baltimore say, "The heads of many normal infants show large frontal and parietal eminences and protruding foreheads." By this, I take it, they do not regard these signs as indicating what they call rickets. But that is not to say that what the Board of Education Committee recorded as bossing, and what I have recorded as bossing, is not pathological. That it is pathological is supported by the lower percentages of the various degrees of bossing found in the more prosperous as compared with those in the less prosperous group of schools. In this respect the figures for bossing are roughly parallel with those for chest deformity and knock-knee, though they do not necessarily correspond in the same individuals. At any rate, those children whom I have classified as having a pronounced degree of bossing have prominent knobs which are almost visible through the hair and in some cases feel like rudimentary horns. I cannot believe that these can be mere anatomical variations. According to M'Gonigle, bossing never begins after the first few weeks of life, and would, therefore, seem to be due to prenatal malnutrition, that is, malnutrition of the mother. If this is so, it is of value as a record of malnutrition occurring at a very early stage of life. Following the directions of the Board of Education Report, I found that bossing occurred in 74.2 per cent. of the children examined. My experience of examining the skulls of these children leads me to suspect that there is a great prevalence of bossing of a minor degree which I have not recorded. That is to say, that the standard used in assessing bossing of the skull has been less exacting than that used for the other abnormalities.

Deformities of the chest wall are extremely common in the elementary school children of all social classes in my district. In a previous investigation, published in the Birmingham School Medical Officer's Report for 1927, I found 77.0 per cent. of 5 to 6 year-old children presenting a clearly noticeable degree of chest deformity, that is, omitting the very slight degrees. The standard of normality adopted in the present investigation is slightly more exacting. It is impossible in the space available to describe these deformities in detail. A description is given in the Board of Education Report already referred to. The deformities consist of irregularities, depressions and projections, which are departures from the even convexity of the well-built chest wall. Many of these irregularities are obvious from a cursory glance at the unclothed chest. Very slight degrees may be noticeable only on viewing the chest from certain angles. The chest has two convex curvatures: one passing vertically from the collar bone downwards to merge with the contour of the abdomen, the other, a transverse convexity, passing horizontally from the back to the middle line of the front of the chest, where there is normally a slight dip over the sternum. I should emphasise that slight but indisputable degrees of deformity may be easily overlooked. A type which most easily escapes notice is a disproportionate bulging of the third, fourth and fifth ribs, at the front of the chest, often associated with a slight relative or actual, depression of the lower ribs or Harrison's sulcus. This bulging of the ribs, when well marked, merges with the type of deformity known as pigeon chest. The view which I expressed in 1927, that there are no distinct types of chest deformity, is confirmed by my present observations. There is no definite line of demarcation, for instance, between pigeon chest and Harrison's sulcus; the various types can be shown to merge into each other. Chest deformity commonly consists of a combination of two or more out of six or seven kinds of abnormality of contour of the chest wall. The composite deformity which a chest assumes doubtless depends on the degree of softness of the bones in relation to the combination of normal and abnormal strains and stresses to which they are subjected by breathing, coughing, abdominal distension, and so on. The deformities, be it noted, occur in the front of the chest where the movement of, and probably for that reason the strain on, the ribs is greatest. Chest deformity occurred in 89.4 per cent. of the children. Its very high prevalence suggests that this kind of deformity is a sensitive index of some morbid influence during the early years of the child's life. I would expect that these defects of the chest wall do not occur, or at least

not to the same extent, in the well-nourished, well-provided for classes of the community. So far as I am aware, they do not occur in very young infants. Respiratory catarrhs, nasal obstruction and cough, undoubtedly aggravate the tendency to deformity, but it is necessary to postulate a much more widespread cause or set of causes for deformities occurring in so large a proportion of the children examined.

Of deformities of the legs, knock-knee is very much more prevalent at the age of 5 years than is bow-leg. Bow-legs at this age are rare and of slight degree, whereas at earlier ages, say 2 years, there is, I believe, more bow-leg deformity. My impression is also that, in boys at least, knock-knee becomes progressively less as one passes from the 5 year to the 12 year group, that there is a progressive change over from knock-knee to the bow-legged tendency by the age of puberty. I intend to make this the subject of further enquiry.

I have recorded these leg deformities roughly by measurement. I suggest that my method is an advance on that described by M'Gonigle in the Education Board Report mentioned above. In my inspection, the child is made to stand bare-footed with the feet parallel, the knees straight, and the internal condyles of the knees in contact; the contact of the knees should be fairly firm but they should not be squeezed together. These conditions are necessary in order to avoid overestimating or overlooking an existing knock-knee. The gap, if any, between the ankles is then noted. In this investigation a gap of less than a good half inch has been ignored, and such a pair of legs recorded as straight. Knock-knee is often associated with genu-recurvatum which, when well marked, considerably accentuates the appearance of knock-knee when the feet are turned outwards. Knock-knee was recorded in three degrees: (i) less than 1 inch, (ii) from 1 to 2 inches inclusive, and (iii) over 2 inches. The maximum gap in this series was 4½ inches. It is tempting to try to assess knock-knee by the quicker method of making the child sit on a low chair facing the observer, who then takes the ankles in his hands, the knees being straight. This method is faulty, as knock-knee in many cases is decidedly greater when the legs bear the weight of the body; in some, an increase of an inch is caused by making the child stand. For bow-legs, the child stands with the feet together and the knees straight, when the gap between the condyles of the knees is noted. Knock-knee was found in 76.7 per cent. and bow-leg in less than 1.0 per cent. of the children examined. I found no bow-leg of more than an inch.

The deformities of the feet at this age consist of deflection of the big toe, and various degrees of flattening of the arch or dropping inwards of the

ankles; the latter two conditions are associated with each other and also with knock-knee. Decision as to the presence and degree of sagging of the arch is not always easy. It is essential to make the child stand, turn round, and change its position several times, the feet being viewed especially from behind and from the side, for projection of the cuboid and internal cuneiform bones. There seems to be every reason to regard even the slightest foot deformity in children as of serious significance, in view of the enormous amount of suffering due to defective feet in adult life. Observation of the general public makes it clear that foot deformities in the adult are for the most part the same as those noticed in 5-year-old children; 28.0 per cent. of the children were recorded as showing one or more of the foot deformities mentioned.

It is hardly necessary to say that the anatomically normal leg is straight; when the knees are in contact the ankles should also be in contact. The foot and ankle should not sag inwards, and there should be an adequate arch. The straightness of the leg has its significance in the biological fact that any departure from it places the leg and foot at a mechanical disadvantage. In knock-knee the normally horizontal axes of the knee and ankle joints are not parallel and the weight-bearing function of the limb is impaired.

It will be noticed that the defects here tabulated are of a very definite kind. Neither their existence nor their degree can be a matter of opinion once a set of standards has been decided on. The assessment is purely objective. With the exception of bossing, about which there seems to be difference of opinion, there can be no doubt as to whether these deformities are defects; they are pathological departures from normality and contribute to defective physique in the adult. It is not claimed that all these deformities are of serious consequence as deformities; they are, I suggest, significant as indices of widespread defect of physique, which

probably has much to do with general liability to ill-health and disease. This investigation may be described as an attempt to trace the beginnings of that poorness of physique which is so prevalent and in some ways so much more obvious in the adult population. It is significant that out of the total of 1,083 children examined, not one normal child was found. Even if dental decay be set aside, as perhaps to a certain extent a separate problem, we find that almost every child examined presented at least two well-defined defects other than dental.

Compared with some of the other areas of the city, my district may contain an unusually large number of the very poor, but when the data are tabulated for the schools attended by the more prosperous as compared with the less prosperous the differences noted are not very great. The more prosperous group contained 44.2 per cent. of the children reported on, and included the families of many skilled workers earning what are regarded as good wages. The two groups are on the whole probably not very widely separated in their average economic status. The differences in expenditure per head on food, of the two groups, we should expect to be less than the apparent difference in economic status. It must be borne in mind also that the apparently more prosperous schools include a number of the very poor. Nevertheless, such differences as exist in the proportion of defects found are all in favour of the more prosperous group. On the whole, I have no reason to think that the school population I have examined differs very much from that of any other urban district in the country.

It is interesting to compare my figures with those obtained in two similar investigations elsewhere. M'Gonigle some 10 years ago reports 83 per cent. of Durham school children (of all ages) as showing one or more of these signs which I have described. The Board of Education Report already quoted gives lower figures for bony

Attending Schools in	Number Exam- ined.	Percentages of Children showing Evidence of											Average Defective, Teeth per Head.	
		Bossing of Parietal Bone.			Deformity of Chest Wall.			Knock Knee.			Bow Leg.	Foot Deformity.		Perfect Dentition.
		s.	m.	p.	s.	m.	p.	s.	m.	p.				
Poorer District	604	37.5	26.5	17.7	41.8	41.2	9.7	21.2	51.1	6.7	0.82	30.0	5.9	6.9
			81.7			92.8			79.1					
Better District	479	34.0	22.0	8.2	52.7	25.2	7.8	19.3	49.6	4.6	0.62	26.0	6.2	6.6
			64.2			85.7			73.5					
Aggregate Figures	1,083	36.0	24.6	13.6	46.7	34.1	8.6	20.4	50.5	5.8	0.7	28.0	6.1	6.8
			74.2			89.4			76.7					

Degrees of defectiveness: s = slight; m = medium; p = plus.

deformities in L.C.C. children, but when the findings of their medical officers are considered separately, we find that the highest figure for parietal bossing is practically the same as mine—73 per cent. as compared with my 74 per cent. Their highest figure for knock-knee is higher than mine—82.5 per cent. compared with my 76.7 per cent. Their highest for deformity of the chest wall is 43.6 per cent., and if beading of the ribs is included, it is 55 per cent. against my 89.4 per cent. This difference I think must be due to the L.C.C. medical officers having adopted a much lower standard and passed many minor degrees of deformity as normal.

Estimates of the prevalence of rickets by other workers are interesting in comparison. To quote from Parsons and Barling, Schmorl in Dresden, 1901-5, in 386 children dying from all causes, found by autopsy a maximum of 98 per cent. with rickets between the ages of 4 and 18 months, and this figure did not include cases of completely healed rickets. An investigation in Baltimore, 1926-30, showed up to 60 per cent. with rickets between 7 months and 2 years. More recently, Eliot and Souther, U.S.A., examined 1,186 children from 1 to 5 years, by physical examination and by X-rays, and found a total of 61 per cent. rachitic. The peak of more severe rickets (24 per cent.) occurred at about 17 months; the peak of the slighter degrees (37 per cent.) occurred at about 4 months. Eliot and Souther emphasise that these slighter degrees of rickets, between the third and tenth months, usually pass unnoticed. They say: "This association between mild rickets and rapid growth has raised the question whether mild rickets should not be regarded as physiological, but the question is of an academic interest only since the occurrence of rickets of this mild degree is of little practical importance." My comment on this is that, whatever the clinician may do, the M.O. of Health should not countenance the acceptance of any degree of disease as physiological; and I suggest that what is recognisable as clinical disease may fall considerably short of the full extent of pathological defect in the community. May it not be, for instance, that there is a prevalence of slight rickets, not clinically recognisable as such, which produces these minor bony deformities and a good deal of impairment of physique? Whether the figures I have quoted for rickets relate to the same sort of thing that I have been recording is not what I am immediately concerned with. My point is that other investigators have found a high prevalence of *something* which militates against normality of physique. Apart from the findings of M'Gonigle and the Board of Education Committee already referred to, my figures are, therefore, not entirely unsupported.

To what is this very high incidence of defects due? What cause or set of causes can act so generally as to affect practically the whole of the child population examined? There is one cause more than any other to which these defects of physique are fundamentally attributable, namely, faulty nutrition. The work of Sir Robert McCarrison, among others, can leave little doubt on this point. Experiments in animal nutrition have demonstrated conclusively that food outweighs all other factors put together, in deciding the standard of growth and physique. We need not attribute all these malformations to rickets, for the common dietary deficiencies are multiple.

Faulty nutrition is most likely to occur, or at least, is most serious in its effects, in the prenatal period and in the first few years of postnatal life. It is in this early period that these defects originate. Are Maternity and Child Welfare Medical Officers aware of the poor standard of physique in the child they pass on to the School Medical Officer at 5 years of age? Can they throw any light on the causation of these defects? What are the precise periods of origin of bossing, chest deformity and knock-knee?

I should like to ask other school medical officers to make investigations similar to mine. In doing so, I would urge them to adopt a strict standard of anatomical normality. No other standard is of the slightest scientific value. With the increasing attention being devoted to improving the physique of the people, the responsibility for accounting for these things will fall more and more on the shoulders of the Health and School Medical Services of this country.

REFERENCES.

- Board of Education: Committee on Adenoids and Enlarged Tonsils (1931). The Association of Rickets and Dental Disease with Adenoids and Enlarged Tonsils. Park, E.A., and Eliot, Martha M., contribution in Parsons' and Barling's *Diseases of Infancy and Childhood*, Vol. I, p. 282.
— p. 228 and 229.
Wilkins, E. H. Report of the School Medical Officer, Birmingham, 1927.

DISCUSSION.

Dr. Agnes Nicoll (President, M. & C.W. Group), said that we all agreed that there was a large degree of minor deformities or variations from the normal in children under five years of age, and she asked what was the real significance of these variations and suggested that they might be comparable with the variations between one human face and another. She suggested that bony deformities might be due to inequalities of growth so that it could not be assumed *a priori* that they were rachitic in origin. Regarding chest deformities, she thought that tight clothing of infants had a large influence in preventing normal development. In general, her impression was that the physical and general

condition of children had improved greatly in the last ten years. Replying to Dr. Nicolls' points, **Dr. Wilkins** said that one had only to compare the poor with more prosperous and well-nourished children to see that such deformities were abnormal.

Dr. Muriel Radford asked whether inquiries had been made about the ante-natal health of the mothers, their attendance at M. & C.W. centres, and whether there was any X-ray evidence, and **Dr. Marjorie Bank** inquired as to the passing on of records from the M. & C.W. to the School Medical Service. **Dr. Wilkins** replied that there was an arrangement for the passing on of records at Birmingham but thought it had not been of much value as one medical officer's records were often not intelligible to another. This reply led to an appeal from **Dr. Puddicombe** that such records must be made intelligible as between one department and another, and also as between medical officers.

Dr. C. E. St. Clair Stockwell (S.M.O., Leeds), said that the School Medical Service was hidebound to Board of Education standards. Regarding nutrition estimates, he said that in Leeds these varied from 5 to 40 per cent. in the records of eight medical officers. Regarding knock-knees, he thought that the normal difference between the sexes had not been taken into account and he went on to stress the importance of early X-rays to make sure that the children were not rachitic. X-rays in infancy could show definite changes in the growing ends of bones. He thought bad breathing largely responsible for chest deformities.

Dr. V. Freeman (Dep. M.O.H., Islington Met. B.) wondered whether bad early feeding of infants, e.g., with condensed milk, had an influence on the chest deformities and suggested also that respiratory catarrhs had a decalcifying effect. School records gave a static analysis only, and he felt that the school system might be altered to allow of intensive and continuous investigations of small numbers, with X-rays, controls, etc.

Dr. Wilkins said that an investigation on proper feeding had been in progress in Birmingham for some three months and had already shown astonishing results. It consisted of the giving of extra rations to 30 children who were in poor nutritional condition. The ration consisted of 1½ pints per child of a chocolate and dried milk preparation, which contained a special addition of vitamins A, C and D, and of calcium glutinate. Iron was present in the chocolate part of the preparation. The vitamin B was given in the form of one-eighth of a grain of dried brewers' yeast supplied fresh daily and put into a wholemeal sandwich.

Dr. E. H. R. Smithard (M.O.H., Southall-Norwood) thought that the symptoms described by Dr. Wilkins were not correlated with any known pathological condition, and **Dr. E. V. Saunders Jacobs** (A.M.O., Woolwich) said that the records of the toddlers' clinics at Woolwich showed anatomical abnormalities in so many children that it was difficult to know whether they were pathological.

Proposing a vote of thanks, **Dr. Jean Mackintosh** (A.M.O., Stockport C.B.) said that the discussion had been most useful in drawing attention to the difficulty of variations between one medical officer's assessment of nutrition and another's.

THE BOURNEMOUTH, POOLE AND CHRISTCHURCH TYPHOID EPIDEMIC*

By H. GORDON SMITH, M.D., D.P.H.,

Medical Officer of Health, Bournemouth C.B.

This afternoon I shall endeavour to give you an account of the epidemic of typhoid which began in the latter weeks of August in Bournemouth and the neighbouring boroughs of Poole and Christchurch. As Bournemouth is a County Borough and provided the largest number of cases, the outbreak has, unfortunately, been referred to by many as the Bournemouth epidemic.

The populations of the three districts concerned are—as given by the Registrar-General for 1935:—Bournemouth, 118,200; Poole, 65,600; and Christchurch, 12,820.

It will be apparent, however, that in the holiday season the total population will be increased by some 60,000 visitors to at least a quarter of a million and, of course, there are in addition many people who pass through the town and partake of meals without becoming temporary residents.

In Bournemouth the epidemic commenced in a somewhat insidious manner. In July there had been one or two household cases of what appeared to be food poisoning, though laboratory reports did not confirm this diagnosis. Also it was reported that outside Bournemouth numerous people were suffering from a mild illness characterised by sickness, diarrhoea and slight pyrexia. It seemed probable therefore that Bournemouth would be similarly affected.

Consequently, when **Dr. C. F. Pedley**, Deputy M.O.H., communicated with me on August 20th informing me that he had been called in to see patients whose symptoms suggested food-poisoning, I was not at all surprised. **Dr. Pedley**, who was acting for me while I was away on holiday, told me that on August 13th a general practitioner had asked him to see in an hotel certain individuals who had recently been taken ill. The prominent symptoms were headache and other pains associated with pyrexia. **Dr. Pedley** advised that blood cultures should be made but these did not give definite results. On August 20th other practitioners drew attention to similar cases and enteric was seriously considered. On August 21st, **Dr. Maule Horne**, of Poole, communicated with **Dr. Pedley**, as he had found various patients in his area who were possibly suffering from enteric.

Dr. Pedley and **Dr. Maule Horne** decided to inform the Ministry immediately. In consequence, **Dr. Vernon Shaw**, one of the Ministry's M.O.s, whose recent death was so much regretted, came down on August 22nd. A conference was held in Poole. There were present: **Dr. Shaw**, **Dr. Pedley**, certain practitioners who were in attendance on the patients and the manager of a dairy whom we will describe as **Mr. X**. **Dr. Pedley** had already made enquiries as to the food supplied to the patients, and had discovered that most of them, if not all, had consumed milk from a dairy of which **Mr. X** was the manager. At this conference, in the morning of August 22nd, it was decided that there was in the area an outbreak of enteric, probably paratyphoid, and

* Paper read to the Southern Branch, May 10th, 1937.

that this was attributable to milk. At this point it should be mentioned that the dairy referred to had a depôt in Poole, but retailed milk throughout Poole, Bournemouth and a part only of Christchurch. The milk was derived from farms in Dorset, so that the investigations as to the origin of the outbreak were not undertaken by the Bournemouth health department. Dr. Shaw requested Mr. X. to arrange at once for the pasteurisation of all milk which passed through his depôt, granting him permission to continue his retail business when this condition had been complied with. Dr. Shaw also recommended to Dr. Pedley and to Dr. Maule Horne that every patient should be removed to an isolation hospital and that medical practitioners should be asked to notify suspicious cases. Dr. Pedley therefore arranged the same day that all practising doctors would be informed by a circular letter of the circumstances, at the same time requesting them to send patients into the Isolation Hospital. On August 24th, as the result of a further letter from Dr. Pedley, I returned from my holiday with the intention of making a few enquiries, but finding that notifications were coming in rapidly, decided to take over the responsibility. I realised that difficulties would be experienced in connection with the Isolation Hospital. Unfortunately, the Council has not yet provided the new Institution that I have been recommending for several years, and it was at once apparent that the accommodation would be inadequate. A special sub-committee of the Council was appointed to deal with the emergency and consideration was promptly given to hospital accommodation. The old Poor-Law Institution at Christchurch has not been appropriated but is still administered by the Public Assistance Committee of the Council. It was made possible, however, with the active support of Ministry officials, to obtain the loan of wards in the female block for the use of enteric patients. A separate nursing staff and R.M.O. were provided by the Health Committee. It was obvious in the course of a few days that still further beds would be needed, and as it was undesirable to cause overcrowding among the original inmates of Fairmile House, other buildings were considered. At that time, there was in a secluded part of Bournemouth a large unoccupied house with considerable grounds, known as Haddon Hill. In the course of a few hours this was acquired and steps taken to convert it into a hospital. Three days after taking possession of the house patients were being admitted and the building of temporary wards had commenced. On September 10th a further institution came into use as the Governors of the Royal Victoria and West Hants Hospital lent to the Corporation the Poole Road Hospital, together with the complete staff.

In the week following the admission of the first cases to hospital it was established that the epidemic was one of typhoid. Several of the patients were seriously ill and likely to need prolonged nursing. On the other hand it was anticipated that as the milk had been pasteurised from August 22nd there would be in the course of two or three weeks a marked drop in the number of notifications. This actually occurred, thereby providing—if any was needed—confirmation of the cause of the outbreak. From the outset, investigations were actively pursued by the M.O.s of Poole and

Dorset in conjunction with Drs. Shaw and Conybeare of the Ministry. As you know, the results of their efforts have not yet been published and I am not in a position to give you details. You may have noted, however, that Dr. Scott, of the Ministry, recently made the following observations which appear to introduce some novel ideas:—

“One outbreak of enteric fever of over 1,000 cases was traced to a single milk supply. It was discovered that the cows had as their drinking place a small river into which a few hundred yards upstream a sewage effluent was discharging, and when this was examined it was found to contain enormous numbers of typhoid bacilli, some hundreds per cubic centimetre. It was possible, and even likely, that the cows, during drinking and wading in the stream, acquired surface contamination of their legs and udders, and equally likely that this contamination might be conveyed to the milk in spite of the regular washing of the udders before milking. But it seemed improbable that such an accident could occur every day throughout the whole of three weeks and provide each day a fully infective dose, especially when one considered the great dilution which must have resulted from bulking the milk with that of other farms, and the same principle seemed to attach to the idea that typhoid bacilli ingested by the cows would survive in the alimentary canal and be discharged in the faeces and in sufficient doses contaminate the milk. Was it possible that a cow ingesting sewage contaminated with enteric fever could itself become a profuse source of these bacilli? It was most regrettable that it was too late to get direct proof in this instance.”

So far as Bournemouth is concerned it has been possible during a very trying period of administration to make many observations which will be helpful on future occasions. Naturally, during a serious emergency criticism has been rife. I would like, if you will permit me, to refer in a somewhat desultory manner to certain points that appear to me interesting and instructive. There were treated in the County Borough 284 definite cases, but it is certain that many others who were slightly ill were not notified. Information was also obtained as to 188 other individuals who were notified after they left Bournemouth—one of them as far away as New York. It is difficult to understand why, when a bulked milk is concerned, households have been affected so differently. Several hotels and boarding houses received their supply from the same roundsman, yet one case only was heard of in connection with a large establishment and an appreciable number came from another of approximately the same size. I have discussed this point with Dr. Shaw and Mr. X, but neither provided me with a solution. In certain instances where infection took place, the milk seems to have been consumed on one occasion only; 254 of the 284 patients were known to have been supplied with milk from Mr. X's dairy and it was probable that the remainder had also had some from the same source without being aware of the fact.

Certain critics who were unable or unwilling to be convinced that the infection was milk-borne referred to the cases that were notified some time after pasteurisation had been effected, but on enquiry it was ascertained that these were ambulant patients who had obviously been infected prior to pasteurisation. It would appear that the milk was in an infective state during the latter part

of July up to the date when pasteurisation was commenced, i.e. August 22nd. As is, I believe, usual in respect of epidemics due to milk, there was a preponderance of females, 171 having been notified as compared with 115 males. The incidence was greatest among children and young adults. Thirty-one deaths occurred, giving a death-rate of 10.9 per cent.

When a case was notified a list of contacts was prepared and if one had left the town, information sent when possible to the M.O.H. of the district concerned. This involved much work but it was suggested by those who accused the Council of a hush-hush policy that our efforts should have gone further and that we should have informed every M.O.H. in the country at the beginning of the outbreak.

The question of removal of patients to hospital also produced much criticism. Several of the victims were well-to-do and receiving treatment in nursing homes or their own homes. Dr. Shaw, however, was insistent on removal in every case, stating that power was given to enforce this by Sec. 124, P.H.A., 1875, and Sec. 65 of the P.H. Acts, Amendment Act, 1907, which reads as follows:—

“Sec. 124 of the Public Health Act, 1875, shall extend and apply to all cases of persons suffering from any dangerous infectious disease, and being in or upon any house or premises where such persons cannot be effectually isolated so as to prevent the spread of the disease.”

I must admit that my views did not coincide with those of Dr. Shaw and the Town Clerk was inclined to support me. Consequently, 54 patients were allowed to remain in nursing institutions or in their own homes where conditions appeared satisfactory.

At the commencement of the epidemic there were many—including doctors—who adopted a gloomy outlook and talked much of carriers. It was anticipated that some of the patients would not clear themselves of the bacilli and seven of them, or 2.4 per cent., failed to give the three negative results for urine and faeces that were required. Ultimately they were discharged from hospital with the exception of one who insisted on going home when convalescent. This woman infected her child, which is the only known instance of infection due to a carrier. As is well known, carriers can only be controlled by means of the Public Health (Infectious Diseases) Regulations, 1927, which give a local authority power to deal with an individual who is concerned with the preparation or handling of food.

None of the carriers dealt with food but one was a dental mechanic. It is not possible to help this man who is, I believe, still out of work as his employer is not willing to let him resume his occupation. I may add that I have communicated with the Ministry on the subject and have been advised that it is undesirable to harass individual carriers.

THE London School of Hygiene and Tropical Medicine announces that a Fishmongers' Company Studentship is to be awarded shortly, this carrying a remission of fees for the D.P.H. course at the School.

Applications to compete for the studentship must be sent to the Secretary of the School by June 14th, and the examination will be held on June 22nd and 23rd.

A CLEAN MILK COMPETITION* with Special Reference to the Bacterial Count and Methylene Blue Test

By

W. B. STOTT, L.R.C.P. & S., D.P.H.,

Medical Officer of Health, Cuckfield Rural District Council,
and

H. BARKWORTH,

South-Eastern Agricultural College, Wye, Kent.

Clean milk production, i.e. the day-to-day production of milk of low bacterial content and conforming in all other respects at every milking time with this and other points of high quality milk, is not a business to be learnt in a day. Spectacular results are obtainable by any tyro but the foundations of day-to-day success must be grounded on experience. Sound practice, a correct routine procedure and good team work by all concerned in the cowshed, the dairy and on the managerial side, are needful for this day-to-day success, and these points can only be acquired by experience.

Moreover, clean milk production is a positive achievement. It may be pleasant to achieve wisdom by the pursuit of folly, but this method is not recommended to would-be scholars and serious students. Similarly, clean milk production is more, much more, than the mere avoidance of gross dirt and of gross negligence. The ideal is the aseptic handling of the milk, and though the absolute asepsis of the operating theatre cannot be attained at the farm, results from the best herds prove that external contamination of the milk can be reduced to a surprising degree. The average figure for the normal udder flora of healthy milk cannot be put at less than 500 per ml., and yet there are many herds whose milk leaves the farm with a bacterial content little in excess of this figure.

A clean milk competition remains one of the best training grounds for clean milk methods. The competitive element induces a willingness to work and a receptivity to new ideas which it would be normally exceedingly difficult to attain. Provided the period of competition is adequate the workers can be taught, good habits acquired and, what is most important, an understanding of the essential facts and principles attained, with a degree of success which would require much more individual attention at normal times. Although clean milk competitions have been in the main organised by the County Agricultural Staffs there have been several successful competitions organised by District Councils, usually under the control of the medical officer of health. The advantages of a District Council as compared to a County Council organising such competitions are that the area covered is smaller, the officials have more intimate knowledge of the conditions on the farms concerned, and the competition being more local it is possible to give greater publicity through the local press, thus resulting in greater keenness among the competitors.

The particular competition with which we are at the moment concerned was organised by the Cuckfield

* Paper read to the Home Counties Branch, Society of Medical Officers of Health, March 5th, 1937.

Rural District Council. All milk producers on the Register (270) were invited to enter, no entry fee being charged. Thirty-one producers entered for the competition which was held from April to September, 1936. The entries were divided into four classes :

- I. Accredited : Owner-Occupier.
- II. Accredited : Tenant Farmer.
- III. Producers of Ordinary Milk.
- IV. Small Producers : 8 cows and under.

Four visits were paid to each farm by the Medical Officer of Health (W. B. S.), accompanied by one of the Sanitary Inspectors, three of the inspections being paid at afternoon milking time and one at early morning milking time. At each of the visits the buildings were inspected, the cleanliness of the cows noted, the methods of milking, the handling of the milk, the washing up and sterilisation of utensils observed, and the utensils examined.

Marks were awarded for all these points on an agreed scale and when faults were found the milkers were informed and advice given.

In addition to the visits of inspection, four samples of milk were taken from each producer, two at early morning and two at afternoon milking time. These samples were not taken on the same day as the inspection visits but were taken as near as possible to them. It should be mentioned that all visits for inspections and sampling were surprise visits.

All samples were sent to the Dairy Laboratory at the South-Eastern Agricultural College, Wye, where the analyses were in charge of the Dairy Bacteriologist, Mr. H. Barkworth. The samples were sent by train in boxes having a copper container for ice and arrived at the College the same day. The samples were left in the boxes if the temperature of the milk on arrival was below 60° F., but in the warmer months fresh ice was added. In general the temperature of the samples was 55° to 60° F., and must be considered as conforming more to winter conditions if we think in terms of atmospheric temperature. The reason for this procedure was to ensure uniformity in comparing the samples, as it was quite impossible to take samples from every producer on the one day. If they had been kept at atmospheric temperature owing to differences from day to day proper comparisons could not have been made. All samples were tested the following day at 10 a.m. when the morning milk would be 28 hours and the afternoon samples about 20 hours old. The laboratory tests used were:—plate count and coliform test and keeping quality at 60° F. (*Min. Agric. Bull.*, 46. 5th ed., Feb., 1934) and the methylene blue reduction test at 37° C. in accordance with Ministry of Health technique.

A summary of the marks for inspection and for laboratory tests is given below. It was also desired to devise a simple scale of marks, not excessively detailed and such that while scientifically reasonable would also remain comprehensible to the lay mind. It might be noted here that conditions found at early morning milking compared favourably with conditions at afternoon milking and the analyses of the milk samples confirmed this.

The samples were numbered serially from No. 1 onwards and so the laboratory was quite unable to connect any particular result with any particular farm.

Marks for Inspection.

(a)	Cleanliness of Cowsheds	...	10
(b)	Cleanliness of Cows	...	10
(c)	Cleanliness of Milkers	...	10
(d)	Methods	...	30
(e)	Cleanliness of Dairy	...	10

Marks for Laboratory Test.

(a)	Bacterial Count ...	...	...	15
(b)	Absence of Coliform Organisms			5
(c)	Keeping Quality Test ...	...	...	5
(d)	Methylene Blue Test ...	...	...	5

At the end of the sampling period those who had highest marks were selected for a visit by two outside judges, Mr. J. H. Anderson, of the inspectorate staff of the Ministry of Agriculture, and Mr. Barkworth. The judges visited the selected farms and placed them in order, forming their opinion on the methods and conditions as they saw them at the time of their visit. The judges' visit was made the occasion of a special programme. Representatives of local authorities and of various public bodies in East Sussex were invited to be present and a party of about 90 visited these farms, following a few minutes behind the judges. The proceedings ended with tea at a rendezvous which had been announced on the printed programmes and the final awards and placings were then announced.

After the final judging, Mr. Anderson commented:—

"It is not easy to over-estimate the benefit contributed by this type of work to all sections of the community. The consumer has his confidence in milk strengthened by the use of a commodity which has longer keeping properties and, since the lack of these qualities very soon puts a limit to his demand, may be encouraged to take increasing daily supplies; the retailer benefits to a large extent by this increase and by handling a milk of better quality without the losses due to souring which were once so common a feature during the heat of summer. The all-round satisfaction which comes from the handling and consumption of a better quality milk, in turn reacts upon the fortunes of the producer."

It is naturally interesting to see how far the inspection marks and the laboratory results are in agreement, and how far the new methylene blue reduction test compares with the plate count. We must remember that the methylene blue reduction test was not introduced as a method of fine grading, but that it is used as a "pass" test. Whatever its usefulness in other spheres it is obvious from the results that under the transit conditions observed in this competition the methylene blue test, when limited to 5½ hours, is of no use in separating anything except a few really bad samples. Practically all (93 per cent.) of the samples retained the colour for 5½ hours. Some variation occurred in the keeping qualities recorded. Over a large series of samples there is a relationship between the total bacterial content and the keeping quality test, but the latter test is not suited to great accuracy and the result for a single sample is known to have a variability of plus or minus one day (Barkworth, 1935).

The relationship between the plate count, the total marks gained for all laboratory tests on each sample and the inspection marks will be seen from the table at end of the paper.

In the report on the Bacteriological Grading of Milk, by Prof. Wilson, the plate count test is severely criticised. It is stated that the experimental error in this test is very large and on any one count an allowance of ± 90 per cent. may have to be made, and that the test seems to afford no better index of the sanitary conditions of production than the modified methylene blue test.

Prof. Wilson's investigations were most thorough but he has based his estimate of error on extreme values. Working on the results of ten-fold plate counts Barkworth (1935) says: "A review of the figures suggests that though, in the main, replicate plate counts will not vary by more than 10 per cent., this figure may be exceeded in one sample out of seven and greatly exceeded in one out of twelve." These figures are based on colony numbers and mean that a count of say 30,000 per ml. may become 27,000 or 33,000.

Statistics concerning the plate count could be quoted almost indefinitely, but however adverse the theoretical value of the isolated plate test, it remains a practical experience of many that a series of tests on a milk supply does give an extremely useful indication of the care taken in handling and production.

In this connection we would draw attention to the regularity of results (all samples taken on the occasion of surprise visits) in the competition here discussed.

Two points must be borne in mind. First, Professor Wilson had in review the grading of milk from the administrative point of view, and also that the methylene blue test is somewhat impracticable for very clean milk owing to the prolonged reduction time. He suggests that a reduction time of $7\frac{1}{2}$ hours corresponds to approximately a 30,000 per ml. plate count and in a competition such as ours many reduction times would be even longer. Remembering the necessary half-hourly inversion of the methylene blue tubes, it will be clear that whatever its accuracy the modified methylene blue test would be most inconvenient if it were desired to obtain the exact reduction times of every sample in a series which included many very low count samples.

Reverting to the results of the present competition, it will be seen that if the first seven producers' marks and analyses figures be analysed it will be seen that on the four inspections at these farms the conditions were excellent and very few marks were lost. The bacterial counts will be seen to be in agreement in all 28 samples, the highest count being 46,000, and 24 samples were under 10,000. If there is such a large experimental error why does it not show in these figures? In Class I at only one farm ("I") did the inspection marks and the bacterial counts fail to agree. At this farm it will be seen that the counts of the third and fourth samples were comparatively high. Following the result of the fourth sample further investigations were carried out at the farm and it was found that the rubber tubing of the milking machine was not being properly cleansed. This had been overlooked at the previous inspections. Advice was given to the milkers and when further samples were taken low counts were obtained.

It will be seen on comparing the results in Class II that the inspections and counts in general compared very well.

In Class III none of the competitors used steam as a means of sterilisation of utensils and it will be seen that

both in inspections and analyses this class was not up to the standard of the two previous classes. Coliform organisms were also found much more frequently in this class. It will also be noticed that the inspections and counts did not agree to the same extent. The obvious reason for the difference is if steam is not used the utensils might look clean and marks would not be lost and it would depend on how hot the water was as to whether the utensils were sterile or not.

On farm "E" it will be seen that 72 marks were lost on inspections and only 12 on analyses. This is an example of the personal factor in milking. On this farm the producer's family were the milkers and the surroundings of the cowsheds were very unsatisfactory; the cowsheds and cows were never up to a desired standard of cleanliness and marks were lost on this account. On the other hand the milkers exercised care in handling the milk and the dairy being near the house the water used for cleansing the churns was as near boiling as possible, and in fact, after cleansing the utensils were boiled up in the copper.

In farms "G" and "H" conditions were very unsatisfactory and the bacterial counts confirmed.

It will be noticed that an occasional high count occurred in some farms where the other counts were low, but in practically every case a reason for this was found, such as the employment of a new and inexperienced milker, or the steam sterilisation apparatus was out of order at the time when the sample was taken.

In general, therefore, it can be said that as far as this competition was concerned the bacterial count was invaluable and could not have been dispensed with. The farmers understand the test and when a higher count than usual was obtained they endeavoured to find the cause with our assistance. As far as one of us (W. B. S.) is concerned the bacterial count will continue to be used for the purpose of assessment and improvement of conditions even although the test is not now officially used for designated raw milks.

The lessons to be learnt from this competition are that suitably organised and well advertised, such competitions give material help in raising the production standard of the district. Some publicity in connection with the award of results or of prizes is advisable and this should be as soon as possible after the last sample. If competitors are to be raised to the highest pitch of efficiency in clean milk production the plate count must be used, as the methylene blue reductase test, when carried out by the official method and limited to 5½ hours, does not distinguish adequately between milks which are just clean and milks which have been produced with the greatest possible attention to all details.

There is one further point which was of extreme interest to us and should be to others. In Class II, farm "H," it will be noticed that the third and fourth counts were 8,000 and 2,000, and yet reduced by the methylene blue test in one hour and two hours respectively. Following the result of the fourth sample the matter was investigated fully at the farm. It was found that out of the herd of twenty cows, five cows were suffering from acute mastitis and three from chronic mastitis. Individual samples from these eight cows all gave low counts and yet reduced in well under the 5½ hours. This proved the definite value of the reduction

test in finding out this condition but only when taken in conjunction with the bacterial count. If the latter had not been taken one would have assumed in the first place that the fault lay in faulty methods of production.

Those who seek an alternative to the plate count may be interested to hear of the Van Oijen test, which is a modification of the Frost little plate method. This test gives results which are almost identical with those obtained by standard plate count, but a careful comparison using fivefold tests on samples shows that the Van Oijen test is significantly more accurate. Moreover, the result is available in 24 hours and only a single pipette and a microscope slide are used for each sample, which is much less apparatus than in the case of a plate count. This test merits further investigation and experiments are in hand to combine the Van Oijen test for total count with the presumptive coliform test. (See Barkworth, *J. Dairy Res.* (1936), 7, 244-257, and *J. South-Eastern Agric. Coll.* (1936), No. 38, 143-149.)

In addition to the awarding of prizes in the competition Clean Milk Certificates were awarded to competitors who reached a certain standard of cleanliness, visits and analyses being taken into account. The object of this was to give to those producers who felt they would not be in the final, an incentive to reach and maintain a high standard. Of the 31 competitors 29 were awarded these certificates.

The names of the producers who were awarded these certificates were published in all the local press.

Money prizes were awarded to the milkers who reached the final and special certificates to those whose farms received clean milk certificates. In a competition of this sort it is most important to obtain the interest of the milkers themselves.

A great deal of publicity has been given through the press to this competition and I think the general public in my area are beginning to have more confidence in the milk supply. I carried out a recent census of the amount of milk consumed in the three districts for which I am Medical Officer of Health and the results showed that the average amount consumed per head of the population per day was 0.54 pints in the Cuckfield Rural District, 0.69 in the Cuckfield Urban District and 0.6 in the Burgess Hill Urban District.

REFERENCES.

Barkworth, H. (1935). *Proc. Soc. Agric. Bact.*
— (1935). *Jour. Dairy Res.*, 6, 27.

RESULTS OF INSPECTIONS AND ANALYSES.

Plate Count (Per ml.)	Presumptive Coliform Test (present in).	Keeping Quality at 60° F. (days).	Methylene Blue Test (5½ hrs.).	Marks lost out of possible (280).	Marks lost out of possible (120).
CLASS I. Accredited: Owner-Occupiers.					
A.					
1,930	1/10th c.c.	3½	Passed	0	2
890	absent	3½	Passed	0	0
230	1 c.c.	2½	Passed	0	3
480	Absent	3½	Passed	0	0
B.					
300	Absent	3½	Passed	0	0
1,330	1/10th c.c.	3	Passed	0	3
2,720	Absent	3½	Passed	0	1
8,300	Absent	3½	Passed	0	3
Total 0 Total 7					

C.	1,810	Absent	2 $\frac{3}{4}$	Passed	0	2
	2,570	Absent	3 $\frac{3}{4}$	Passed	0	1
	5,400	1/10th c.c.	3 $\frac{3}{4}$	Passed	0	4
	2,960	1 c.c.	2 $\frac{1}{2}$	Passed	0	5
D.					Total 0	Total 12
	14,600	1/10th c.c.	2 $\frac{3}{4}$	Passed	3	8
	2,170	Absent	3 $\frac{1}{4}$	Passed	1	1
	10,000	Absent	2 $\frac{1}{2}$	Passed	1	6
	1,450	Absent	3 $\frac{1}{4}$	Passed	0	0
E.					Total 5	Total 15
	3,300	1 c.c.	2 $\frac{3}{4}$	Passed	0	4
	6,200	1/10th c.c.	2 $\frac{3}{4}$	Passed	2	6
	4,080	Absent	2 $\frac{3}{4}$	Passed	1	4
	3,800	1 c.c.	2 $\frac{3}{4}$	Passed	0	4
F.					Total 3	Total 18
	15,600	Absent	2 $\frac{3}{4}$	Passed	4	6
	2,070	Absent	3 $\frac{1}{4}$	Passed	1	1
	7,100	Absent	2 $\frac{3}{4}$	Passed	0	5
	3,020	Absent	2 $\frac{1}{4}$	Passed	1	6
G.					Total 6	Total 18
	46,000	Absent	3 $\frac{1}{4}$	Passed	1	7
	8,800	Absent	3 $\frac{1}{4}$	Passed	1	3
	7,600	Absent	2 $\frac{3}{4}$	Passed	1	5
	4,700	Absent	2 $\frac{1}{4}$	Passed	1	7
H.					Total 4	Total 22
	690	Absent	2 $\frac{3}{4}$	Passed	7	2
	4,800	Absent	3 $\frac{1}{4}$	Passed	5	2
	1,610	1 c.c.	2 $\frac{3}{4}$	Passed	4	3
	1,460	Absent	3 $\frac{1}{4}$	Passed	4	0
I.					Total 20	Total 7
	4,000	Absent	3	Passed	2	2
	14,000	Absent	3 $\frac{3}{4}$	Passed	0	4
	146,000	Absent	2 $\frac{1}{4}$	Passed	2	18
	216,000	Absent	1 $\frac{1}{4}$	Passed	1	20
J.					Total 5	Total 44
	165,000	Absent	3	Passed	14	15
	23,400	1 c.c.	2 $\frac{3}{4}$	Passed	6	8
	4,500	Absent	2 $\frac{3}{4}$	Passed	6	4
	2,080	Absent	1 $\frac{1}{4}$	Passed	6	6
					Total 32	Total 33
CLASS II. Accredited : Tenant Farmers.						
A.	4,700	1 c.c.	3	Passed	2	4
	2,490	Absent	2 $\frac{3}{4}$	Passed	1	3
	2,230	Absent	2 $\frac{3}{4}$	Passed	1	3
	640	Absent	3 $\frac{1}{4}$	Passed	1	0
B.					Total 5	Total 10
	2,460	Absent	2 $\frac{3}{4}$	Passed	5	3
	1,690	Absent	3 $\frac{1}{4}$	Passed	2	0
	1,200	Absent	2 $\frac{3}{4}$	Passed	3	2
	400	Absent	3	Passed	1	1
C.					Total 11	Total 6
	600	Absent	2 $\frac{3}{4}$	Passed	6	2
	35,000	1 c.c.	2 $\frac{1}{2}$	Passed	3	10
	6,900	Absent	3 $\frac{1}{4}$	Passed	3	2
	3,400	Absent	3 $\frac{1}{2}$	Passed	2	1
D.					Total 14	Total 15
	2,210	Absent	2 $\frac{3}{4}$	Passed	5	3
	3,800	Absent	3 $\frac{1}{4}$	Passed	3	1
	650	Absent	1 $\frac{1}{4}$	Passed	5	5
	1,990	Absent	2 $\frac{1}{4}$	Passed	5	5
E.					Total 18	Total 14
	1,570	Absent	2 $\frac{3}{4}$	Passed	4	2
	23,900	Absent	3 $\frac{1}{4}$	Failed	5	10
	15,900	Absent	3 $\frac{1}{2}$	Passed	5	4
	2,270	1 c.c.	3 $\frac{3}{4}$	Passed	3	2
F.					Total 17	Total 18
	4,000	Absent	3 $\frac{1}{2}$	Passed	12	1
	940	Absent	3 $\frac{1}{4}$	Passed	8	0
	2,840	1 c.c.	2 $\frac{3}{4}$	Passed	6	4
	1,840	1 c.c.	2 $\frac{1}{4}$	Passed	3	6
G.					Total 29	Total 11
	4,400	Absent	2 $\frac{3}{4}$	Passed	10	4
	8,000	Absent	2 $\frac{3}{4}$	Passed	9	6
	2,360	Absent	3 $\frac{1}{4}$	Passed	7	1
	520	Absent	2 $\frac{1}{4}$	Passed	5	2
					Total 31	Total 13

H.

	36,000	Absent	3½	Passed	5		
	12,200	1 c.c.	3½	Passed	7		
	8,800	Absent	3½	Failed	6		
	2,210	Absent	3½	Failed	4		
I.					Total 22	Total	2
	4,000	Absent	2½	Passed	17		
	364,000	1 c.c.	2½	Passed	2		1
	1,170	Absent	2½	Passed	2		
	5,800	Absent	3½	Passed	3		
J.					Total 24	Total	2
	1,360	Absent	2¾	Passed	13		
	6,800	Absent	2½	Passed	8		
	402,000	1/1000th c.c.	2½	Passed	6		2
	900	Absent	3½	Passed	0		0
K.					Total 27	Total	25
	3,700	Absent	2¼	Passed	14		0
	Over 1						
	million	Absent	2	Passed	16		20
	7,000	Absent	3¾	Passed	7		2
	5,140	1 c.c.	3½	Passed	6		3
L.					Total 43	Total	31
	15,700	Absent	2¾	Passed	9		6
	54,000	Absent	2½	Passed	9		11
	135,000	1 c.c.	1½	Failed	8		24
	8,800	1 c.c.	2¾	Passed	9		6
					Total 35	Total	47

CLASS III. Producers of Ordinary Milk.

A.					
4,400	Absent	2½	Passed	16	
10,500	Absent	2½	Passed	9	
35,000	Absent	2½	Failed	5	
11,600	Absent	2½	Passed	4	
				Total 34	Total 32
B.					
89,000	1/1000th c.c.	2½	Passed	4	
15,700	1 c.c.	3	Passed	4	
229,000	1/10th c.c.	2½	Passed	4	
24,300	1/10th c.c.	2½	Passed	4	
				Total 16	Total 54
C.					
7,700	Absent	2½	Passed	24	
10,400	Absent	2½	Passed	7	
9,300	1 c.c.	2½	Passed	7	
17,100	1/10th c.c.	2½	Passed	7	
				Total 45	Total 30
D.					
9,500	Absent	2½	Passed	14	
Over 1 million					
3,700	Absent	1½	Failed	10	
14,200	Absent	2½	Passed	9	
				Total 40	Total 42
E.					
3,300	Absent	3½	Passed	25	
1,330	Absent	3½	Passed	23	
630	Absent	2½	Passed	11	
47,900	Absent	2½	Passed	13	
				Total 72	Total 12
F.					
1,450	Absent	2	Passed	22	
44,600	1/100th c.c.	1½	Passed	11	
4,800	Absent	2½	Passed	10	
5,700	1 c.c.	3½	Passed	12	
				Total 55	Total 32
G.					
340,000	Absent	2	Passed	9	
117,000	1/100th c.c.	2½	Passed	10	
275,000	1/100th c.c.	2	Passed	12	
22,600	1/1000th c.c.	2½	Passed	11	
				Total 42	Total 81
H.					
800,000	1/1000th c.c.	1½	Failed	31	
444,000	1/100th c.c.	3	Passed	17	
888,000	1/100th c.c.	1½	Failed	9	
Over 1 million					
1/100th c.c.	2½	Failed	12	30	
				Total 69	Total 111

CLASS IV. Small Producers: 8 Cows and under.

A. 1917 Small Producers. 5 Cows and under.						
11,900	Absent	2½	Passed	6	6	
13,400	Absent	2½	Passed	6	8	
21,200	Absent	2½	Passed	4	7	
1,120	Absent	2½	Passed	2	2	
				Total 18	Total 21	

TWO CASES OF CEREBRO-SPINAL FEVER IN ONE FAMILY

By E. R. GILMORE, M.D., D.P.H.,
Deputy Medical Officer of Health, Coventry C.B.,
and

ALAN ASHWORTH, M.B., D.P.H.,
R.M.O. of the City Hospital for Infectious Diseases,
Coventry.

(Dr. A. MASSEY, Medical Officer of Health.)

In view of the unusual occurrence of more than one case of cerebro-spinal fever in a family, and the recent report (Murray, 1937) referring to two fulminating cases the following notes of two which recovered may prove of interest.

cerebro-spinal fluid were clearer without any occurrence of squint, but she lost considerably more flesh. She began sitting up in bed on February 5th, got up in blankets on February 8th, in clothes on the 11th, and was discharged home with her brother on February 13th.

Remarks.

Details of the following contretemps are herein described in order to serve as a general warning reminder against the use of old lumbar puncture outfits. On January 15th, upon withdrawing the needle after lumbar puncture on M. X., the cannula broke some distance under the skin, and after failing to extract it with the help of local anaesthetics, it became necessary to cut down upon it under general anaesthesia before the buried portion could be located and removed. The cannula was found to be very thin and perished at the site of fracture from long use, and had only been brought into commission through there being five other cases under similar treatment at that time.

After History.

The home was re-visited on 14.4.37—that is two months after discharge—in order to ascertain whether there were any after-effects of the illness. M. X. had enjoyed continuous very good health, but still had a slight squint. His mother and grandmother, however, affirmed that, from being an even-tempered, obedient boy before he was taken ill, he had now become a difficult child to manage, mainly on account of frequent uncontrollable fits of passion. F. X. had remained in good health except for amenorrhoea and a little lassitude since her return home.

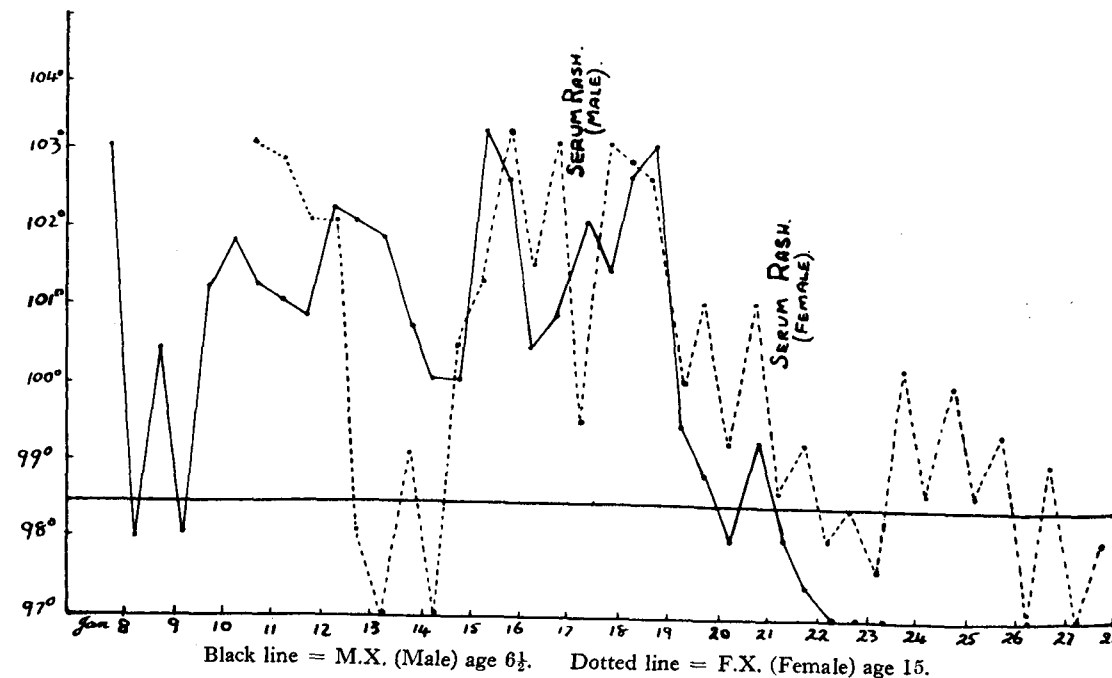
Home Conditions.

It is upon a consideration of this aspect that the chief interest lies from a public health standpoint. The house was a small artisan dwelling of four rooms in the outer suburbs, and was overcrowded under the 1935 Housing Act, there being six inmates over 14 years and four

others aged 4, 6, 7 and 9 years. The significant fact of note is that one sleeping room was occupied alone by M. X. and F. X., who also slept in the same bed. This is but another instance of the close contact often needed to satisfy the conditions of spread of this disease providing the "soil" is suitable. That the "soil" is not always suitable is seemingly evidenced in connection with the following two cases of cerebro-spinal fever which were also in the hospital about this time. One was a youth who had been sharing a bed with another, the latter remaining quite well and continuing his work as a navvy, no contact swab being taken in this case. The second referred to a woman patient of 46 years who slept with her husband, the latter continuing in normal health. A post nasal swab, however, demonstrated the presence of meningococci in his naso-pharynx. He was isolated in hospital for a short period, the next swab proving negative. The possibility that M. X. and F. X. may not have been the only ones of their family who contracted the disease is now suggested following the information that both parents suffered from "colds" at that time, Mrs. X. in particular volunteering the statement that she felt ill when visiting the hospital, had fever, headache and a stiff neck. Only an examination of her cerebro-spinal fluid and perhaps blood also at the time might have provided the clue to her indisposition. The practical futility of widespread swabbing of contacts of cerebro-spinal fever except in institutions is now generally recognised, owing to the high carrier rate and/or immunity level of the general population. If in spite of this one does go to the extent of swabbing immediate contacts, and finds they are harbouring the specific organisms as happened in the case above quoted, there then arises the vexatious question as to the necessity or otherwise of removing them to hospital for isolation.

REFERENCE.

Murray, J. O. (1937). Meningococcal Septicæmia. *Public Health*, 50, 189.



CONTAGIOUS ABORTION IN DAIRY HERDS

Last year the President submitted a memorandum to the Council in which he drew attention to various public health questions which he thought needed consideration by the Society.

One of these questions was—"What action should be taken when a case of abortive disease occurs in a dairy herd?" This was submitted through Maj. D. S. Rabagliati, F.R.C.V.S., to the Society of Veterinary Officers, and we are now indebted to that Society for the following useful memorandum, which summarises the present powers and procedure:—

Legal References.

(1) Diseases of Animals Acts, 1894-1935. Epizootic Abortion Order, 1922.

(2) Milk and Dairies (Consolidation) Act, 1915. Section 5 and Second Schedule.

(3) Milk and Dairies Order, 1926. Article 11.

(4) Milk (Special Designations) Order, 1936. Third Schedule Part I—Tuberculin Tested A 1 (c).

A.—Legal Enactments.

(5) There is no Public Health nor Milk and Dairies Enactment that gives any direct control of contagious abortion in its Public Health aspect.

B.—Procedure.

(6) Unless there is clinical evidence of this disease or definite evidence that a cow is disseminating *Brucella abortus* in the milk, veterinary officers can take no action.

(7) Veterinary officers examining cows under the Milk and Dairies Act and Orders can only take samples of milk—mammary secretion.

(8) The use of the Agglutination Test is thus limited to milk whey or the blood serum of guinea pigs inoculated with suspected milk.

(9) Veterinary officers deal with infected animals as follows:—

(a) "Any septic condition of the uterus";

(b) In the case of animals where the only evidence of dissemination of the *Brucella abortus* is the demonstration of its presence in milk—

"Any infection of the udder and teats, which is likely to convey disease."

Milk and Dairies (Consolidation) Act, 1915, Section 5.

Milk and Dairies Order, 1926, Article 11.

(10) Any legal proceedings instituted under the Milk and Dairies (Consolidation) Act, 1915, Section 5, could only be in respect of (a) "Any septic condition of the uterus," and (b) "Any infection of the udder or teats, which is likely to convey disease."

(11) Such proceedings could only be taken if the milk was sold, etc., whilst a notice under the Milk and Dairies Order, 1926, Article 11, was operative.

THE University of London announce a special lecture to be given by Prof. Henri Frederico, professor of physiology in the University of Liège, on "Interpretation of the Normal Electrocardiogram" at King's College, Strand, W.C.2, on Wednesday, June 16th, at 5.30 p.m.

The Society: Notices and Proceedings

FEVER HOSPITAL MEDICAL SERVICE GROUP.

The Annual General Meeting of the Group will be held at the North-Western Hospital, Lawn Road, Hampstead, N.W.3, on Friday, June 25th, at 4 p.m.

A talk on bacteriological methods, followed by a demonstration, will be given by Dr. R. Cruickshank. The Council of the Group will meet at 3.30 p.m.

J. S. ANDERSON,

Hon. Secretary.

Grove Hospital,
Tooting Graveney,
London, S.W.17.
May 26th, 1937.

MATERNITY AND CHILD WELFARE GROUP.

Programme of Cardiff-Rhondda Meeting, July 1st to 3rd, 1937.

THURSDAY, JULY 1ST.

Morning.—Meeting at the City Hall, Cardiff.

10 a.m.—Group received by the Lord Mayor of Cardiff (Alderman H. Hiles, M.B.E., J.P.).

10.30 a.m.—Talk from J. Greenwood Wilson, Esq., M.D., F.R.C.P., D.P.H., Medical Officer of Health, Cardiff, Lecturer in Preventive Medicine, Welsh National School of Medicine, on Cardiff Maternity and Child Welfare Services.

11 a.m.—Discussion on "Why are the Results of Ante- and Post-Natal Work Disappointing?" to be opened by Sir Ewen J. Maclean, M.D., F.R.C.P., F.C.O.G., J.P., Emeritus Professor of Obstetrics and Gynaecology, Welsh National School of Medicine, and Gilbert I. Strachan, Esq., M.D., F.R.C.P., F.R.C.S., F.C.O.G., Professor of Obstetrics and Gynaecology, Welsh National School of Medicine.

12.45 p.m. for 1 p.m.—Luncheon at the invitation of the Lord Mayor and City Council.

Afternoon.—City Lodge Hospital.

2.30 to 3.30 p.m.—Asthma in young children and its treatment as carried on at Cardiff Municipal Institutions. A. Mills Kennedy, Esq., M.D., F.R.C.P., Professor of Medicine and Director of Medical Unit, Welsh National School of Medicine, and D. A. Williams, Esq., B.Sc., M.B., B.Ch., Deputy Medical Superintendent, Llandough Hospital.

3.30 to 4.30 p.m.—Lecture-Demonstration: Orthopaedic Cases. A. O. Parker, Esq., M.D., C.M., M.C.P.S. (MANITOBA). Lecturer in Orthopaedic Surgery, Welsh National School of Medicine.

Visit to Fracture Clinic.

FRIDAY, JULY 2ND.

Visit to Rhondda.—Leave Cardiff City Hall, 9.30 a.m. Talk from D. J. Thomas, Esq., M.B., B.S., D.P.H., Medical Officer of Health, Rhondda Urban District, on Rhondda Maternity and Child Welfare Services.

Visits to Maternity and Child Welfare Clinics, Nursery School, Maesyrhaf Social Welfare and Educational Centre for Adults, unemployed workmen's clubs, coal outcrop workings, pit-head baths, miners' rescue station, miners' cottages, basement tenements.

Evening.—Group Dinner at the Park Hotel, Cardiff. Tickets, 9s. 6d. each (exclusive of wines).

SATURDAY, JULY 3RD.

Morning.—Public Health Clinic, Glossop Terrace, Cardiff. 9.45 to 11.15 a.m.—Presidential Address and Annual Business Meeting.

11.15 a.m. to 12.45 p.m.—Lecture-Demonstration on "Venereal Disease in Women and Children." Helena J. Webster, B.Sc., M.B., Ch.B., D.P.H., Assistant Medical Officer of Health and Inspector of Midwives, Cardiff.

Afternoon.—Visit to Llandough Hospital. Travel by charabanc. Inspection of Hospital. Demonstration of cases of Children's Diseases by A. G. Watkins, Esq., M.D., M.R.C.P., Physician in Children's Diseases, Cardiff Royal Infirmary and Llandough Hospital; Lecturer in Children's Diseases, Welsh National School of Medicine.

The Minister of Health is prepared to entertain applications from Welfare Authorities, whose accounts are subject to district audit, for sanction to the payment of the reasonable expenses in connection with sending one or two Medical Officers to the Cardiff-Rhondda meeting.

The above meeting is open to all members of the Society of Medical Officers of Health.

Will members please remember that early notification of attendance at the Cardiff-Rhondda Meeting and early application for dinner tickets, enclosing payment, is of great assistance to the hospitals and institutions concerned and to the Hon. Secretary? Please inform the Hon. Secretary as soon as possible and not later than June 21st.

I wish to receive an invitation to the Lord Mayor's luncheon.

I wish to attend the Group Dinner with guests and enclose cheque, P.O. for

I shall require transport to Rhondda.

I shall require transport to Llandough Hospital.

Name.....

Address

MURIEL RADFORD,

Hon. Secretary.

1, Manor Way,
Potters Bar, Middlesex.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on May 21st at 2 p.m. The President (Dr. Ernest Ward) was in the chair, and there were also present Sir Henry Brackenbury, Drs. L. C. Adam, Cyril Banks, H. S. Banks, Vynne Borland, G. F. Buchan, J. J. Buchan, Capt. G. S. Elliston, Drs. James Fenton, R. P. Garrow, C. Herington, W. W. Jameson, R. H. H. Jolly, E. C. Morris Jones, Gordon Lilico, A. S. M. Macgregor, James Mair, W. Paterson, G. H. Pearce, R. M. F. Picken, Charles Porter, T. N. V. Potts, T. P. Puddicombe, W. G. Savage, F. A. Sharpe, V. F. Soothill, E. H. Snell, P. H. Stirk, J. A. Stirling, D. J. Thomas, E. W. Caryl Thomas, A. G. G. Thompson, A. G. Trayer, H. Gibbons Ward, R. H. Wilshaw and F. T. H. Wood.

Apologies for absence were received from Drs. R. Veitch Clark, James Ferguson, A. W. Forrest, G. C. M. M'Gonigle, Thomas Orr and Mr. J. F. Pilbeam.

Minutes.—The minutes of the meetings held on February 19th and published in PUBLIC HEALTH in March were approved and signed.

Action under Article 11.—The Council considered the circumstances of application by two Fellows of the Society for a vacant post which had been the subject of an Important Notice in the *British Medical Journal*. One of the Fellows concerned was in attendance.

After full consideration of the facts the Council regretfully decided to call for the resignation of these Fellows.

Non-Therapeutic Abortion.—The Council considered a letter from the Hon. Secretary of the Joint Council of Midwifery requesting the Society's observations on the interim report of the Committee of Enquiry into Non-Therapeutic Abortion.

This matter was referred to the General Purposes Committee with power to act, and it was also agreed to ask for the views of the Maternity and Child Welfare Group.

Population Investigation Committee.—Arising from the above matter the President stated that he had been informed by Dr. Stella Churchill, who represented the Society on the Population Investigation Committee, now sitting under the chairmanship of Prof. Carr-Saunders, that the committee were considering sending out a questionnaire on fertility with the assistance of staffs of local authorities. She hoped that the Council would approve this proposal.

The Council asked the General Purposes Committee to consider the questionnaire at their next meeting and to take what action they thought desirable.

Supervisors of Midwives.—The Council considered a letter dated May 7th from the Ministry of Health referring to the Society's observations submitted in regard to the draft Midwives (Qualifications of Supervisors) Regulations, 1937. (See Council Minutes, PUBLIC HEALTH, December, 1936, p. 102.) The Ministry's letter enclosed the new Regulations and the covering Circular 1620. It was noted that paragraphs (2), (3) and (4) of the Society's recommendations had led to modifications in the Regulations, but the Minister had not seen his way to accepting paragraph (1).

The Council felt that section 8 of the Regulations, to which paragraph (1) referred, might have a different result from what was desired as under it an obstetrical consultant might conceivably not be eligible for appointment as a medical supervisor of midwives.

Regarding Circular 1620, the Council felt that paragraph 2 was regrettable, insofar as it appeared to depart from the principle of security of tenure for existing officers.

The Council instructed the Executive Secretary to write to the Ministry conveying the above views on the Regulations and the Circular.

Capt. G. S. Elliston and the Council.—The Council received with great pleasure an invitation from Capt. Elliston, M.P., to a dinner at the House of Commons on July 1st, when he said he would have completed some 30 years' association with the public health service.

Report of the General Purposes Committee.—Dr. James Fenton (Chairman) presented the following report of the General Purposes Committee:—

We beg to present the following report arising from meetings of the Committee held on March 19th and April 30th last.

1. *Present: March 19th.*—Dr. James Fenton (Chairman), Drs. G. F. Buchan, J. J. Buchan, R. Veitch Clark, James Ferguson, A. Joe, R. H. H. Jolly, James Mair, G. H. Pearce, T. N. V. Potts, J. A. Stirling, E. Ward, H. Gibbons Ward, and F. T. H. Wood.

1937

April 30th.—Dr. James Fenton (Chairman), Drs. G. F. Buchan, R. H. H. Jolly, G. H. Pearce, R. M. F. Picken, T. N. V. Potts, J. A. Stirling, E. Ward and F. T. H. Wood.

2. *Factories Bill, 1937.*—The special Sub-Committee consisting of the Chairman, Drs. J. J. Buchan, R. M. F. Picken and J. A. Stirling, held meetings on February 19th and March 5th, as a result of which two sets of recommendations were submitted to the Home Office and to other interested parties as follows: (1) recommendations on the points of sanitation and hygiene contained in the Bill, and (2) recommendations on the medical provisions of the Bill.

The procedure approved by the Council at their last meeting was followed; that is, recommendations (1) were submitted forthwith to the Home Office, while (2) were not submitted until the opportunity had been taken of consulting with Sir Henry Brackenbury, Professor Picken and Dr. Hill, who expressed the opinion that the Society's document (with minor amendments) did not appear to conflict with the policy of the B.M.A. The Sub-Committee are indebted to Dr. G. F. Buchan for valuable suggestions in regard to the Bill.

RECOMMENDATION.—That the Council confirm the action taken by the Factories Bill Sub-Committee.

3. *Refresher Courses for Public Health Medical Officers* (arising from the interim report of the Sub-Committee presented to the last Council Meeting).—Dr. G. F. Buchan reported that since the last meeting of the Refresher Courses Sub-Committee, he had seen Sir Arthur MacNalty and Sir Frederick Menzies; a letter had been sent to the Ministry of Health asking for the Minister's approval for the proposed refresher courses, and a letter had also been addressed to Sir Frederick asking for the co-operation of the L.C.C. in organising a course for fever hospital medical officers. Lastly, Dr. Henry Herd of Manchester had submitted provisional proposals for a school medical officers' refresher course to be held at Manchester this year. A further meeting will be held when a reply is received from the Ministry.

Attention was drawn to the fact that the Association of Municipal Corporations and the County Councils' Association were considering recommending their constituent members to recognise the principle of giving their medical officers opportunities for post-graduate study and, on the recommendation of the Association of Education Committees, might be urging the institution of refresher courses for school medical officers in various parts of the country.

It was asked whether Scotland was being taken into account in considering this matter of refresher courses. Dr. Buchan undertook to see that as soon as the attitude of the Ministry of Health was known, the information would be passed on to the Scottish Branch of the Society and the question of approach to the Scottish Department of Health would be considered.

At the Council meeting, Dr. G. F. Buchan reported that a further meeting of the Sub-Committee had now agreed to further details of the courses and that the Ministry of Health and Board of Education had agreed in principle to the desirability of instituting such courses. The Minister's sanction of expenses of attendance at these courses was not required if local authorities thought that their medical officers would benefit by them. In the case of the School Medical Officers' course, the syllabus would have to have the prior approval of the Board in order to ensure that expenses of attendance would rank for Exchequer grant.

Dr. Buchan obtained the Council's authority to circularise local authorities, education committees and members of the Society in regard to the courses.

4. *Post-Certificate Courses for Practising Midwives.*—Drs. J. J. Buchan, R. M. F. Picken and T. N. V. Potts submitted a memorandum in regard to the draft rules for post-certificate courses for midwives, on which the Central Midwives Board requested observations. (See Council minutes, PUBLIC HEALTH, March, p. 196). Consideration was also given to suggestions made by the M. & C. W. Group.

The Committee decided to recommend the following observations on the draft rules for adoption by the Council:—

Rule 3.—The Committee suggest that it will be difficult to organise refresher courses for midwives at the present time when the whole scheme of training pupil midwives is undergoing a change. They therefore recommend the Central Midwives Board to postpone the institution of the proposed refresher courses until such time as the new training schemes have been brought into operation.

The Committee further suggest that it might be desirable during the first seven years to make attendance at the refresher courses voluntary rather than compulsory, except in individual cases of midwives on whose attendance at refresher courses the local supervising authority think it right to insist.

The Committee in this connection recommend that any midwife who is still reported as unsatisfactory after a second refresher course following closely on a first course, should be removed from the Roll.

The Committee recommend that the Central Midwives Board be urged so to alter the Rules that an earlier refresher course should be compulsory upon midwives who, although they have given notice of their intention to practise from year to year, have not in the opinion of the local supervising authority been sufficiently engaged in the practice of midwifery to maintain a proper standard of efficiency.

Rule 4 (a) (ii).—Regarding exemption from the provisions of Rule 3 for matrons and midwives on the permanent staffs of institutions approved by the Board for the purpose, the Committee recommend that the Board should not grant an exemption for a maternity home midwife without some report from the authority responsible for its inspection under the Nursing Homes Registration Act, 1937; or for a local authority's maternity hospital midwife without consultation with the authority.

Rule 14.—The Committee suggest that the period of one week specified for the second part of the non-practising midwives' refresher courses might be reduced.

At the last meeting it was reported that the Secretary of the Board had requested the submission of the Society's observations as soon as possible and the Committee, therefore, instructed the Executive Secretary to convey the above points forthwith to the Board.

RECOMMENDATION.—That the Council confirm the action taken by the Committee.

5. *Co-operation between the Society and the British Medical Association.*—The Committee received a report of the adjourned conference held on March 12th between representatives of the Public Health Committee of the B.M.A. (Sir Henry Brackenbury, Dr. W. Paterson and Professor Picken) and of the General Purposes Committee of the Society (Drs. James Fenton and G. F. Buchan). The conference had agreed to the following draft revised Section II, which it was proposed should take the place of Section II in the 1923 agreement:—

II. (A).—The Society of Medical Officers of Health may continue to formulate and urge any

medico-political policy that it wishes, but where such policy, by reason of affecting the interests of public or private medical practice, is of mutual concern to both the Society and the Association, the Society shall communicate its opinions or proposals with regard thereto to the Association and shall refrain for the time being from taking any further action on such policy. In the event of the Association approving such policy or proposals through its A.R.M. or (if within the already-declared policy of the Association) through the appropriate machinery of the Association all action consequent thereon shall be taken by the B.M.A.

(B).—Where the Association is consulted by a Government Department or by another association on questions of public health or preventive medicine, and where the Society is consulted by a Government Department or another association on a matter which is held to be medico-political, *i.e.*, likely to affect the interests of public or private medical practice, the Association and the Society shall forthwith consult together by communication between the offices and if necessary by the calling of a joint standing committee appointed for the purpose. In the event of the Association raising no objection to the proposed reply of the Society, the Society shall be free to express its opinion to the body by which it has been consulted.

(C).—In the event of dissent being expressed by the Association, either under Sub-section (A) or Sub-section (B), the Society shall refrain from taking any action in support of a divergent reply to a Government Department or association consulting it until the Joint Standing Committee has reported to the two Councils concerned and those Councils have had an opportunity of considering the reports.

The Committee decided to refer the draft Section II back to the conference with the recommendation that the definition of "Medico-political policy," *i.e.*, "by reason of affecting the interests of public or private medical practice," should be omitted from paragraphs A and B of the above, and to suggest the proviso that acceptance by the Society of a new agreement should be subject to a review of its terms after three years' operation.

The existing Section II of the agreement is as follows :—

II. The Society of the M.O.H. to continue to formulate and urge any medico-political policy that it wishes, and where such policy is of mutual concern to both the Society and the B.M.A., the Society will present that policy to the Association through its direct representatives, and when any such medico-political matter has been finally determined by the A.R.M., all action consequent thereon shall be taken by the B.M.A. The Society shall refrain from taking any action in support of a divergent policy until after the decision of the A.R.M., but in the event of the Society thereafter feeling constrained to consider the taking of separate action, such action shall not be taken until the Councils of the Association and the Society have conferred together thereon.

It being understood that the B.M.A. Public Health Committee would nominate an additional representative for the next conference, the General Purposes Committee nominated Dr. J. J. Buchan (or, if he be unable to attend, the President) as the Society's additional representative.

6. *The Appointment of Medical Officers of Health.*—The Committee considered a report by Professors Jameson and Picken on the Branches' and Groups' observations regarding their memorandum circulated during 1936.

RECOMMENDATIONS.—That Professors Jameson and Picken be again thanked for their valuable work in this

matter; and that their printed memorandum be submitted to the Association of Municipal Corporations and the County Councils' Association with a request for its sympathetic consideration.

7. *Compulsory Pasteurisation of Milk.*—At their March meeting, the Committee considered Clause 21 of the Poole Corporation Bill, which would give power to make by-laws to prohibit, regulate or control the sale or supply in the borough of milk which had not been pasteurised or protected against contamination as prescribed by the by-laws.

The Committee decided to recommend the Council to support this clause, but, at the second reading of the Bill in the House of Lords on April 27th, the Poole Corporation withdrew the clause in view of the Government's expressed intention of bringing forward long-term legislation dealing with milk policy generally in the near future.

The Council instructed the Executive Secretary to enquire of the Ministry at what date the introduction of legislation might be expected to give local authorities permissive powers to insist on pasteurisation of their milk supplies where necessary.

8. *B.M.A. Draft Model Ante-Natal Form.*—The Committee considered a draft model form prepared by the B.M.A., for use by general practitioners in connection with the examination of expectant mothers under the ante-natal schemes established by local authorities. The form had been submitted for the observations of the Society and it had already been considered by the M. & C.W. Group Committee.

It was decided to recommend that certain items be added to the form and its circulation as a guide for local M.O.s H. was approved.

9. *Applications for Assistant M.O. Vacancies.*—Arising from suggestions received that there was a shortage of suitable candidates for Assistant M.O. posts of the £500 to £700 scale, the Executive Secretary submitted a report on such vacancies advertised between January 30th and April 3rd.

RECOMMENDATION.—That the result of the above enquiry be published in the journal (without mentioning the actual authorities concerned) for the information of members. (The report appears on p. 308).

10. *Holiday Facilities for Medical Officers.*—The Committee considered a memorandum submitted by the Tuberculosis Group reporting the replies to a questionnaire sent to a number of counties and county boroughs. The memorandum showed that in thirteen areas tuberculosis officers had only three weeks' statutory holiday per annum, and in two areas only eighteen days' holiday per annum.

RECOMMENDATION.—That the Council express the view that the minimum holiday period for all classes of medical officers should be four weeks (exclusive of Bank holidays).

A further recommendation regarding resident medical Officers in hospitals was referred back to the General Purposes Committee for redrafting.

11. *Diphtheria Prophylaxis*.—The Committee considered a letter dated April 7th from Dr. Guy Bousfield, suggesting that, in order to get diphtheria prophylaxis on a sound basis, and to sift evidence as to the value of prophylactics and various procedures, the Society should consider appointing a standing committee which could advise its members on the subject.

The Committee were of opinion that the suggestion should be given serious consideration, and they have decided to ask Dr. Bousfield and Dr. Wm. Gunn (of the

L.C.C. Fever Hospital Service) to attend the next meeting of the Committee.

12. *Contagious Abortion in Cattle.*—The Committee considered a letter dated April 14th from Major D. S. Rabagliati, forwarding a memorandum on contagious abortion in cattle prepared by a sub-committee of the Society of Veterinary Officers, in reply to the point raised in the President's memorandum of November last, i.e., "What action should be taken when a case of abortus disease occurs in a dairy herd?"

The Committee decided to RECOMMEND that the Council thank the Society of Veterinary Officers for their assistance in this matter, and that the memorandum be published in the journal for the information of members. (See page 303).

13. *Clinic for Women over Forty.*—The Committee considered a letter dated April 15th from Dr. R. H. Wilshaw (M.O.H., Worthing) asking for guidance on a request made to him by the Women's Section of the Local Labour Party to urge the establishment of a clinic for women over forty years of age. A letter on this question had also been sent to Dr. Wilshaw by the Medical Practitioners' Union.

Dr. G. F. Buchan said that he had drawn up a memorandum when a similar request was made to his borough council in 1935, and he offered to lend this memorandum for the information of Dr. Wilshaw. The gist of his memorandum was that it was impossible to deal adequately with gynaecological conditions of women apart from the wards of a fully equipped general hospital.

The Committee instructed the Executive Secretary to forward Dr. Buchan's memorandum to Dr. Wilshaw, and with regard to the Medical Practitioners' Union to suggest to Dr. Wilshaw that if it was desired to consult the medical profession of the area, the appropriate body to consult would be the local Division of the British Medical Association.

14. *Disinfection of Woollen Rags.*—(See Council report PUBLIC HEALTH, March, page 198). The Ministry of Health stated that they could not set up a definite standard of disinfection of woollen rags exported to China. The Yorkshire Branch have now appointed a sub-committee of members actively interested in this question, to consider the establishment of an agreed standard.

15. *National Federation of Personal Health Associations.*—The Committee considered a letter from a M.O.H. drawing attention to the action of the National Federation in addressing a circular headed "Fitter Britain," suggesting the formation of a local Personal Health Association, to the Town Clerk and not to himself. The letter stated that the M.O.H. had previously declined to take action towards the formation of a local Association but that in this instance the approach had been through the Town Clerk and one Committee had already agreed to co-operate.

The Executive Secretary reported that the Council's previous policy had been to leave the judgment of individual M.O.H. unfettered regarding the N.F.P.H.A., but that it had been clearly understood that no local association would be formed without the prior approval of the M.O.H. and of the local division of the B.M.A.

RECOMMENDATION.—That the Council draw the attention of the N.F.P.H.A. to the fact that their recent circular addressed to town clerks is not in conformity with their constitution which states that the establishment of a local branch "is subject to the approval of the medical officer of health and the local division of the British Medical Association," and that the action taken be reported to the M.O.H. concerned.

16. *Livestock Industry Bill.*—The Executive Secretary reported receipt of a letter dated April 9th from the Secretary, Society of Veterinary Officers, referring to the Society's action on the Livestock Industry Bill reported in PUBLIC HEALTH, March, page 198, paragraph 20. The letter asked whether it was intended that veterinary officers should be excluded from making any possible inspections under the provisions of Clause 24 (i).

The Executive Secretary said that he had replied to the Society of Veterinary Officers that there had been no intention to exclude veterinary officers from their statutory powers in regard to the detection and contamination of unsound articles of food at slaughterhouses, but that mention had been made of medical officers of health and sanitary inspectors as these were the officers actually named in Clause 24 (i) of the Bill.

The Executive Secretary's action was confirmed.

17. *Public Health Service Representatives A.R.M., B.M.A.*—It being reported that Dr. R. H. Wilshaw would be unable to stand as a candidate for the election of Public Health Service Representatives at the A.R.M., the Committee decided to put forward the name of Dr. E. H. T. Nash.

18. *Reform of the Medical Curriculum.*—The President informed the Committee that at the Ordinary Meeting of the Society held on February 19th, the wish was expressed that the Council might consider the paper read by Sir Francis Fremantle and the subsequent discussion, with a view to formulating resolutions in support of the introduction of a more preventive outlook to the medical curriculum.

It was decided to RECOMMEND that the Council await the result of the meeting of Edinburgh students to be held shortly and the experience of the working of the revised curriculum before giving this matter further consideration. (See PUBLIC HEALTH, April, pp. 207-212.)

19. *Branch and Group Representatives on the Council.*—Dr. Ernest Ward submitted a request from the Tuberculosis Group for a ruling as to the duties of Branch and Group representatives on matters on which they receive instructions from their Branch or Group.

It was pointed out that the tying of representatives' hands by such instructions would mean that they would be merely delegates at Council meetings. The Committee therefore expressed the view that it would be unfortunate if representatives should not be free to act according to their best judgment at Council meetings, and that Branches and Groups should be advised that the remedy lay in their hands if they were dissatisfied with their representatives' actions.

20. *Child Guidance Council.*—The Committee considered a letter dated April 13th from the Secretary, Child Guidance Council, with reference to their new constitution recently adopted. It was pointed out that for the first time the C.G.C. was asking for subscriptions from societies which were corporate members (one guinea for each representative). As an alternative, societies which did not desire representation on the Council might be affiliated to it. The Society had at present direct representation on the Council (Dr. G. F. Buchan).

The Committee decided to RECOMMEND to the Council reply that it is against the policy of the Society to become subscribing members of other organisations, but that the Society would be glad to be affiliated to the Child Guidance Council under Article 18 of the C.G.C.'s new constitution, with a view to keeping in touch with their work.

21. *Printing of the Roll of Members.*—The Committee considered the question referred to them by the Council

whether it was desirable to make a contract for the printing of the Roll of Members.

RECOMMENDATION.—That the Council make such a contract and, in inviting tenders, specify that the contract would hold for ten years.

22. *Recruitment, 1936-37.*—It was reported that the names of a number of non-members had been sent to Branch Secretaries, who had sent direct invitations to join to the non-members themselves or asked their M.O.s.H. to approach them.

The Executive Secretary, stated that including the 21 candidates awaiting election on May 21st, the total number of new members for this session was 115, as compared with 164 in 1935-36 and 125 in 1934-35. The losses by death or resignation were 34 so that the net increase in the Society's membership was 71.

23. *Other Matters.*—The Committee have also had under consideration correspondence regarding (a) the attitude of the G.M.C. on the question of the publication of names of the speakers in the series of broadcast talks "Towards National Health"; (b) the report of the Select Committee on Medicine Stamp Duties; (c) a conference to be called by N.A.L.G.O. to gain closer working with other associations of local government officers.

The Council adopted the report and recommendations of the General Purposes Committee, with the additions and amendments referred to under paragraphs 4, 7 and 10 above.

Journal Committee.—Dr. F. T. H. Wood presented a report arising from the meeting of the Journal Committee held on March 19th, attended by himself, Drs. G. F. Buchan, James Fenton and Ernest Ward. He said that the Committee had under consideration the question of insuring the journal against libel action and would report further on this matter. He also drew attention to the fact that as compared with the first half year of the session 1935-36, the printing costs were down by £72 and advertisement revenue up by £136.

Nomination of President—Session 1937-38.—The Council proceeded to elect by ballot a name for submission to the Society for election as President for the session 1937-38 in accordance with Article 17 (a). The following nominations had been received from the Branches:—Dr. James Fenton (Metropolitan, Scottish and Southern Branches); Dr. Elwin H. T. Nash (Home Counties, Eastern, East Midland, North-Western and Welsh Branches); Dr. J. Johnstone Jervis (Yorkshire and West of England Branches).

After an eliminating vote the name of Dr. James Fenton was selected by ballot for submission to the Ordinary Meeting of the Society to be held at 5 p.m.

Election of other Officers for the Session 1937-38.—The following elections were made for the ensuing session:—Vice-Presidents: Drs. Ernest Ward, W. G. Savage and R. Veitch Clark; Hon. Treasurer: Dr. G. F. Buchan.

Life Fellows.—The Council accepted a recommendation from the Yorkshire Branch that they nominate the following for election as fully-paid Life Fellows:—Dr. Joseph Buck (formerly M.O.H., Hunslet R.D.), joined the Society 1896; Dr. Thomas Gibson (formerly M.O.H., Wakefield C.B.), joined the Society 1901.

The President then drew the attention of the Council to the resignation from membership on retirement from practice of Dr. A. Critien, O.B.E. (M.O.H., Malta), who had been a subscribing Fellow of the Society since 1906.

He stated that Dr. Critien, as an overseas member, was not attached to any Branch and he therefore asked the Council to recommend Dr. Critien direct for Life Fellowship. The Council unanimously agreed.

Representation of the Society.—It was reported that Drs. J. Johnstone Jervis, Thomas Orr and Charles Porter would be attending the Conference of the International Union of Local Authorities to be held in Paris on July 5th-11th, and it was agreed to nominate these three Fellows to represent the Society.

With regard to the First International Congress of Public Health Medical Officers to be held in Paris on October 20th and 21st, it was agreed to await further information of the programme before making any nominations.

National Health Campaigns.—A letter was received from the Central Council for Health Education asking for the Society's interest and support in the National Health Campaign which was being conducted by the Central Council for the Ministry of Health and Board of Education to encourage a wider use of the health services provided by local authorities and voluntary organisations.

The Council agreed to support the campaign as far as possible.

Shortage of Nurses.—Dr. A. S. M. Macgregor asked whether the Council could consider the problem of the current shortage of nurses. It was agreed that this was a matter which should be considered by the Society, and it was referred to the General Purposes Committee to review and report on it.

The meeting then adjourned at 4 p.m.

APPLICATIONS FOR A.M.O.H. VACANCIES
Advertised January 30th to April 3rd, 1937.
(See para. 9, page 306).

Authority.	Post.	Salary.	No. of appli- cants.
Borough	A.M.O. (male)	£600 x 25—700	4
County	A.M.O. & S.M.O.	£500 x 25—700	2
Borough	A.M.O.H. & S.M.O.	£500 x 25—700	7
"	A.M.O.H., S.M.O. & Port M.O. (male)	£500 x 25—700	9
"	A.M.O. for P.A., Tuberculosis, etc.	£550 x 25—700	6
"	A.M.O.H.	£500 x 25—700	7
County	A.S.M.O.	£500 x 25—700	8
Council	(re-advertised)	£500 x 25—700	12
"	A.S.M.O.	£500 x 25—700	4
"	A.C.M.O.H.	£500 x 25—700	5
County	A.M.O. at Mun. Hos- pital	£500 x 25—700	6
Borough	A.S.M.O.	£500 x 25—700	15
"	(a) A.M.O. with Tub. experience	£500 x 50—700	5
County	(b) A.M.O. with Re- fraction experience	£500 x 50—700	5
Council	A.M.O.H. (woman)	£500 x 25—700	4
Borough			

County	A.M.O. for M.C.W. (woman)	£500 x 25—700	1
Council	A.M.O. (woman)	£500 x 25—700	3
County	Temporary A.S.M.O.	£500	9
Borough			
County	R.M.O., A.M.O. & S.M.O.	£450-550 + emols.	11
Council	(a) A.M.O., V.D. Clinic	£500 x 65—700	3
Borough	(b) A.M.O. f o r M.C.W. (woman)	£500 x 25—700	14
County	A.S.M.O.	£500 x 25—700	2
Council	(a) A.T.O.	£500 x 25—700	7
County	(b) A.M.O. f o r M.C.W.	£500 x 25—700	16
Borough	A.M.O.H. (male)	£600 x 20—700	6
County	A.M.O. & R.M.O. (woman)	£400—600 + emols.	7
Council			
Borough			

COMMENTS.—It will be seen that 178 applications were made in respect of the 25 vacancies listed above, an average of 7.12 applications per vacancy.

On examination of the names of applicants, however, it appears that 31 applied for two or more of these vacancies and that the actual number of applicants for the vacancies was 116, or 4.6 per vacancy.

In general, the opinion of the M.O.s.H. concerned is that they are receiving rather fewer applications for vacancies than previously, but the quality is considered fairly satisfactory in view of the fact that these are commencing posts in the public health service.

By way of contrast, the following details of applications for better paid assistant posts advertised during the same period may be of interest.

Authority.	Post.	Salary.	No. of appli- cants.
Borough	A.M.O. for M.C.W.	£600 x 50—800	45
County	A.M.O. (man)	£600 x 25—750	8
Council	A.M.O. (man)	£700 x 25—750	15

ORDINARY MEETING.

An Ordinary Meeting was held at the house of the Society on Friday, May 21st, 1937, at 5 p.m. The President (Dr. Ernest Ward) was in the chair, and there was a large attendance of members.

The first business of the meeting was the election of President of the Society for the season 1937-38. The President announced that the Council, in accordance with Article 17, had that day selected the name of Dr. James Fenton, M.O.H., Royal Borough of Kensington, for submission to the Society. The meeting thereupon unanimously elected Dr. Fenton as President for the next session. Dr. Fenton briefly expressed thanks for the honour accorded him.

The meeting then proceeded to the election of the following as fully-paid Life-Fellows of the Society on

the recommendation of the Council and of the Yorkshire Branch:—

Dr. Joseph Buck (formerly M.O.H., Hunslet R.D.). Joined the Society 1896.
Dr. Thomas Gibson (formerly M.O.H., Wakefield C.B.). Joined the Society 1901.

The President also announced that the Council wished to nominate for the same honour Dr. A. Critien, O.B.E. (formerly M.O.H., Malta), who had been a member of the Society since 1906, but as an overseas member had not been attached to any Branch. The meeting unanimously resolved to elect Dr. Critien as a fully-paid Life-Fellow.

The following candidates having been duly proposed and seconded were then elected to membership of the Society:—

As Fellows:—Anderson, David Gibb, M.B., CH.B. (EDIN.), D.P.H.; Bootle, Kathleen, M.B., CH.B. (ABERD.); Broughton, Alfred Davies Devonsher, M.A., M.B., B.CH. (CANTAB.), M.R.C.S., L.R.C.P., D.P.M., D.P.H.; Campbell, Roderick Macrae, M.B., CH.B. (ABERD.), D.P.H.; Gardiner, Annie G., M.B., CH.B. (GLASG.); Goodger, Joan, M.R.C.S., L.R.C.P., D.P.H.; Hegarty, Margaret J., M.B., CH.B., B.A.O. (BELF.), D.P.H.; Holderness, Reginald Cautley, M.R.C.S., L.R.C.P., M.B., B.S. (LOND.), D.P.H.; Jackson, Roderick, M.R.C.S., L.R.C.P., D.P.H.; Jones, David John, M.B., CH.B. (WALES), B.S.C., D.P.H.; Langford, Frank, M.B., CH.B. (BRIST.), D.P.H.; McKinley, Margaret Isabel, M.B., CH.B. (EDIN.), D.P.H.; Roughhead, John A., M.D. (GLASG.), D.P.H.; Stokoe, John, M.B., B.S. (DURH.), B.H.Y., D.P.H.; Thomas, William Evan, M.B., B.CH. (WALES), D.P.H.; Thompson, Cyril George Kay, M.B., CH.B. (EDIN.); Whitaker, John Vaughan, M.B., CH.B., D.T.M. & H. (CAMB.), D.P.H.; Williams, David Hardy, M.R.C.S., L.R.C.P.

As Associates:—Hendry, A. W., L.D.S., R.C.S.; Knowles, John Cecil, L.D.S. (MANCH.); MacKinnon, Marion Smith, L.D.S. (GLASG.).

The following nominations for the next election, to be held in October, were then reported:—

Dr. Mary B. Anderson (A.S.M.O.H., Nottingham C.B.); Dr. Greta Hartley (A.M.O.H., Bristol C.B.); Dr. Hilda R. Hay (A.M.O.H., Breconshire C.C.); Dr. H. V. M. Jones (A.M.O.H., Monmouthshire C.C.); Dr. Michael J. Kelly (A.M.O.H., Warwickshire C.C.); Dr. Bernard L. MacQuillan (A.M.O.H., Monmouthshire C.C.); Miss Margaret Lander, L.D.S. (A.S.D.O., Portsmouth C.B.).

Dr. P. H. Stirk next made a presentation on behalf of the West of England Branch of a portrait of Dr. W. G. Savage, President of the Society, 1935-36, for addition to the gallery of past-Presidents in the Council Room. In presenting the portrait, Dr. Stirk said that his Branch felt that Dr. Savage's year of office had been a very successful one, which had indeed added prestige to the presidency. The President briefly returned thanks for the gift of this excellent portrait from the Branch.

There followed a discussion on "The Future of Obstetrical Practice" opened by Dr. W. G. Savage (County M.O.H., Somerset) and by Dr. E. H. T. Nash (M.O.H., Heston and Isleworth). Dr. Nash's absence owing to his recent accident, was much regretted, and it was resolved to send him a message of sympathy and thanks for his paper, which was read.

The members who spoke in the discussion were Drs. J. A. Neilan, Agnes Nicoll, J. B. Howell, Catherine Morris Jones, and Nora Wattie, the President, and Dr. Maitland Radford, who proposed a hearty vote of thanks to the opening speakers, which was accorded by acclamation. The meeting then adjourned.

COUNTY BOROUGH MEDICAL OFFICERS OF HEALTH GROUP.

President: Dr. J. J. Buchan (M.O.H., Bradford).
Hon. Secretary: Dr. Gordon Lilico, 1, Derwent Street, Derby.

The first meeting of the Group was held at the Great Northern Hotel, Bradford, on Friday, April 23rd. The President (Dr. J. J. Buchan) was in the chair, and there were also present Drs. Cyril Banks, R. B. Berry, J. A. Charles, J. A. M. Clark, G. F. Galloway, J. M. Gibson, J. Johnstone Jervis, J. A. Kerr, Gordon Lilico, Arthur Massey, R. H. Parry, Thomas Peirson, Allan Semple, V. F. Soothill, W. S. Walton and Ralph Watson.

A discussion on "Cancer, and the part to be played by local authorities in its control" was opened by Dr. F. E. Chester-Williams, M.R.C.S., L.R.C.P., Physician-in-charge, Radium Therapy Department, Bradford Royal Infirmary and Bradford Municipal General Hospital. In order to show how local authorities might assist in cancer work, he divided his subject under the headings of (1) Establishment of contact, (2) Treatment, (3) "Follow-up" schemes, and (4) Propaganda; and discussed the advantages to be gained and the difficulties encountered in this work.

Dr. Buchan gave the history of the Bradford Cancer Committee from its inception. He went fully into their method of notification and "follow up" and stressed the value of the scheme as a voluntary agency, as distinct from being a branch of the health department.

Dr. Jervis referred to an investigation which was undertaken in Leeds some years ago, otherwise the work in that City is undertaken by the Local Cancer Campaign Association.

Dr. Parry made both constructive and destructive criticisms of the Bradford scheme and his remarks advocating a consultant service created a considerable amount of debate.

Dr. Charles gave the result of a survey of the reports made by general practitioners on 206 cancer deaths. Interesting points were made on the delay of the patient calling for medical help, the delay in diagnosis by the doctor and the number of patients who refused treatment.

Contributions to the discussion were also made by Drs. Soothill, Berry, Gibson, Kerr and Banks.

Under the heading of other business the following subjects were also discussed:—

- (1) Reconstitution of milk.
- (2) Questionnaire-itis.
- (3) The proposed publicity campaign.

It was decided that the candidature of Dr. J. Johnstone Jervis as President of the Society of Medical Officers of Health be supported.

On Saturday morning members were conducted by Dr. Chester Williams over his department in the hospital and later were given demonstrations on bug disinfection by an experimental carbon-dioxide and sulphur-dioxide method.

The next meeting of the Group will take place in Birmingham on Thursday, July 15th at 2.15 p.m. In order that an agenda may be prepared members are asked to inform Dr. Lilico of any matters they wish to bring forward not later than Monday, July 5th.

Book Review

What is Osteopathy? By CHARLES HILL, M.A., M.D., D.P.H., Deputy Medical Secretary, British Medical Association; and H. A. CLEGG, M.A., M.B., M.R.C.P., Deputy Editor of the *British Medical Journal*. With a Preface by H. G. Wells. London: J. M. Dent & Sons. 1937. pp. xv + 212 and index. Price 7s. 6d.

Medical Officers of Health have as one of their unwritten functions to act as liaison between the medical profession and the general public, and to instruct the ignorant about the forms of the treatment which are suitable for their ailments. Every M.O.H., we think, should therefore add this book by Drs. Hill and Clegg to the health department's library.

It was really an extraordinary revelation of the public's attitude to State-registered orthodox medicine (an attitude which is interestingly analysed by Mr. H. G. Wells in the preface) that a Select Committee of the House of Lords should even have had to examine a Bill for the Registration of Osteopaths.

The authors of this book have left little rope to the scientific pretensions of osteopathy as a complete system of healing. They have indeed shown commendable self-restraint in their attempt to track down the elusive "osteopathic lesion" which has become the basis of the case. Even so, the book is chuckle-producing on almost every page, starting with the quotation from the words of A. T. Still himself, the founder of osteopathy, that he was "Butted up the tree of knowledge by the ram of reason."

However this book is a considered and well-balanced attempt to evaluate the true claim of osteopathy to be recognised as a system of healing, and, while it is shown that the registration of osteopaths would be quite indefensible, the authors do not overlook the value of unorthodox ideas in stimulating medical advances, just as manipulative surgery learnt from the methods of the "bone-setters."

PREVENTION OF DENTAL DECAY.—Copies of the leaflet approved by the Council of the Society of Medical Officers of Health on this subject have been supplied to many authorities for propaganda purposes. It is now printed on cardboard, 30 inches by 20 inches for special use in hospitals, welfare centres and dispensaries. Copies may be obtained at 2s. 9d. each (post free, from the Executive Secretary, 1, Thornhaugh Street) Russell Square, W.C.1.

THE Research Defence Society announce that the 11th Stephen Paget Memorial Lecture will be given by Prof. G. Grey Turner, Professor of Surgery, British Postgraduate Medical School, on Tuesday, June 15th, at 3 p.m., at the London School of Hygiene and Tropical Medicine. The subject of the Lecture will be "What Research Owes to the Paget Tradition."

PUBLIC HEALTH

THE JOURNAL OF

THE SOCIETY OF MEDICAL OFFICERS OF HEALTH

No. 10. Vol. L.

JULY, 1937

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

"Public Health" is the Official Organ of the Society of Medical Officers of Health and a suitable medium for the advertisement of official appointments vacant in the health service. Space is also available for a certain number of approved commercial advertisements. Application should be made to the Executive Secretary of the Society, at 1, Thornhaugh Street, Russell Square, London, W.C.1.

Contents

Editorial

	PAGE
An Outbreak of Enteric Fever	311
Decline and Fall?	312
The German Physique	313
Local Government in Tyneside	314
Psychology in Maternity and Child Welfare	314

Obituary

Sir Squire Sprigge	316
Dr. H. C. H. Bracey	316
Dr. L. F. Cogan	316

Special Articles

The Future of Obstetric Practice. By W. G. Savage, M.D., B.Sc., and E. H. T. Nash, M.R.C.S., L.R.C.P., D.P.H.	317
The Typing of <i>C. Diphtheriae</i> and the Small Public Health Laboratory. By G. A. W. Neill, M.B., D.P.H.	327

News

Recent Appointments in the Public Health Service	316
The Prime Minister and the National Health Campaign	316
Ministry of Health Publications	333
Cardiff Refresher Course for M.O.s.H.	335

The Society of Medical Officers of Health

Branch and Group Meetings	336
----------------------------------	-----

Book Reviews

... ..	338
--------	-----

Editorial

An Outbreak of Enteric Fever

The decline and fall of the enteric group of diseases have been an outstanding result of the work of the early sanitarians; and even the cautious can without exaggeration acclaim the achievement as a virtual triumph. But from time to time events remind us that the price of freedom from the disease is constant vigilance in matters of drainage and in the protection of water and of food; and how costly a chance contamination can be is reflected in the outbreak last August at Bournemouth, Poole and Christchurch, especially as the modern tendency of bulking milk supplies increases the population at risk.

The official report* by Dr. Vernon Shaw, is yet another—unfortunately to be the last—of those model investigations of his which will remain classics in epidemiological studies. The details are probably by now well enough known; in the outbreak the patients were scattered throughout the three towns without distinction of age, sex, occupation or social status, and it was obvious that a widely distributed article of food or drink was concerned. The only factor common to all the patients was the consumption of raw milk retailed by one distributor; and pasteurisation of the whole of his supply was immediately successful in terminating the outbreak. Dr. Shaw concluded that the milk was infective for a period of about 31 days preceding the date of pasteurisation, and that the approximate number of persons who had contracted the disease was 718 (518 residents and 200 visitors).

As no source of infection could be discovered among the personnel employed in the distribution of the milk or at the retailer's depot, investigations were made at some 37 farms throughout a large part of Dorset; and at one farm two persons were found to be suffering from enteric fever. Neither of these was the cause of the outbreak, although

*Report on an Outbreak of Enteric Fever in the County Borough of Bournemouth and in the Boroughs of Poole and Christchurch, by W. Vernon Shaw, O.B.E., M.D., Ministry of Health, London. His Majesty's Stationery Office, Report No. 81. Price 9d.

there was strong presumptive evidence that the milk produced at these premises was the source of infection of the retailer's supply; and it was also ascertained that a fatal case of enteric fever had occurred two years previously in an adjoining house. Further enquiries showed that a neighbouring stream was polluted some distance away by the sewage effluent from a house in which a carrier was living; how the infection was conveyed from the stream to the milk, whether by the use of the water of a certain well or by the cows subsequent to their drinking at the stream, was not determined. The suggestion, unusual and novel as it is, that the cows may have ingested and excreted the organisms is not rejected, and it is evidently desirable that the co-operation of veterinary surgeons and pathologists should be obtained to arrive at some definite conclusion.

Meanwhile, it is without doubt on the human host that the calamitous incidence of an explosive outbreak falls; and both the Annual Report for 1936 of Dr. R. J. Maule Horne, Medical Officer of Health of Poole, and the comments in our June issue by Dr. Gordon Smith, Medical Officer of Health of Bournemouth, show the very able way in which each area surmounted the almost overwhelming problems. Taken in conjunction with the official report of the Ministry of Health, their accounts fill in the local details, and provide the reader with a vivid description of the immediate and drastic expansion in hospital and health services which was essential; and it reflects considerable credit on their administration, on their ingenuity, and on their resourcefulness that an emergency of some magnitude was rapidly surmounted in a manner worthy of workers in preventive medicine.

The obvious corollary to the outbreak is some definite legislative power which will guarantee a safe as well as a clean milk supply; and the only practicable way is efficient pasteurisation. Dr. Maule Horne, writing of the Poole Corporation Bill, points out that an attempt by Local Authorities to get such legislative power has not so far met with success, but "it is hoped that this last tragic testimonial to its justification will ensure its appointment to the Statute Book."

Indeed, of the enteric group of diseases there have been more than enough impressive warnings to show that dangers still lurk in wait; and there is more than enough evidence, no less impressive, to show how the dangers may be obviated. As Greenwood, dealing with the epidemiology of the disease, puts it in his characteristically striking way, "Here, if anywhere, we should applaud the strictest observance of sanitary law, we should not be ashamed of belonging to the straightest sect of pharisees."

Decline and Fall?

It has recently become clear not only to vital statisticians, but to the thinking public, and even to Parliament, that a serious decline in the population of our country and of most European countries within the next hundred years is mathematically certain, if not yet humanly inevitable. There is something tragi-comical in the thought that the demand so often expressed for an extension of birth-control facilities to all classes of the people may have to yield to the urgent need for more babies, unless we are prepared to accept with fatalism an ever quickening downward trend of the population, which would eventually lead, not to a solution of present economic difficulties, but to the extinction of Western predominance.

Last autumn saw the formation of a voluntary body, the Population Investigation Committee, under the chairmanship of Professor A. M. Carr-Saunders and including representatives from the Medical Research Council, the British College of Obstetricians and Gynaecologists, the Royal Economic Society, the Eugenics Society, our own Society (Dr. Stella Churchill), and several men and women distinguished in medicine and science. The Committee have had the ground cleared for their task by an excellent pamphlet*, by Dr. C. P. Blacker, M.C., and Mr. D. V. Glass, B.Sc. The authors have given as clear a survey of the position as could be imagined in the brief compass of 30 pages. To illustrate the lucidity of their argument, one may quote their explanation of Kuczynski's "net reproduction rate," as follows:—

"If the women of reproductive age in this generation who are mothers of children are having sufficient girl children to replace themselves as well as those women of their age who are childless, the net reproduction rate is 1 or unity and the population is maintaining itself. If, allowing for deaths, they are not having enough girl children to do this, the net reproduction rate falls below unity and the population is not replacing itself. . . ."

Another excellent exposition of the problem is Dr. G. F. McCleary's recent book† which lays more stress on the Imperial aspect, for it shows that the trend in the Overseas Dominions is the same as in the mother country. Dr. McCleary gives another very clear and well-written account of the situation, and makes some particularly illuminating comments; for instance, he points out that even if preventive medicine could achieve

* "The Future of Our Population?" By C. P. Blacker and D. V. Glass. The Population Investigation Committee, 69, Eccleston Square, London, S.W.1. Pp. 31. Price 6d.

† "The Menace of British Depopulation." By G. F. McCleary, M.D. London: Allen and Unwin, 1937. Pp. 144. Price 4s. 6d.

so great a triumph as a reduction of infant mortality to nil, this gain would be completely neutralised by a further reduction of the birth-rate of only 0.9 per 1,000.

Perhaps, however, the most arresting part of Dr. McCleary's book is that where he argues that the governing cause of the decline may be not economics, but a spiritual *malaise*. "We have to deal with a Society that has lost, not indeed the power, but the will to survive." He drives this argument home with many telling illustrations from the decline of earlier civilisations; but he sees hope in the building up of a new social synthesis which may revive the will to live.

This problem is one which affects not only economists and politicians, but local government officials also, for a decline in population will bring with it questions relating to housing, education, and the care of a larger proportion of the aged, among others. The Population Investigation Committee is seeking funds to extend its researches into the decrease of fertility and to improve the methods of obtaining and keeping important vital statistics relating to the subject. The Minister of Health has recently announced that the Registrar-General will give some assistance in the latter respect, but one cannot help asking why so authoritative a body as this Committee should have to depend on a public appeal in order to obtain the wherewithal for an inquiry of national importance.

The German Physique

Speaking in Committee of Supply on the Estimates of the Ministry of Health on June 18th, Mr. Harold Nicolson, M.P., was provocative. He foresaw a fight for the standard of living in the near future and pictured the Minister of Health as the leader of an advance on the citadels of prosperity. But he warned the House against becoming the victims of words like "nutrition," which were apt to become alibis for thought. In modern times, the clearest instance of a generation subjected to extreme malnutrition was that of the young Germans born during the War, yet they were now the "finest physical specimens" in Europe. The facile explanation that the weaklings had been eliminated was false, for the infant mortality rate in Germany for 1917 was actually one point per 1,000 lower than in 1913. The real answer was that German boys and girls were taught to be proud of their bodies and to display them, whereas in this country the boys and girls were taught to be ashamed of them. Perhaps, however, the subject calling for the most active effort of the Minister was knowledge of the preparation of palatable meals, in which our housewives were far behind their continental

sisters; for meals which were more attractive were correspondingly more nutritious. Without minimising the economic side of the question, dietetic education should receive far more attention.

Mr. Nicolson's last contention will be readily endorsed, but his comparison between the physique of German youths and ours skims the surface of this complex problem. It is hardly correct to suggest that our modern young people hide their bodies. Perhaps they adopted the practice of display later, and follow it less, than the German youth. For one thing, our climate is rather less favourable for this way of living than that of the continent. Whether the reason is climatic, or due to inferior habits, or to ignorance of dietetics, or to lower wages in relation to the real cost of living, the miserable physique of many of our people has been a frequent subject of comment by visitors from the continent, and this is true of pre-War as well as post-War times. Nevertheless, an improvement in the nutrition of school children, as measured by the objective tests of height and weight, has occurred both in this country and in Germany, apparently without interruption by the recent depression.

The facts as to Germany are of peculiar interest. Mr. Nicolson, when he referred to infant mortality, did not imply that the Germans suffered no damage from their privations. The behaviour of this index of health among civilised peoples admits of no simple explanation. It appears to be less satisfactory as a measure of hygiene than we used to think it was. If its magnitude is looked upon as a test of maternal enlightenment, we have no reason to be despondent, for the rate for England and Wales, which averaged 111 per 1,000 live births in 1911-13, as against 164 in Germany, had fallen to 80 in 1920 as compared with 130 in Germany, and the corresponding figures for 1935 were 57 and 68.

There is no question about the fact that German children suffered heavily from disease during the period of the blockade, above all from tuberculosis. The process of recovery has been clearly described by Dr. Georg Wolff*, who studied the growth of children in a Berlin school district. As a result of antenatal and postnatal starvation, the children born in 1917-19 started under a heavy handicap, which was evident in the school entrants during the years 1924-1926. In 1927, the entrants, born after the War, were decidedly taller and heavier. Since then improvement in each year's entrants has been steady but much more gradual. On the other hand, when the handicapped entrants came to leave school in 1931, 1932 and 1933, the retardation of growth they had suffered during the

* *Lancet*, 1935, 1, 1006.

War period had been compensated, in spite of the fact that in these later years they had been subjected to the influence of the economic crisis. Up to a point, this sequence of events supports Mr. Nicolson's contention, but many of the young men and women to be seen in Germany exhibiting their well-developed bodies were born before the time when privation exercised its most potent antenatal and early postnatal influence, and it remains to be proved that those who were subjected to this influence are now physically better than their contemporaries in this country. Nevertheless, Germany passed through more than one financial crisis since the War and cannot be said to have been prosperous at any time during this period. Our own economic state has also varied, but on the average it has been good enough to enable us to keep step with Germany in physique. If we have not done so, the fault should be found and the remedy applied.

Local Government in Tyneside

A Royal Commission was appointed in May, 1935, to examine the system of local government in the Tyneside area. It has produced two reports,* a majority report signed by four members of the Commission and a minority report signed by the remaining member. This fact in itself shows the difficulty of getting agreement as to the best form of local government.

The Commission would have done well before they embarked on their enterprise to have studied carefully the memorandum† on Local Government Areas prepared by the Society of Medical Officers of Health (1932) and the paper on "The Organisation of Public Health Services in Wales," by Professor Picken, which appeared in 1936 in the November issue of *Public Health*. These two documents are in practical agreement which is that there should be one local authority and only one in any particular area and that the area should be large enough to finance itself.

The conclusion of the majority report is that there should be created in the Tyneside area a single central authority with power to administer the regional services which are defined as services preponderantly national in character over a suitable area. The remainder of the local government services, that is, those services which are local in character, are to be administered by units having a jurisdiction over a more restricted area contained within and forming part of the regional area.

*Report of the Royal Commission on Local Government in the Tyneside Area, 1937. H.M. Stationery Office. Price 1s. 6d.

†PUBLIC HEALTH, October, 1932, p. 28; November, 1936, p. 49.

It is hard to believe that, in 1937, any body of men could come to such a conclusion. The type of government which they propose to set up in the area is the type of government which has existed for many years in the Metropolis, and no one with any understanding of such a form of government could possibly recommend its adoption for other areas.

The minority report consists mainly of arguments against the proposals of the majority report; but the positive proposals of the minority member are hard to find. It would appear, however, that the minority member desires the amalgamation of certain of the areas in Tyneside into a large county borough and to effect co-operation between this and the remaining smaller areas by means of joint boards or joint committees.

It is seldom that one reads so unsatisfactory a report as that which has now been presented by the Royal Commission on Local Government in the Tyneside area. The whole problem of suitable local government areas in England and Wales is bristling with difficulties but this does not mean that the definition of such areas should not be tackled courageously. Many local government problems would immediately vanish and both central and local government administration would be made much more simple and less costly if this subject were satisfactorily dealt with. The problem of the local government area can never be settled locally. It is surrounded by prejudices and personalities and interests, and if a solution is desired, the settlement must be placed in the hands of men experienced in local government affairs who must be almost ruthless in their single-minded devotion to their task of mapping out suitable local government areas for the country. Until this is done and local government areas are reviewed as a whole, there is little alternative, as the Report under review clearly shows, to the areas and methods which are in vogue to-day and which impede the progress of local government.

Psychology in Maternity and Child Welfare

The Seventh English-speaking Maternity and Child Welfare Conference was held in London on June 1st to 3rd, 1937, and much interesting material was presented and debated. A full report of the Conference appears in *Mother and Child*, July number, but attention is drawn here to two papers bearing the implication that organised work to promote the physical welfare of infants and children might more generally be extended to the mental and psychological fields.

Dr. Margaret Lowenfeld (Honorary Director of the Institute of Child Psychology) in discussing "The Future of Preventive Psychology in Relation

to Parent and Child," pointed out that at present infant feeding, management and care are regarded from the purely physical angle, and many procedures are undertaken, which, while they achieve their physiological ends, tend to sow seeds of emotional maladjustments in the individual's future life. These mistakes are made not through lack of care, but through lack of knowledge.

Further, modern work upon anxiety has begun to lay emphasis upon the probability of the first stage pains in labour, and of much difficulty in feeding from the mother's side, arising from emotional attitudes in the mother in relation to the whole subject of child bearing and rearing. It has been found possible by providing psychological assistance for the mother during pregnancy significantly to diminish her suffering during labour and to improve her capacity to feed. Thirdly, while the foundations of a satisfactory emotional life are laid in the earliest months of life and depend in great measure upon the relation between infant and mother, the bases of the child's attitude to education and to society are laid in the years from one to five. The attitude of the mother towards the child's natural interest, firstly, in his own body and, secondly, in the world around him, is of primary importance for the child's whole future response to life and ability to make use of his own endowments.

It is the point of view of the Institute of Child Psychology (which is henceforward returning to its former name, the Tavistock Clinic) that body, mind and emotion form a total organism, and that damage to any two of these is done also to the third factor. Dr. Lowenfeld, therefore, set out the following as desirable objectives:—

(1) That pressure be brought upon the authorities controlling all forms of training and education for services concerned with the treatment and care of the pre-school child, for the inclusion in the curriculum of sections devoted to the study of the emotional life of children and particularly the inclusion of this aspect in the Diploma of Child Health.

(2) The provision of visiting clinical psychotherapists for all centres where training is carried out in child care or work for children is being done, for the demonstration of the psychological aspect of their work. Such demonstrations could take place singly at fairly long intervals, and would be distinct from systematic courses of lectures as outlined in proposal (1).

(3) The provision of fully trained psychotherapeutic physicians with special experience with children, for service in infant welfare centres; particularly it was desired to recommend the inclusion of a section properly equipped with interview rooms, play rooms, etc., for the psychological treatment of children in such centres.

(4) The attachment of a psychological physician, trained in the treatment and handling of adults, to the

ante-natal and obstetric departments of the big hospitals for the service of mothers, as outlined earlier, in regard to their attitude to their biological functions.

Dr. Ursula Cox of the Maternity and Child Welfare Department, Birmingham, in speaking on "The Education of Parents in the Care of their Children," adopted a critical attitude to the educational work which she was undertaking obviously with success. She pointed out that clinic medical officers as teachers of parents were frequently making statements which they believed to be true, but which were only imperfectly, if at all, susceptible of proof, and they were addressing themselves to people who were obliged to take much of what they said on faith because it was quite impossible to impart to them a training such as that which they themselves had received, which might have enabled them to detect a fallacy. For this reason she held that one of the first essentials in a teacher of parents was that he should possess the ability to remind himself at frequent intervals that he was fallible. All teachers, and particularly all teachers of parents, should maintain a somewhat sceptical attitude towards authority and should retain the capacity to learn and to revise their view, and their attitude towards their parent-pupils should be sufficiently tinged with humility for them to be always ready to learn from the people who were carrying out in practice what those who were not parents were only acquainted with in theory. Every teacher who was instructing people, whether children or adults, who were at a lower educational level than himself, ran the risk of developing a sense of superiority, and she regarded it as one of the gravest misfortunes of doctors, and to a less extent of nurses engaged in child welfare work, that they were practically immune from criticism. This sense of responsibility, and the capacity to be perennially learning and revising one's opinions, combined with imagination, understanding and sympathy were the most important qualifications for those who aspire to educate parents in the care of their children.

One other point in connection with the Conference will be regretted by all who are interested in maternity and child welfare; it is that Miss Jeannette Halford, O.B.E., has announced her retirement. Miss Halford, the Hon. Secretary of the National Association for the Prevention of Infant Mortality since 1912, and founder and Hon. Secretary of the Association of Maternity and Child Welfare Centres (1911), has been largely responsible for the long series of National and English-speaking Conferences on this subject, and one of the leading spirits in a movement which still depends for much of its impetus upon voluntary effort. She is known and beloved of all

who work in the sphere of maternity and child welfare, and all will wish her a long and happy retirement. She is to be followed as Hon. Secretary by Dr. Ethel Minett, to whom we wish every success.

Obituary

SIR SQUIRE SPRIGGE, M.A., M.D., CANTAB.,
F.R.C.P., LOND., F.R.C.S., ENG.

The passing, a few days before his seventy-seventh birthday, of Sir Squire Sprigge, Editor of the *Lancet*, will be universally regretted amongst members of the public health service.

Although he was not personally known to many of us, Sir Squire Sprigge's personality had been for many years clearly apparent in the wide range and progressive outlook of the great journal which he edited. The public health services have indeed often been indebted to the broadminded policy of the *Lancet*, and the space which has been given in its pages to matters concerned with the public health and preventive medicine.

Sir Squire was the son of a Norfolk doctor, and after graduating at Cambridge, went to St. George's hospital, whence he qualified in 1887. He first joined the staff of the *Lancet* in 1894, and succeeded Dr. T. Wakley as Editor in 1909. He was elected F.R.C.S. in 1921, and knighted in the same year, and became F.R.C.P. (Lond.) in 1927.

Much sympathy will be felt in their loss for Lady Sprigge and his son and two daughters.

HERBERT C. H. BRACEY, M.B., C.H.B., BIRM., D.P.H.

We regret to announce the death, at the age of fifty-five, of Dr. H. C. H. Bracey, assistant county medical officer, and latterly senior assistant, in Warwickshire since 1912; he was previously assistant school medical officer in Birmingham.

Dr. Bracey was a man of great clinical experience and ability and was a particularly keen student of psychology in relation to the school child. He had for many years been a Fellow of the Society of Medical Officers of Health and will be much missed, especially by his colleagues in Warwickshire.

L. F. COGAN, M.R.C.S., L.R.C.P., J.P.

The death occurred recently of Dr. Lee F. Cogan, who was the first M.O.H. of Northampton borough and held that office (part-time) from 1876 to 1902. During this period the town's death-rate decreased from 21 to 14 per thousand, and the infant mortality from 188 to 132. Dr. Cogan was formerly a Fellow of the Society and was in his 89th year of age.

RECENT APPOINTMENTS IN THE PUBLIC HEALTH SERVICE

The following are some recent appointments to the public health departments of various local authorities.

The Editor will be grateful if members of the Society will notify him at once of any new appointments, giving details such as salary, date of appointment, etc.

Battersea Met. B.: R.M.O., Maternity Hospital, Dr. Marjorie Swan.

Croydon C.B.: A.M.O.H. & S.M.O., Dr. J. T. R. Lewis (A.M.O.H., Heston and Isleworth M.B.).

Darlaston U.D.C.: M.O.H., Dr. John J. Murray (A.M.O.H., Staffs C.C.).

Kensington Met. B.: Dep. M.O.H. & T.O., Dr. C. P. Hay (Sen. A.M.O., Smethwick C.B.).

London C.C.: M.S., South-Western Hospital, Dr. W. Howlett Kelleher (Dep. M.S., Southern Hospital, L.C.C.).

Luton M.B.: M.O.H., Dr. Fred Grundy (Deputy M.O.H., Luton). Salary, £1,000 p.a.

Northants C.C.: A.M.O.H., Dr. T. O. Garland (M.O., Carreras, Ltd.).

Stepney Met. B.: Deputy and Assistant M.O.H., Dr. E. J. O'Keefe (A.M.O.H., Bermondsey). Salary, £750; rising to £900 p.a.

West Ham C.B.: M.O.H. & S.M.O., Dr. E. Ashworth Underwood (M.O.H., Shoreditch Met. B.). Salary, £1,500; rising by £50 p.a. to £1,750.

THE PRIME MINISTER AND THE NATIONAL HEALTH CAMPAIGN

It is gratifying to learn that the Prime Minister, Mr. Neville Chamberlain, whose term of office as Minister of Health is well remembered, is to inaugurate the National Campaign to encourage the wider use of the Health Services by a call to the nation. The occasion will be a reception to be given by the Central Council for Health Education at the London School of Hygiene and Tropical Medicine on Thursday evening, September 30th, to which delegates to the Tenth Annual Conference on Health Education will be invited.

The date of the Conference is being moved forward this year to coincide with the opening of the National Campaign, and will be held at the London School of Hygiene on Thursday, September 30th, and Friday, October 1st. The subjects to be discussed are "Public Relations of the Public Health Services," "Health Education and the General Practitioner," and "The Place of Propaganda in the Physical Fitness Campaign," and the speakers include Sir George Chrystal, K.C.B., Secretary of the Ministry of Health, Lord Horder, Sir Kaye le Fleming, Lord Aberdare, Chairman of the National Advisory Council for Physical Training and Recreation, and Dr. James Fenton, Chairman of the Central Council for Health Education and President-elect of the Society.

The Future of Obstetric Practice*

By WILLIAM G. SAVAGE, M.D., B.SC.,

County Medical Officer of Health, Somerset; and

ELWIN H. T. NASH, M.R.C.S., M.R.C.P., D.P.H.,

Medical Officer of Health, Borough of Heston and Isleworth.

DR. W. G. SAVAGE

I am somewhat hampered in opening this discussion by a title which I did not select and the import of which I do not clearly understand. I believe, however, it was selected because it is so wide that almost anything relating to midwifery and maternity can be included under it. That has the merit of allowing a wide choice of subject while it relieves me from the obligation of even purporting to review the whole of it. As my contribution therefore I am selecting a few practical matters which seem to me to be of importance to discuss. They can conveniently be considered under the headings of the mother, the doctor and the midwife.

The Mother

Like you all, I am gravely concerned with the implications of the present rapid fall in the birth rate. It is obvious that with a rapid decline in the number of potentially fertile females the fall in the population will be rather in a geometrical than in an arithmetic proportion. In other words the value of each potential mother will be greatly enhanced as one measure to combat the decline of the population below what has been termed the optimum density for the country. Put another way, we cannot afford in the national interest to refrain from taking any steps which we know are the right steps to make motherhood safe, to preserve potentially fit infant lives and to encourage wives not to avoid motherhood.

The difficulty arises in "the right steps" and I suggest for discussion that we are not yet in a position to define these with precision, nor are we yet in any sort of agreement. The nutritional needs of the mother is an illustration of what I mean. While an immense amount of research has been carried out I feel we do not know with any degree of precision these needs, since there is a good deal of discrepancy in the findings. Of course our ascertained knowledge is very considerable. We can tabulate accurately what the heavy drain of pregnancy involves and to a large extent dissect that drain into specific mineral requirements. We have data showing that those needs

frequently are not met and that this failure is detrimental to mother and to child, but our data are incomplete in two directions.

There is not anything like complete agreement as to the best ways to meet these requirements, for instance, exactly what foods are required and their quantities.

More important, because our knowledge is less, we do not yet know to what extent adequate nutrition is related to the complications of pregnancy and labour or is related to the subsequent health conditions of the infant. I shall show later, apart from the increased number of primiparae, there is definite evidence of a higher percentage of complications of labour. To what is this due and to what extent is this related to nutrition? In view of the fact that the nutritional standard of the mother generally has undoubtedly been raised, it might be advanced that there was no connection but we know that others hold a different view. My records suggest an increase in delayed labour cases obviously associated with inadequate uterine action but I have no data as to any relationship to inadequate nutrition.

We are all interested in the possible relationship of puerperal sepsis to an inadequate supply of bodies raising resistance to infection but we have no decisive evidence whether this inadequate resistance to bacterial infection is related to an inadequacy of vitamins or other vital food substances.

I cannot answer these questions but I do suggest the vital importance of obtaining an answer and its close relationship to administrative action.

One other point which I think should be mentioned here is the question of home *versus* institution as the best place for the confinement of the normal case. I have no special facts to bring to your notice so I will leave this question to those who follow me.

The Doctor

One of the most important things we have to decide is the relative spheres of the doctor and the midwife, and particularly the midwife of the future, in maternity cases. There are really two views which are not consonant.

(a) *The view of the B.M.A.* as set out in the "Memorandum regarding National Maternity Service" (*B.M.J.* Supplement, December 7th, 1935). As you are all familiar with this memorandum

* Opening papers and discussion at an Ordinary Meeting of the Society of Medical Officers of Health, May 21st, 1937.

I need only quote certain passages. For an efficient maternity service they require amongst other things:—

(1) Efficient ante-natal care by, or under the responsibility of, a medical practitioner throughout pregnancy in every case;

(2) Attendance in every case by a certified midwife during the ante-natal period, labour, and the puerperal period;

(3) Attendance by the practitioner chosen by the patient during pregnancy, labour, and the puerperal period, when, as a result of his ante-natal examination, the practitioner has declared his personal attendance to be necessary, or when his attendance is requested by the midwife.

(4) The provision in every case of at least one post-natal consultation between the patient and the practitioner (including, if necessary, examination).

It would appear as Sir Henry Brackenbury* puts it in his paper expounding this scheme that an essential part is in every maternity case "Medical supervision throughout by the doctor of her choice, with specialist and hospital aids where needed."

This scheme tends to relegate the position of the midwife to that of a maternity nurse with midwifery qualifications acting throughout under the medical practitioner chosen by the patient.

(b) *The Official and Legal view.*—The midwife is recognised as an independent practitioner fully capable of undertaking the complete charge of a maternity case. It is recognised that under certain contingencies, as set out in the rules of the C.M.B., she requires the assistance of a doctor. The legal section is Section 14 of the Midwives Act 1918 and the wording is:—

In case of any emergency as defined in the rules framed under section three I.(e) of the principal Act a midwife shall call in to her assistance a registered medical practitioner and the local supervising authority shall pay to such medical practitioner a sufficient fee, etc.

The midwife shall report forthwith to the local supervising authority each case of emergency in which she has called in a registered medical practitioner to her assistance, etc.

The wording is quite definite, it is to *assist* a midwife. I read this clearly to mean that the midwife remains in charge of the case and the doctor summoned is very much in the position of a consultant called in by a practitioner. This view is borne out by the scale of fees which are very definitely based upon specific payments for specific services and such as would reasonably be paid for consultation work. I stress this point because, in my experience, the majority of medical practitioners do not accept this interpretation and habitually

translate "assist" into "supersede" and think it is their duty to take over the complete charge of the case, even if they are called in for some condition (such as albuminuria) not immediately connected with the confinement.

With the improved training and qualifications which we anticipate will in time result from the operations of the Midwives Act, 1936, the exact relationship of these two professions, both equally entitled in law to conduct midwifery practice, urgently demands the clearest determination.

Are these two divergent points of view of necessity antagonistic or can we so combine the relationship of these two groups of practitioners so as to make the best of both for the advantage of the mother? I think we can if two postulates are accepted:—

(1) The midwife must understand clearly her responsibilities and as clearly where her responsibilities are limited.

(2) The doctor must abandon the idea that a midwife is just a kind of nurse and that when he appears he is entirely in charge of the case until the end of the puerperium.

I have now to examine the claim of the general practitioner to play the role of expert consultant to another practitioner, the midwife.

The challenge to this claim has most efficiently been made by the specialist obstetricians and gynaecologists who, since many of them are instructors of the future medical practitioners, have every claim to be heard. The B.M.A. memorandum, while neglecting the proposals, very fairly sets out the arguments against a service of purely expert obstetricians. They suggest if there is validity in the arguments they are remediable.

"If the training in this branch of practice can be shown to be defective the remedy lies in its reorganisation and improvement.

"Steps should be taken to increase the number of maternity cases which the general practitioner will attend rather than to encourage the present tendency to diminish it.

"General practitioners should be sufficiently equipped to know how to deal with obstetric emergencies, and this can only be achieved if they remain in effective and practical touch with midwifery."

These are all important conclusions for they go to the root of the matter. I suggest that the present training is inadequate to enable the general practitioner to play the role of consultant to a midwife for a number of emergencies which arise while many are not in effective and practical touch with midwifery.

The Resolutions of the General Medical Council, as revised May, 1934, set out that "not less than two months should be spent as a resident pupil either in a Maternity Hospital or in a Hostel

attached to a Maternity Hospital or the Maternity Wards of a General Hospital, and these two months should be devoted exclusively to instruction in Midwifery and in the Hygiene of Infants. The students should during these two months attend at least 20 cases of labour under adequate supervision."

Most recently qualified doctors recognise the need for hospital experience to convert their theoretical knowledge into something available for practical work, but in the vast majority of cases the posts held are surgical or medical as H.S. or H.P. and involve no added obstetric experience. In effect therefore this meagre initial experience has to be supplemented and consolidated by experience in private practice.

I suggest the framers of the B.M.A. memorandum fail to give due weight to two modern factors which materially limit the obtaining and maintaining the requisite experience. One factor is the high proportion of cases taken by midwives. In Somerset, over the past five years, this proportion is about 58 per cent. The other is the rapidly declining birth rate.

I have been to some trouble to ascertain for Somerset the number of confinements which medical men in practice in Somerset have undertaken during 1935 and 1936 and the figures are set out in the following Table I.

TABLE I.—CASES TAKEN BY MEDICAL PRACTITIONERS IN SOMERSET (YEARLY AVERAGE OF 1935 AND 1936).

Doctors taking less than 3 cases a year	42
" " 3 to 5 cases a year	52
" " 6 to 10 " "	46
" " 11 to 19 " "	31
" " 20 to 29 " "	14
" " 30 or more " "	8
	193

The Table is illuminating and the birth rate is still declining. I have no doubt that figures from other county areas would show the same results and probably not very different figures in many towns.

My contention is, therefore, that the initial, hospital and subsequent experience of a great many general practitioners is inadequate to fit them to act as consultants called in by a midwife to assist them in an emergency, except for those conditions, such as illness of the child or medical conditions (albuminuria, etc.) which are part of ordinary medical work. I go further and contend that the local supervising authority which pays the bill should have the right only to pay someone known to possess the requisite specialised knowledge and not any general practitioner, the choice of the patient, which is the case at present. In a great many cases, especially of delayed labour, the

doctor is called in to do something and it requires exceptional experience in face of this to do nothing. In the County Palatine of Chester report* which investigated 67 maternity deaths the committee remarks as regards 22 cases in which the avoidable factor lies with the attendants, "In over half the list, namely in 13 cases, the primary avoidable factor was the premature application of forceps. This as the committee sees it is one of the pitfalls of midwifery."

Am I then advocating that only obstetric and gynaecological experts on the staff of recognised hospitals should undertake this work? I think this would be unsatisfactory and tend to remove midwifery from a physiological to a pathological atmosphere. I cannot however accept the view of official medical bodies as to the equality in experience of medical practitioners. It is an anachronism in these days when medicine (using the word broadly) is so complicated. Let us realise that many general practitioners have no aptitude or considerable experience in midwifery and do not like it. On the other hand a fair proportion are both interested and expert in it. Such men have a flair for midwifery, get in consequence a good deal of it and take every opportunity to keep abreast of new work. These are the men (and women) who should do all this work and there are quite a number of them.

I suggest there should be in each area a panel of medical practitioners who alone may be called upon by midwives to assist them in an obstetric emergency and who alone would be associated by the local supervising authority with such ancillary work as ante-natal examinations. To be placed on the panel the L.S.A. must be satisfied as to the possession of the necessary experience. The position would be comparable to the supply of arsenical compounds free by local authorities only to practitioners who can show they have the necessary experience to administer them. I appreciate the difficulties of this selection but they are not insuperable, while I know that many practitioners would welcome such a differentiation and to be relieved of work they do not like.

It might be desirable to divide the conditions for which a medical man is called in into two groups. One would be purely medical in character, the other for conditions requiring obstetric experience. Any medical practitioner could attend for the first group. A small body of consultants would still be required for special cases but their services would be needed for fewer cases.

Some authorities have adopted a scheme of payments to all general practitioners to undertake ante-natal examinations. If my views are sound,

* Report of Maternal Mortality Committee, 1936.

* B.M.J., October 24th, 1936, p. 828.

obviously this is a most unsatisfactory arrangement but with a panel of experienced men most of the objections are removed. I agree as to the importance and value of the same medical man being associated with ante-natal work, emergency assistance and post-natal work, and given the right men much more could be done in this direction.

It will probably be raised as a criticism that the importance of the family doctor who is known to the patient being in attendance for midwifery is so great that it is of fundamental importance to maintain the connection and that my objections can be met by increased training and post-graduate training. I do not think it can be so met as we cannot get over the fact that the cases per doctor are frequently too few, and indeed the B.M.A. memorandum recognised that it is essential to keep up the number. We have to realise that this can only be maintained, with the limited number of births now available, by limiting the number of medical men taking them.

Since I wrote this paper the Ministry of Health has issued Document 5422, "Report on an Investigation into Maternal Mortality," April, 1937. This report makes the same point that I have brought forward as to selection of the doctors called in under the rules of the C.M.B. The report draws attention to the diminished opportunities afforded to medical practitioners to obtain practical experience in obstetrics and adds that in certain districts.

"there may be a number of practitioners who undertake insufficient midwifery to render them efficient accoucheurs. Those whose midwifery practice is restricted to attending a few 'abnormal cases' in the course of a year cannot be expected to assist the midwife

in difficulties which may urgently call for judgment and experience which, in the circumstances, they cannot be expected to possess.

"It is recommended that in future the local supervising authorities should, in consultation with the local medical profession, be empowered to take steps to secure that the best available obstetric skill is obtained in all cases in which midwives are required under the rules of the Central Midwives Board to call in a doctor. Those general practitioners who undertake obstetric work should be interested, experienced and actively engaged in the practice of midwifery, and have sufficient time for unhurried work."

It will be noted that this recommendation follows rather exactly along the lines indicated in my paper, suggestions which have been in my mind for a very long time.

The Midwife

The midwife of the past, and of the present in many cases, was and is ill educated and a victim of that most terrible type of education, a specialised technical training built upon a superstructure of very limited general education. There is no group of persons more liable to make mistakes than one subjected to this kind of education. This no doubt explains the pattern of the rules which now harass the midwife. The new kind of midwife which we expect to get in the future, a future of say ten years, suggests a different attitude. I think we have to decide if we want either:—

(1) A midwife whom we distrust and harass at every turn with restrictions and abundance of supervision all built up on the supposition that the midwife is a poor thing liable to error whenever error is possible.

(2) A well educated, well trained midwife,

TABLE II.—PERCENTAGE OF MEDICAL AID CALLS IN VARIOUS AREAS.

Area.	1920.	1926.	1930.	1931.	1932.	1933.	1934.	1935.	1936.
Derbyshire ...	10.2	19.4	27.9	26.9	27.9	28.4	32.7	36	33.7
Essex ...	14.1	20.5	31.9	33.8	34	34.9	36.4	38.9	37.6
Glamorgan ...	7.6	14.5	30.5	30	30.7	32	34	36.7	35.3
Gloucestershire ...	17.9	29.6	50	46.9	49.8	49.5	51.7	53	53.5
Hants ...	—	32	38	39	39	44	46	50	52
Kent ...	14.4	16.3	24.3	22	23.6	23.7	26.3	20.7	27.9
Lancashire ...	19	34	43	46	47	49	50	51	50
Leicestershire ...	12.9	27.7	35.9	39.4	41.4	30.3	28.6	34.3	34.3
Somerset ...	25.9	26	31.7	34	35.7	38.1	41	44.8	43.1
Surrey ...	—	—	33.9	34.6	33.9	34.6	34.6	38.1	38.3
Warwickshire ...	15.7	26	30.7	30.9	32.3	31	36	34.3	33.5
Wilts ...	14.3	22.1	38.6	40.9	35.5	38.5	43	42.5	45.5
Bath ...	22	27	37	37	41	42	49	47	44
Birmingham ...	21	18	36	31	29	28	33	35	37
Bristol ...	24.1	34.3	41.3	43.1	42	43.2	47.2	53.9	51.4
Coventry ...	21	23	21	20	23	23.5	23.4	23	20
Derby ...	23.1	28.6	27.2	32.4	31.6	38.4	38.6	46.9	38.8
Newcastle ...	8.3	14	23	25	25	27	24.1	24.9	24.3
Portsmouth ...	15.7	26.9	29.9	32.7	33.6	38.1	44.7	42.4	40.7

competent and self reliant but not over confident from ignorance, recognising her sphere of work and being able to decide if and when something beyond her competence turns up.

The present rules of the C.M.B. seem to me to be based upon a conception of the midwife as belonging to the first group. The interminable discussion on maternal mortality with the persistent popular urge to do something, without any real knowledge of what to do is, I believe, in part responsible. The C.M.B. keeps on adding more rules and tightens up the old rules, unconsciously influenced it seems to me by the same attitude.

Owing to the kindness of the Medical Officers of Health of the areas mentioned I am enabled to submit Table II (opposite page).

The Table shows the enormous increase in calls for 1936 compared with those for 1920 and 1926, and for earlier years the figures were considerably lower. The maternal mortality rate remains nearly stationary and obviously there is no relationship between the two sets of figures.

Can we contend that a state of affairs which requires a midwife, a person properly qualified by law to deal with one particular contingency which ought to be a physiological one, to summon medical aid in 40 to 50 per cent. of her cases is a satisfactory position? I recognise the increased proportion of first births and I agree that for reasons which are not clear a higher proportion of midwifery cases are more complicated than they used to be. Allowing for these factors I still cannot accept as satisfactory this enormously high proportion of medical aid calls.

If we look at the C.M.B. rules for calling in medical aid they show two general characteristics. One is their very wide scope, the other is their vagueness. While special conditions are mentioned they are only given to illustrate the general command for pregnancy, labour, lying-in and the child that a doctor is to be sent for "when there is any abnormality or complication." Over all in heavy block type is printed the injunction, "In all cases of illness of the patient or child, or of any abnormality occurring during pregnancy, labour, or lying-in a midwife must forthwith call in a registered medical practitioner."

It is a fair criticism to say that a midwife could if she wished find justification in the rules for calling in a doctor in at least 90 per cent. of her cases.

From personal knowledge I can affirm that a good many midwives are so worried as to whether they are complying with these involved rules that it is a definite detriment to the efficiency of their work.

It may be argued that after all it is a fault on the right side and that to get medical assistance is all

to the good. There are three objections, one it is expensive to the L.S.A., second it weakens the sense of responsibility of the midwife, and lastly that it is not inevitably to the interest of the mother to call in a doctor.

The kind of cases I have in mind are those in which there is delay in delivery. The midwife becomes anxious, the patient still more anxious, the patient and relatives exert pressure on the midwife to do something. She calls in the doctor who is *expected* to do something and it requires a man of good judgment and experience to decide whether forceps delivery is required or a policy of masterly inactivity. It is for the obstetrician to tell us from his post-natal experience to what extent harm results from injudicious activity.

I suggest that this policy of the C.M.B. is not the best policy and certainly requires careful reconsideration for the future midwife. I believe that more satisfactory results would be achieved by substituting for the present requirements a few general rules of instruction leaving more to the common-sense of the midwife. With the type of midwife which we trust will result from the 1936 Act it should be possible for a midwife to grasp very clearly the general principles as to what she can manage and when medical help is required.

Summary

I will conclude by a brief summary of my recommendations on the subject of our discussion.

(1) More knowledge as to the factors making for physiological pregnancies and confinements, with practical application of that knowledge.

(2) A recognition by the medical profession that the midwife is legally recognised as a properly qualified practitioner to undertake midwifery and their function is to assist and not supersede.

(3) Restriction of work done by medical men in connection with maternity which is paid for by local supervising authorities to a panel of practitioners and experts selected because of their aptitude in this sphere.

(4) A greater utilisation of such selected doctors in connection with ante-natal and other maternity duties, thus aiming at the policy of the B.M.A. that one doctor should be associated throughout with any medical assistance required.

(5) A simplification of the rules of the C.M.B. by a substitution of more general directions defining clearly the respective spheres of the midwife and the doctor.

DR. E. H. T. NASH

I have been asked to deal with the future of obstetric practice, particularly from the point of view of the general practitioner, having been one myself for a number of years, and like you, I believe, seen the picture from the other side of the

office desk. The difficulty is that we are inundated with figures and none of these gives a real picture of the problem. With regard to the magnitude of the problem we are hearing next to nothing about anything except the mortality, whilst morbidity is hardly touched on. It would be as correct to deal with the results of the Great War only in terms of deaths, and to ignore the tremendous amount of sick and wounded left to eke out a sorry existence, in many cases, on a pension which does not fully meet the case. The tragedy of this morbidity is a great one. How often one sees side by side, two families, one in which the mother produces her children without any troubles or after effects, whereas next door a confinement has left behind a legacy of illnesses which mean constant medical attendances, a necklace of doctor's bills which cannot be avoided, but what is not appreciated is the fact that, owing to the deductions from the parental income to meet these ever recurring doctor's bills, and other expenses incidental to the maternal illness, the children are seriously handicapped in the race for life, compared with their neighbours with a healthy, normal, mother. How often has one seen the happy care-free mother converted into a fretful individual and the whole happiness of the house permanently spoiled by the legacy of a confinement that has not been normal—or what may seem more tragic, though its ill effects may not be so prolonged—by the death of the mother.

The problem varies so enormously in each district. Whereas the Minister of Health on May 14th, 1936, stated that in England and Wales 60 per cent. of the births were attended by midwives, 20 per cent. by doctors, and 20 per cent. in hospitals; in 1934 in Wales it was stated that 91.8 per cent. confinements were attended by midwives out of which 20.9 per cent. were maternity nurses.

The position of the M.O.H. is difficult in that there are two opposing forces at work; on the one hand that of the Ministry of Health, whose actions are dictated by a number of really careful investigations, and whose tendency is more and more to deprive the general practitioner of what midwifery practice remains to him, and on the other hand there is the British Medical Association pressing for a maternity service for the whole country based on the general practitioner. In view of the fact that the British Medical Association is so often accused of being merely "Trade Union" in its outlook with regard to what may be termed the "doctors' vested interests," it is an index of the soundness of their position that the closing sentences of Section 10 of the Published Memorandum are as follows:—

(a) The Association would emphasise the

necessity of an improvement in the training of doctors in maternity work.

(b) The value and necessity for post-graduate education cannot be too strongly emphasised.

We as a service could not better this but there is one criticism which will be levelled at the report where it states that "The services of a consultant (should be provided) when considered necessary by the practitioner, during the pregnancy, labour or the puerperium. (Generally such services should be obtained locally.)" Here so much depends on the word "consultant." If it is meant to convey that it is a specialist as that word is generally interpreted, well and good, but it may simply mean the next practitioner down the road.

Now with regard to the special services being obtained locally. If we want the best, and I think it is correct that we do, surely that is taking a parochial attitude to say that the services should be obtained locally. Again, in dealing with this subject I think we want to ask ourselves what class of consultant do we want. In my opinion the answer should be that for the women in the district for which we are responsible we should ask no less a standard than we should ask for our own wives.

The problem in front of the general practitioner to-day is a very difficult one. In regard to administration the figures which Dr. Savage has published show that, of 193 cases of midwifery in his county, 140 were attended by doctors who attended less than 10 cases a year.

Some years ago I sent round a questionnaire, and the average number of cases attended by a practitioner outside an institution was a little over six. We are faced with this extraordinarily difficult position. Can we honestly say that a practitioner with so few cases a year as the sum of his experience, is the individual who can be looked upon as an expert to be called in by a midwife when she is in difficulty? Were we asked in the case of our own wives whether we would call in a surgeon, whose experience was limited to six or seven cases a year, to operate on her for a serious condition, I think there would be no doubt as to what the answer would be, and one must face the fact that the emergencies of a confinement may be terrifying in their sudden onset, and tragic in their end. It is bad enough to be faced with a serious condition even if it has not been diagnosed beforehand, but which you know you can deal with in the course of time, but the onset of a serious hæmorrhage is very often a matter of life and death in a very short time. Together with this, there is the fact that with the falling birth rate mothers are more insistent on demanding that the child shall have its best chance, although they are apt not to be so insistent on the necessity of themselves having

the best chance. At such times their hopes are centred round the coming child.

Whilst we want to do the best for the mother it behoves us to be very careful how we do it as, notwithstanding the great kudos which must be credited to Dr. Topping for his Rochdale effort, one cannot get away from the fact, which one has always borne in mind, which is recorded in the recent Report on the Investigation into Maternal Mortality, that more publicity means more fear on the part of the pregnant woman, and it is interesting to see how the point is brought out in this report when it is stated that "there is reason to believe that the Educational Campaign in Rochdale led to undue anxiety on the part of some expectant mothers, and also perhaps doctors and midwives." This attitude of apprehension was regarded as the one unsatisfactory feature—perhaps inevitable—in the process of public enlightenment.

The position is that the British Medical Association are anxious to keep midwifery in the hands of the general practitioner, and to retain that family relationship which in this particular sphere of medicine is the strongest and deepest in the whole of a general practitioner's work. The difficulty to my mind is, in view of the small numbers that are attended by general practitioners at the present time, that the British Medical Association have left their effort too late. What is the alternative? One can only visualise the end of the other road which will mean that there will be a service of obstetrical specialists attending hospitals in the urban areas and every mother will be confined in some kind of institution with every facility at her disposal.

There are few general practitioners to-day who are really obstetrically minded, that is to take it as their particular subject for preference. Most of them are, in my experience, only too glad to get rid of those cases who cannot afford to go into a nursing home, and in some cases I know they deliberately put up their fees in order to discourage the work so that it may be carried out by a midwife.

Things have altered considerably since the days when I was in practice. One has to face the fact that a busy practitioner can wreck his day's work with one confinement, and, whereas in the old days he was more or less his own master except for the few clubs he had, now, in the majority of cases, he is, so to speak, at the beck and call of all those patients who are on his panel and who do not relish having to spend long periods in his waiting room whilst he is helping some mother in her travail. I am not sure that if the practitioner could be assured of his patients going into an institution and being attended by somebody who was not competing with him in practice and whose skill

was beyond cavil, he would not be glad of the opportunity of getting rid of his midwifery practice. When I say "somebody specially skilled," that would mean not by an ordinary general practitioner. If by any chance the idea that there shall be a panel of local practitioners who will do obstetric work, and remain in general practice comes to fruition, I can see the most horrible rows until the thing is withdrawn. I have no hesitation in saying that such a scheme is doomed to failure from its inception. It would be perfectly hopeless—human weaknesses being what they are. The woman who has come through her confinement will most certainly want the doctor who has brought her through it to attend her afterwards as her family practitioner. It simply cannot be done. There are certain practitioners who hate midwifery and yet feel compelled to do it in order to keep their practices together. Of course, it is entirely different to what it was say in the days when I started practice, when it was no uncommon thing for a practitioner to attend over 200 cases of midwifery a year. The modern practitioner with the added time that has to be given to it would simply hold up his hands in horror at the idea of such a thing. In the old days the fees that were paid for midwifery, and to a certain extent to-day, were hopelessly inadequate. In the days when I started the fee for midwifery in the Pottery Districts was 10s. 6d., in London 21s., and in Lancashire 12s. 6d. to 15s., and that was the index of what people thought it was worth. In Lancashire in my day, the midwife, if a doctor was called in, only got half the fee. I remember on one occasion being sent for and, as I arrived in the room, saw the midwife in the act of deliberately tearing the perineum with two fingers, hoping that she would have got it over before I arrived.

With all the propaganda that is going on at the present time, there is no doubt that a certain proportion of the medical practitioners are glad to be without midwifery, and the criticism which may follow a case which does not go quite right. One comes across a number of conscientious practitioners who are doing their midwifery to the best of their ability but it is possible for one or two to completely spoil the statistical record of a district, and yet as medical officer of health one is not in a position to say that the practitioners in question should not take a midwifery case. What is one to do in cases such as this? A woman comes into the district from another area and consults a private practitioner and, after having made arrangements for attendance at the confinement, given the particulars of the first confinement and the date she expects to be confined, produces a sample of her urine, only to be told by the doctor "that doesn't matter, that's all right." She had been to a clinic

in another area where regular examination of the urine had been carried out, and she expected the same class of supervision and treatment from a private practitioner. Is there any wonder that the doctor was not called in, but that she appeared at the clinic to ensure that her urinary condition was satisfactory.

Again, I was rung up by the superintendent of a maternity hospital asking why such and such a patient was sent in as she had delivered herself quite comfortably. On inquiry it appeared that *things were not getting along quite fast enough* to please the doctor, forceps were put on prematurely, the cord came down and could not be replaced, and the child died. On this the mother was sent into hospital and delivered herself without any difficulty, only to die shortly afterwards of puerperal septicæmia. Recently there seem to be hopes of better things, but even now one comes across cases of albuminuria when there is practically no warning at all, and even when admitted to hospital, where everything known can be done for them by skilled obstetricians, they are dead within 24 hours. There are those speaking with limited knowledge who hope for the complete obliteration of these maternal mortalities. In my opinion there is an irreducible minimum of somewhere about 1.5, possibly even a little larger, which will never be eliminated by reason of cases such as I have referred to.

Then take the case of nutrition. The Scottish Report said it does not matter, but the excellent work that has been done in the Rhondda Valley by Lady Williams seems to demonstrate without any possibility of doubt that nutrition is a factor which must be taken into consideration and investigated still further. It may be the quantity and quality in the Scottish investigations were adequate, but it may be in the Welsh District, whilst the quantity would appear to be adequate, the quality was wrong.

I am a member of a Committee got together by the People's League of Health, which for some 18 months has been going into this question and have at last arranged a dietetic supplement which will make up the allowance of salts and vitamins which are deficient. The money is to be provided to make an investigation in a number of hospitals taking maternity cases by random selection, so that it will be possible to evaluate what the differences have been over a large number of confinements, between those who continue their normal life and those with the added supplement.

As most of these reports have stated there is much yet to be learnt. We have learnt in the Rochdale experiment how certain things could be done, but there is much yet to be done. Further there is a difficulty from the statistical point of view in that

cases are certified in a way which makes it difficult sometimes to ascertain what is the actual cause of death. Much will have to be done to educate the people and yet it is going to be difficult to know exactly the best way in which to do it. Prejudices are still very great. There are probably some present who were at our Conference a few years ago when a woman representative from Wales made a vehement protest against hospital beds for confinements on the ground that "the place for the woman to be confined in was the home that her husband had made for her." On the other side there is this certain fact that no woman who has been confined in a hospital, and has realised the comfort and peace of mind that she has had both from the medical and nursing attention, will ever be confined again in any place other than a hospital.

There are many difficulties in running a municipal ante-natal service, and there is a good deal of mistrust on the part of the general practitioner. I have set the standard that the ante-natal officer shall be a specialist and both of those who have been appointed in my district have been physicians on the staff of a teaching hospital. I am now in the happy position that I have got every midwife in the district bringing their patients down to the ante-natal clinic, but beyond one or two of the practitioners, there has not been much use made of the facilities. In the ante-natal clinic an enormous amount of good work can be done, and one admits that the majority of practitioners are doing their work up to practically the same standard, but also there is evidence that there are others who do not keep it up to that high pitch. To a certain extent the general practitioner is handicapped compared with the municipal clinic. I have, as far as I can, ensured that everything which will make for the mother's health is provided. There is an obstetric specialist for the difficult confinements. There is a puerperal specialist should he be needed. I have beds reserved at Queen Charlotte's Infectious Diseases Block for puerperal cases should they arise. In addition to this I have a service of "Home Helps," but every now and then one is up against the fact that it is not every woman who likes to surrender her house, and her husband, whilst she is in bed, to some woman that she knows nothing of, except that she is an officer of my department. Carefully as one picks one's "Home Helps," one cannot always be sure that they are welcome. Speaking generally, they are a great success.

Then in addition to that, there is the provision of milk for such as require it. Their dental disease is dealt with and if it is necessary to remove so many teeth that a denture is required, they can obtain this on the instalment system or, if their means are such that they fall below the scale set

up by my committee, their denture is provided free. In the cases of multiple extractions I have an arrangement with the Eastman Clinic to take the patient in for one or two nights for a complete anæsthetic at a charge of 25s. a night.

I am fortunate in that I have the West Middlesex Hospital—one of the large county hospitals with an excellent obstetric block—close at hand, and we work in the closest connection with them. In view of the status of my ante-natal officer, such recommendations as he makes carry weight, and cases are dealt with at once.

One of the great difficulties I see from the point of view of the general practitioner is the increasing demand made by the women for the relief of pain, and also the need for an anæsthetist to lessen as far as possible the responsibility of the accoucheur. This has been specially stressed by Dr. Phillips, of Sheffield. One has to face the fact that this sort of thing is going to spread. One woman who has had a comfortable confinement spreads the glad news, and the demand grows. Further the demand for the skilled assistance necessary to give this relief from pain necessitates skilled assistants who are not readily available in domiciliary midwifery, and very often this treatment means a still further extension of the time required for delivery, which the busy practitioner can ill spare.

It is difficult indeed to foresee what is going to happen, but I visualise the day, not far distant, when the general practitioner will be bereft of his midwifery work, and if that occurs, will it be to the benefit of the patient? We are more and more realising the importance in medical practice, and day-to-day life, of psychology, and there is no doubt that psychology enters very, very largely into the treatment of a successful practitioner, although it may be unconsciously. If the general practitioner loses his midwifery he is going to lose one of the greatest opportunities he ever gets of close contact with his female patient. There is no time when a general practitioner is in closer contact with his female patient than the day after the confinement, when he sits by the bedside with the mother and the child, and the mother, safely through her tribulations, is more or less unmindful of the fact that her doctor has seen her in circumstances which make for that most intimate relationship such as cannot be otherwise acquired in the whole gamut of practice. That is the consummation of a relationship between doctor and patient which breeds a communion and confidence such as nothing else in general practice can. To those who want to make of medicine a glorified out-patient department, so to speak, that is the doctor seeing "cases" rather than "patients," it is well to re-call what the relationship of a successful practitioner to his patient really is.

Despite the fact that I have given up general practice for nearly 30 years, I look back on the eight years that I was in practice with memories which can never be effaced, of the intimate confidence and trust, and one may even say, affection of one's patients.

These are the joys and privileges—they are nothing else—of general practice, and for the most part the general practitioner lives up to the responsibilities that go with it. It will be a sorry day when that relationship, for which there is no other word I know than "beautiful," is swamped in the flood of progress and my own feeling is that, while he may be seeing possibly more efficiently "cases" of various medical and surgical diseases, he is possibly going to lose a very valuable adjuvant in the treatment of disease—that is seeing "patients."

I am at a loss to see exactly which way things are going. It may be better for the individual to have at her disposal the latest scientific information and skill in the world of medicine, with highly trained specialists working as a team, as a part of a public health service, on an insurance basis. But, on the other hand we may be breeding a race of neurotics by missing that intimate relationship, a relationship which is so wonderful that those who have not experienced it can scarcely appreciate what it means. It is not merely medicine, it is advice on what to do with this boy who is getting on towards the choice of a career, what to do with this girl, and to be the recipient of their joys, and their sorrows, it means an enormous psychological factor which gives one the possibility of relieving anxieties, strains and stresses which otherwise would be unbearable. We are at the cross-roads, but I am afraid it has been left too late to raise the general practitioner up to the modern standard that is being required, and if that is so, it must be laid to the profession's fault that it "did not set its own house in order" early enough. If this happens, in my opinion it will be a matter for many regrets. The steam-roller of time and progress flattens all these difficulties, and my successor will have to deal with these problems, when I am gone.

What is to be the end of it? We are loosing off a medicinal mitrailleuse at every maternity case, hoping for one of the numerous bullets to reach its billet.

It reminds me of the 1918 influenza epidemic. As a Senior Physician to the largest war hospital in the kingdom (3,340 beds), I had four large wards full of influenza patients, mostly young men in the prime of life, whom we were burying at the rate of five per day. To protect my staff I put everyone entering the ward in a surgical mask; I supplemented the staff rations by 1 pint of milk and two rations of Bovril a day, and I had all the windows screwed down 18 inches. Which was the

Typing of *Corynebacterium diphtheriae* and the Small Public Health Laboratory*

By G. A. W. NEILL, M.B., D.P.H.,
Assistant School Medical Officer, Huddersfield C.B.

In the Medical Research Council's monograph on Diphtheria (1923) the history of the study of the disease is divided into four periods:—

1. The first or period of Clinical Observation, when facts concerning a very fatal kind of "Throat distemper" were collected at random but little attempt was made to demonstrate the fact that this disease was so well distinguished from other forms of throat disease. This era extended from classical times till the commencement of the 19th century.

2. The second or period of Pathological and Anatomical Research may be said to commence with the work of Virchow (1847) when the diphtheritic type of inflammation was described as a separate entity.

3. The third or Experimental and Aetiological period was heralded by the demonstration of the organism we now know as *Corynebacterium diphtheriae* by Loeffler in 1884.

4. The fourth period, as described by the monograph, commenced in 1890 when Behring and Kitasato made the discovery of antitoxin for the disease. This is the Era of Serum Therapy.

Now since the publication of the monograph there has been a renewed interest in diphtheria in general and its bacteriology in particular. This, it is felt, might be said to constitute a fifth period or Era of Close Bacteriological Study. This era dates from the commencement of the present decade when, in Leeds and many other towns in the North of England, the incidence of, and death rates from, diphtheria showed a sudden sharp rise and the number of deaths in proportion to the number of cases also rose, and with it the number of cases showing complication, in spite of efficient serum therapy. This led to fresh attention being focused on the disease and the organism causing it. Professor McLeod and his co-workers (1931) published a paper on the "Existence of Two Types of *B. diphtheriae*" and in it they showed a correlation between the type and the clinical severity of the disease, the *mitis* type with the milder cases and the *gravis* with the more severe. The existence of the third, or "intermediate" type was also described and later a further paper on the subject was published. Since then there has been a spate of papers from places as far apart as London and Capetown; and amongst other places Hull,

Manchester, Dundee and Edinburgh. In these papers have been descriptions of series of clinical cases and the relation of the severity of these to the various types of organism found. As to the role of the *gravis* and intermediate types of the organism, as causing the more severe cases, there does not seem to be any great concordance of opinion, probably due to the varying conditions in different districts. However, all authorities appear to be agreed that the milder cases are associated with the *mitis* type.

On reviewing all this work from the point of view of a public health worker, who has to deal with the clinical features and epidemiological problems connected with the disease, rather than as a bacteriologist, the question which arises is: "Of what assistance in this work is the knowledge that any given case, or series of cases, is caused by one of the types, *mitis*, *gravis*, or intermediate?" In other words, is a medical officer of health justified in spending public money in ascertaining the types of *C. diphtheriae* occurring in his district? The answer, it is felt, to this question ought to be in the affirmative, with the reservations, that the work should be done by one of his own staff without sacrifice of other duties, and that no great outlay on equipment should be necessary. In the course of this paper it is hoped to show the practicability of complying with these reservations.

The argument in favour of carrying out a typing investigation on the strains of *C. diphtheriae* in a district may be considered under two headings:—

- (a) Clinical.
- (b) Epidemiological.

(a) Clinical

The clinical reasons for adopting a typing investigation are principally concerned with treatment. It is, unfortunately, rarely, if ever, possible to identify the type of the infecting strain in time to be of help in determining the dose of antitoxin to be administered. This is especially true where the ideal of giving the total necessary dose as early as possible is aimed at. However, a knowledge of the type prevalent in the district, combined with an experience of the slight differences that may be manifest by close observation of clinical features may afford some assistance.

It is in the later stages of treatment of diphtheria that the assistance obtained from a knowledge of the type concerned is most valuable, when a wary

* Paper read to the Yorkshire Branch, Society of Medical Officers of Health, April 2nd, 1937.

factor I cannot say, but only one of my staff went down with influenza—one of the nurses who slipped her mask down to do a dressing, as she had dimmed her spectacles and could not see. So with maternal mortality, whether the solution be exclusion of relatives from the room, or protosil, proteins, or what not, time alone will tell. Three reports have come out since this paper was begun, and the striking thing is how seldom in all the recommendations the general practitioner is mentioned. On the other hand it will be well to read the papers in the obstetrical section of the 1936 Annual Meeting of the British Medical Association* and ponder on Sir Ewen Maclean's statement that "A national maternity service which excludes the general practitioner from its responsible personnel is impossible and unthinkable."

DISCUSSION.

Dr. J. A. Neill (Seaham Harbour) speaking as a general practitioner of 30 years' standing, said that the opportunities of the present-day doctor for midwifery work were limited. When he commenced practice, he dealt with between three and four hundred midwifery cases each year; he also thought that the present-day midwife was inexperienced and too ready to call in help to hurry on her cases. This, perhaps, led to the idea that there was a higher proportion of abnormal cases nowadays; but he thought that there was no real abnormality in a number of instances where the doctor was called. Dr. Neill concluded by a reference to the influence of high heels on pelvic abnormalities.

Dr. Agnes Nicoll (A.M.O., Willesden), President of the M. & C.W. Group, thought that in the coming schemes, difficulties might arise in securing medical care for the women during their pregnancy and puerperium. The new midwives were going to be specialists in normal midwifery, but she thought that local authorities must provide adequate medical assistance; she asked why a woman should not have her own doctor in charge of her and an obstetrical specialist called in for the obstetrical ante-natal examination, the expense to be borne by the woman or the local authority. The argument which had been put forward against the idea of a local panel of practitioners specially experienced in midwifery was that a G.P. would not like to call in a local colleague as a consultant, but she did not believe that a patient would think any the less of her own doctor because he called in another on this particular occasion.

Dr. J. B. Howell (M.O.H., Hammersmith) gave some figures as to increases in institutional confinements in his borough during the last few years, showing a reduction of maternity work among the private doctors. Before very long he thought that there would be sufficient accommodation provided to take every maternity case in Hammersmith; there had been a gratifying reduction in maternal mortality in his area.

Dr. Catherine Morris Jones (A.M.O., Gloucestershire) pointed out some of the important differences

between town and rural conditions. For instance, it would be very difficult for two country partners to say which of them was to be called specially competent in midwifery. She said that in her county delay and perineal tears were the two common abnormalities. Referring to Dr. Neill's criticism of the present-day midwife, she said that in her experience the bulk of the midwifery work went to the midwives who took no afternoon off and were unwilling to take their short fortnight's holiday because of the difficulty of leaving their patients.

Dr. Nora Wattie (A.M.O., Glasgow) referred to the Scottish Midwives Act and some of the difficulties which were being experienced in that country in submitting schemes for complete medical and midwifery services in six months.

The President (Dr. Ernest Ward) after referring to the interest of the opening papers and discussion, said that he wondered whether a shortage of candidates for the reform midwifery service would be felt owing to the longer and more arduous nature of the training period.

Dr. Maitland Radford (M.O.H., St. Pancras) in a witty speech, proposed a very hearty vote of thanks to the openers, and said how much Dr. Nash's accident had been regretted.

Dr. Savage, in reply, said that we were generally agreed that the present position could not go on. He foresaw in each area a small number of practitioners with special competence in midwifery work and the obstetric consultants in support of them, but he could not see that there was any room for the general practitioner in the scheme. Regarding abnormal deliveries, he agreed that the calling in of doctors for perineal tears had increased, and he doubted whether the present arrangement gave proper value for money.

A Correction.—In the report of the discussion following Dr. Wilkins' paper published in our last issue, line 49 of the left-hand column on page 295 should read "one-eighth of an ounce of fresh brewer's yeast" instead of "one-eighth of a grain," etc.

MEMBERS of the Society will be glad to know that amongst those who were accorded the Hon. Life Membership of the Canadian Public Health Association at the Twenty-sixth Annual Congress of the Association, held at Toronto from June 17th to 19th, was Dr. George F. Buchan, Medical Officer of Health, Willesden. The two other recipients of this honour were Dr. John A. Ferrell, Associate Director, International Health Division, the Rockefeller Foundation, New York, and Dr. Helen MacMurchy, C.B.E., of Toronto.

A True Story.

M.O.H. (on telephone): "Is that the X.Y.Z. Fever Hospital?" M.O.H. speaking. A mother and baby were admitted to your hospital yesterday. Will you tell me, please, whether the diagnosis of diphtheria is confirmed?"

Voice: "Certainly. Please hold on a minute and I will find out." (Long interval.)

Voice: "I am so sorry to have kept you waiting. Yes, the mother has been confirmed and the baby has been baptised."

* B.M.J., August 22nd, 1936.

eye is being kept for complications, when the question of "sitting up" or "getting up" has to be decided or when a prophetic prognosis is asked for. Then, to know whether the infection is *gravis* or *mitis* may be one of the most useful signposts, more care always being taken when dealing with the former.

(b) Epidemiological

The knowledge of types, from the epidemiological point of view is primarily valuable in giving completeness to reports of outbreaks in various districts. From the administrative standpoint typing may be found useful in tracing carriers in institutional outbreaks. Here the occurrence of two types may be taken as indicating two distinct sources of infection. Also, when dealing with return cases, where the second case in the same household is of a different type from the original it is unlikely that it is a true return case. Again, the knowledge of the type being dealt with may provide the key to some of the unusual features that occasionally occur in some outbreaks; it is hoped to illustrate this point later.

The chief of a public health department having decided, after consideration of the above points, that the typing of *C. diphtheriae* is desirable, it becomes the duty of the person responsible for the bacteriology to arrange the technical details. Often this is by no means an easy matter. The majority of the large series of typed strains, described in the published papers, have been worked out in university or other large laboratories, where the persons doing the work are whole-time bacteriologists and where there is unlimited technical assistance. In the small public health laboratory, on the other hand, the work must be undertaken by a medical officer who has other duties and whose trained technical assistance is often a negative quantity. There are many difficulties, but none of them are insuperable. The principal one is the preparation of reagents and media required and it is finding a suitable solution to this that makes it possible to do the work in the circumstances under consideration. It should also be remembered that, where the bacteriology is done by a member of the staff with other duties, the number of strains for typing is usually within reasonable limits and that it is rarely necessary to apply the investigation to more than one swab from each patient.

Perhaps, in explanation of these questions, it would not be out of place to mention briefly the technical principles involved when a strain of *C. diphtheriae* is typed. On obtaining a positive swab it becomes necessary to isolate the organism in pure culture. This is accomplished by means of a selective plate medium—usually this contains

one of the salts of tellurium (generally a tellurite)—and from it a primary pure culture is made by picking off a single colony. From this primary culture are ascertained the carbohydrates fermented and the behaviour of the organism when grown in broth. All these procedures have been described in detail in the various papers published and it is not proposed to do more than explain the technical difficulties arising in them and how they have been overcome.

In the second half of 1936 there appeared, at the Huddersfield Fever Hospital, a type of case of clinical diphtheria which was, on admission, by the manifestations in the throat, mild. Bacteriological diagnosis was difficult, as in some cases only one rather doubtful positive swab was found out of a series taken at the hospital and in a few cases no definite positive was found at all. In spite of this, many produced complications of one sort or another; albuminuria was common, many showed cardiac damage, and one or two paresis. This was particularly interesting, as for several years prior to the occurrence, diphtheria in Huddersfield had been particularly severe, with, in 1935, a mortality rate of 10.2 per 100 cases, although the total notifications numbered only 294 or 198 less than in 1934. It was recognised that these circumstances were worthy of investigation and the first question that arose was:—"Are all these true cases of diphtheria?" If they were it was possible that they were all of the same type and it would be both useful and interesting to prove this as a fact. With the more involved bacteriological technique required for typing it might be possible to detect the presence of *C. diphtheriae* in some of the swabs returned "Negative" by the ordinary Loeffler culture, Neisser and smear method. If some of them were streptococcal or mixed infection, again, with a more complete bacteriological examination it would be possible to find the secondary infecting agent if one were present.

Previous investigations into the type of *C. diphtheriae* most prevalent in Huddersfield had been carried out by Dr. Robinson of Manchester University; at that time all positive swabs were sent to him by post. In this series a very high percentage of *gravis* strains was found and reference is made to them in an article published by Dr. Robinson (1936). When these peculiar cases commenced to appear it was some time since the typing investigation had been done and it was thought possible that *gravis* might have given place to the "intermediate" type, as has happened in some other districts.

These facts were carefully weighed up and it was finally decided that an investigation be carried out, on the swabs of all patients admitted into the diphtheria wards at Mill Hill Fever Hospital. In

the circumstances it was felt that it would, in view of the doubtful nature of some of the swabs, be better to do the investigation in Huddersfield rather than send cultures containing a few diphtheria organisms and many other more robust microbes through the post, as possibly, on arrival, the former might conceivably have died off. Also, the number was small and would not call for a lot of extra work in the laboratory. The laboratory at Huddersfield is well equipped, but the staff available is one part-time medical officer (lent from the School Medical Service) for about two hours daily and two half days per week. So when the typing investigation was inaugurated a simple scheme became necessary and was worked out as follows.

First and foremost, it became necessary to adopt a table of standard characteristics for each of the types which would be sufficiently constant for each to identify them accurately. A study of the literature was made and it was found that each type had about a dozen characteristics which included fermentation of such substances as glycogen, hæmolysis, or absence of hæmolysis, and the power when grown on a certain kind of broth to alter its reaction in a certain way. However, experiments were carried out with a large number of tests based on this work and these experiments showed, what could be read between the lines of the literature, that there were three simple tests which would type, with sufficient accuracy, 99 per cent. of strains of *C. diphtheriae*. These tests are:—

- 1. Colony appearance when grown on special blood-tellurite medium.
 - 2. Fermentation or not of starch.
 - 3. Appearance of growth in a simple broth.
- Table I shows how these three are applied to each type for identification purposes.

Having settled this question the next problem was what media would be necessary and how would they be prepared? The first portion of this problem is solved by the standards adopted and

the second was the part to be worked out. Primarily and most important was a suitable tellurite medium, for this has to serve the double purpose of isolating separate colonies of *C. diphtheriae* by means of its selective action, and of giving characteristic colonies to form the first of the three standards for each type. The most widely used medium of this sort is that described by Professor McLeod in his original paper already referred to. This is very selective and gives the most characteristic colonies of any medium for each of the three types. It has, however, one very serious disadvantage—it is rather awkward to make and requires certain ingredients which are not always easily obtained. The method of procedure is, briefly, as follows. A special broth is made by extracting some 30 ounces of raw meat with water at 45° C. This broth is never heated above 50° C. and is sterilised by filtration through two kinds of filter. It is then solidified with agar, the tellurite, and 10 per cent. of rabbit's red blood cells being added, the whole being heated to 75° C. This medium has become in most large laboratories the standard medium for isolating *C. diphtheriae*, but in a number of the smaller ones some other medium is used. As this usually means sacrificing the type characteristic colonies it was felt that some kind of a compromise must be evolved for Huddersfield. In the first place it was impossible to obtain rabbit cells just when they were required, and in the second there was not time to go through the process of filtering the broth every week or so. With this in mind, a series of experimental batches of several of well known tellurite media were made up and tested, and many trials and tribulations were encountered. Eventually it was found possible to produce a simple heat-sterilised medium which made use of a form of preserved ox blood to supply the native protein required, in place of fresh rabbit blood. This medium also showed reasonably characteristic colonies for each of the types. It is hoped to publish the method of preparation at an early date.

TABLE I.
CULTURAL CHARACTERISTICS OF THE TYPES OF *C. diphtheriae* EMPLOYED FOR TYPE DIFFERENTIATION.

Type.	(1) Colony appearance on Special Blood Tellurite Medium.	(2) Fermentation of			(3) Appearance of Growth on Broth Medium.		
		(a) Starch.	(b) Glucose.	(c) Saccharose.	Surface Pellicle.	Mid-fluid.	Deposit.
<i>Gravis</i> ...	Large grey black irregular conical ("Daisy Head")	+	+	—	Thick	Granular	Large granules
<i>Mitis</i> ...	Large black regular shiny spherical	—	+	—	Nil	Turbid	Amorphous
<i>Intermediate</i>	Small black granular, irregular papillated	—	+	—	Nil	Clear	Granular

Having secured a typical colony on the tellurite medium it becomes necessary to prepare a pure culture of the organism. This is done by picking off the largest and most characteristic colony and spreading it on a Loeffler slope. This is incubated for 24 hours and a smear from it is examined for morphology and purity microscopically. If pure, the fermentation tests and growth on broth are carried out.

In addition to fermentation of starch, it is usual to test each strain under examination for reactions on glucose and saccharose, as true diphtheria ferments the former but not the latter. The sugars are dissolved in a serum water containing an indicator, when fermentation is shown by change of colour and clotting. *C. diphtheriae* does not grow well in ordinary peptone water. In addition to the sugar tubes, a tube of the plain serum water is inoculated for control purposes, and also because it forms a suitable medium for retaining a strain of *C. diphtheriae* in stock over a period.

The principal problem involved in a small laboratory in dealing with fluid media is that of how much to make up at a time. It is as easy to make a litre as 100 c.c., but unless some reliable method of storage is available the litre may have to be discarded as contaminated as soon as the 100 c.c. would be used up. It was found that storage in screw-top medicine bottles, as described by McCartney, was the most satisfactory method of storage, a litre being made up of each medium at a time and distributed in separate bottles containing 100 c.c. or 200 c.c. each. In periods when the necessity for doing fermentation tests was infrequent, the media were actually bottled in 25 c.c. screw-top phials—5 c.c. per phial—and the fermentation tests carried out in the vessel in which the medium had been stored.

The actual preparation of the serum water and the broth present no great difficulty provided a reasonably good steriliser is available. The peptone used in both is the same and the serum can be obtained ready—sterile—to add to the peptone water from some of the large medium manufacturers. The addition of the necessary 1 per cent. of the carbohydrates is arranged simply by sterilising 1 gramme of each in a bottle and adding 100 c.c. of the serum water. The broth consists simply of 1 per cent. Lemco and a similar proportion of Proteose peptone in a 0.5 per cent. salt solution. This is placed in tubes or phials in the same way as the serum water.

This completes the media required for an investigation, apart from the ordinary Loeffler, and if the methods described are employed, it matters little what the number of strains of *C. diphtheriae* typed is—whether it is 30 a week or only three in

a month it is always possible to have media at hand to deal with it.

Having arranged supplies of media, the following routine was applied to all swabs.

The swab when received was inoculated on a Loeffler slope and incubated for 18 to 24 hours. It was then read and, if positive, a suspension was made by emulsifying one loopful of the culture in a few c.c. of saline. One loopful of this emulsion was then spread on a plate of the tellurite-blood medium and incubated for 48 hours. The plate was read and the pure culture made and incubated as described. If found to be pure after 24 hours' growth, one loopful of this was inoculated into each of five tubes containing, respectively, plain serum water, starch serum water, glucose serum water, saccharose serum water and broth. At the end of 48 hours these cultures were read. The results were then compared with the standard table. The actual amount of time required for any one of these procedures is about five minutes for each strain, per day, while enough media can be made up in a couple of half days to last many weeks, where the number of tests to be done is small.

Using these methods as the standard technique, every strain of *C. diphtheriae* that it has been possible to isolate in Huddersfield has been typed. Since the introduction of the investigation six months ago, 76 cases of diphtheria and 11 carriers have been notified and 81 strains have been isolated. The discrepancy of strains and notifications is accounted for by a number of sore throats that were notified prior to receiving a bacteriological report, and as far as can be ascertained, in only two cases that were true diphtheria did the technique fail to isolate the organism. Both of these were late cases, and in one a positive had been obtained by another laboratory but the culture was not kept.

The percentages of each type in Huddersfield have been found to be:—

Mitis	..	12.4 per cent.
Gravis	..	85.2 "
Intermediate		0.0 "
Atypical	..	2.4 "

The number of cases where more than one member of the family was infected with diphtheria was eleven. In all cases the same type was isolated from each infected member of the family.

Two carriers were notified on bacteriological findings which were afterwards shown to be diphtheroids, as they fermented saccharose and the colony appearance was not typical. In both cases the swabs were taken from aural discharges. Microscopically, it was impossible to differentiate between these organisms and *C. diphtheriae*, but in

view of the large numbers present in the culture it was not felt to be advisable to wait for the completion of a typing investigation, and they were notified provisionally. The complete examination was repeated three times, and when no sign of true *C. diphtheriae* was found the patients were discharged.

The figures relative to the clinical picture in the 54 cases which have completed treatment are shown in Tables II and III. These illustrate the prevalence of complications in the cases where *gravis* was the infecting agent. The three deaths from *gravis* infection all occurred within the first five days of the disease and were of the typically "toxic type of death." The one death from a *mitis* infection was due to low respiratory obstruction.

When the cases were analysed in tabular form, it was decided only to consider those cases which had been discharged as recovered. This partly accounts for the discrepancy between 76 notified cases and the 54 analysed, 16 cases still being in hospital. In addition, there were four cases notified for observation with sore throat that never gave a positive swab, and two late cases diagnosed on sequelæ.

The fact that no fewer than 24 of the cases never showed more than one positive swab is worthy of note. It is also interesting to note that several of these would have been passed over as negative by the ordinary smear examination and were only detected by use of the tellurite selective medium.

It is regretted that the number of cases is so small, but at the same time, it is felt that the object of this paper is to show the practicability of typing and its value in such circumstances. However, small as the series is, it represents a six months trial of routine typing, and it is hoped to continue the investigation as a regular part of the bacteriological examination with every positive swab, as it is felt that the information gained adequately repays the labour involved.

Both from the clinical and epidemiological standpoints the routine typing of all strains isolated in Huddersfield has been felt to be worth while. The high prevalence of the *gravis* type has been a warning to go slowly and carefully with the treatment once the acute throat stage has been passed, and has acted to a certain extent as a guide in the dosage of antitoxin. In the few *mitis* cases that occurred it has been possible to give a reassuring prognosis, and the end results justified this.

From the epidemiological viewpoint, it is interesting to note that the type which was prevalent during the height of the epidemic is still the principal infecting agent whilst the epidemic is now on the wane in the Huddersfield district. The question must be considered as to whether this waning is due to the fact that another type has not

TABLES II AND III.
RELATION OF CLINICAL MANIFESTATIONS OF
DIPHTHERIA TO TYPE.

(Figures are for the 54 patients of known "type" infection, who have completed treatment in Huddersfield Fever Hospital.)

Incidence of type:—			
<i>C. diphtheriae</i> Gravis	48 cases	88.89 per cent.	
" Mitis	5 "	9.26 "	
Atypical Strains	1 case	1.85 "	
Total	54		

TABLE II.
Classification in Relation to Severity.

	Gravis.	Mitis.	Atypical.	All Types.
Fatal ...	3	1	—	4
Severe ...	5	—	—	5
Moderate	14	1	—	15
Mild ...	26	3	1	30
Total ...	48	5	1	54

TABLE III.
Complications and Sequelæ.

Type involved.	Albuminuria.	Cardiac Comps.	Pareses.	Total Cases showing complication.
Gravis (48 cases)	17* (35.4 per cent.)	17* (35.4 per cent.)	9 (18.7 per cent.)	22 (45.8 per cent.)
Mitis (5 cases)	1 (20 per cent.)	—	—	1 (20 per cent.)
Atypical (1 case)	—	—	—	—
Total (54 cases)	18 (33.3 per cent.)	17 (31.5 per cent.)	9 (16.6 per cent.)	23 (42.6 per cent.)

* 5 cases showed albuminuria and no cardiac comps; 5 cases showed cardiac comps. and no albuminuria.

Total mortality rate	54 cases	7.4 per cent.
Paralysis rate	54 "	16.66 "

supervened, on a population that is possibly in possession of a relatively high mass bacterial immunity to the prevalent organism. It has been shown (Robinson, 1936) that the types are serologically separate one from another and that there are five serologically different types of *gravis*; and this may, perhaps, have something to do with the epidemiology of the disease in Huddersfield, as

most of the *gravis* strains isolated have been tested for agglutination and have been found to belong to a single serological type. It is generally accepted that as far as antitoxic immunity is concerned type is of little importance, but if such a thing as bacterial immunity to *C. diphtheriae* exists it is probable that type will be found to play a certain part in it.

The technique described is relatively simple when each step is considered separately, being, in principle, similar to that adopted in dealing with organisms of the Coli-enteric (Bacterium) group, the principal difference being that the tellurite media are much more selective than the media generally used for isolating this group. Hence the pure culture of the organism, which is the basis of the tests, is much easier to obtain. The time taken to do the actual work, for an average of three or four investigations, on any one day, is negligible, as a certain amount of time—24 to 48 hours—is necessary between each step of the investigation. Against this, however, is the fact that a final report of type is not available for five days after the reporting of a positive swab, though a provisional report, with reservation, may often be given on the colony appearance inside 48 hours.

The amount of laboratory work and equipment required is not very great when a system of working such as that just described in use at Huddersfield is employed. No great strain should be felt by the person responsible for the management of the investigation if a little foresight is used in arranging supplies of media. Sufficient of this to last several weeks can be prepared and stored in a couple of half days. The storage methods as already described, and instituted by Dr. McCartney, may be said to make this work possible. They represent, perhaps, one of the greatest and most useful advances in bacteriology. As to equipment, this series has been carried out with (saving one small exception) the ordinary equipment of a small public health laboratory, *i.e.*, microscope, autoclave, water bath, balance, incubator and glassware.

It is felt that a word on serological typing as an alternative to the method described would not be out of place. In principle, serological typing has been examined and found to work with success, using the patient's organism against a standard serum. Here again, some means, such as a tellurite plate, must be used to obtain a pure culture, and the preparation of a suitable suspension requires, for technical reasons, several subcultures. It will be seen, therefore, that neither on the plea of speed nor simplicity does a serological method offer a more satisfactory technique.

On consideration of the small series described in retrospect, and of the work that has been done in order to reduce typing of *C. diphtheriae* to a

series of daily routine procedures, one thing stands out prominently. This, the use of a tellurite medium for the routine examination of swabs, even if further excursions into the realm of typing are neglected, can give a very clear idea of the types encountered, and is invaluable in dealing with the scanty positive swab, which often contains so few *C. diphtheriae* that they are often only found after a tedious and lengthy search. Routine inoculation of a tellurite plate in parallel with the ubiquitous Loeffler not only gives confirmation to a positive result, but reduces the number of "doubtful" results, so saving much valuable time, and occasionally "spots" a light positive that would otherwise be missed. Reference has been made to the possibility of producing a simple form of tellurite medium that will be capable of being easily made in any small laboratory.

Conclusions

The work described may be summarised thus:—

1. The practicability of routine typing of all strains of *C. diphtheriae* encountered in a small public health laboratory has been discussed and illustrated.
2. The advantages and value of such a typing investigation have been discussed and illustrated.
3. The methods used in the typing investigation in Huddersfield have been described and the results considered.
4. The routine examination of swabs on a tellurite medium and the value of such a medium has been briefly referred to.

REFERENCES.

- Anderson, J. S., Happold, F. C., McLeod, J. W., and Thompson, J. G. (1931). *Journal of Path. & Bact.*, 34, 667.
- Mackie, T. J., and McCartney, J. E. (1934). An Introduction to Practical Bacteriology. Edinburgh.
- Medical Research Council: Bacteriological Committee. (1923). *Diphtheria: its Bacteriology, Pathology and Immunology*. London.
- Robinson, D. T., and Peeney, A. L. P. (1936). *Journal of Path. & Bact.*, 43, 403.

DISCUSSION.

Dr. E. C. Benn (City Hospital, Leeds) expressed admiration of Dr. Neill's work in a small laboratory without assistance. He himself had found similar work most difficult. He had been led to feel that diphtheria was a different disease in different parts of the country and what one man had found was little guide for a man working elsewhere. Where Dr. Benn was working, of the cases of diphtheria 80 per cent. were of the intermediate type, 10 per cent. *mitis* and very few *gravis*. Regarding diagnosis of type he said that one must decide on clinical grounds at once whether the disease was mild or severe. The result of typing coming to hand one week later was valuable confirmatory information but by that time the patient was either recovering or showing decline. The value of typing was that the guinea pig

virulence tests could be largely avoided. He had had several virulence tests performed on organisms which had been typed previously, and in every case Prof. McLeod's axiom had been substantiated. In diphtheritic otitis media, "carriers," etc., he now placed almost complete reliance in McLeod's typing.

Dr. D. F. MacDonald (Isolation Hospital, Halifax) said that in Halifax he had found that 40 per cent. of the diphtheria organisms were *gravis* and 60 per cent. either intermediate or *mitis*. (He had not divided these, since clinically it was not worth while.) He found that the *gravis* type did not respond to diphtheria antitoxin. Even after doses of 40,000 to 100,000 units the condition was progressive. After 24 hours he gave 20,000 units and a further 20,000 units on the following day and the day succeeding. The clinical picture of *gravis* infection was albuminuria and toxic carditis. The late results were paresis and disordered action of the heart developing in three weeks. These late results have no relation to the initial clinical condition.

Dr. T. N. V. Potts (C.M.O.H., West Riding) congratulated Dr. Neill on his most interesting paper. He said that his work had a definite practical bearing. In the county they were killing thousands of guinea pigs every year. The disadvantage of typing was that it took five days. It was therefore not much good clinically. Its real value was in the control of carriers (deciding whether virulent or not).

Dr. James Sharpe (Dep. M.O.H., Leeds) thought that the most valuable points in the paper were that Dr. Neill had (a) applied new knowledge to a routine job, and (b) devised a new medium for convenient use in a small laboratory. Dr. Sharpe found typing valuable in control of epidemics in factories. *Gravis* infection in Leeds appeared to be diminishing in amount. The greater fall in the death rate than in the proportion of *gravis* strains suggested that there were factors additional to the type of infection in determining the case of mortality.

Dr. J. J. Jervis (M.O.H., Leeds) proposed a very hearty vote of thanks to Dr. Neill. His paper, he said, showed an abundance of work, initiative and enterprise. Our reliance upon large laboratories was becoming a source of weakness in the public health system. Men now were tending to be divorced from investigations such as Dr. Neill's on account of their many other routine duties. Dr. Jervis expressed the hope that this paper would be broadcast through PUBLIC HEALTH to show the younger members of the public health staff what valuable work could be carried out under difficulties in small public health laboratories.

Dr. R. Sutherland (M.O.H., Brighouse) seconded the proposal which was then unanimously carried.

Dr. Neill, in his reply, said that this work was his hobby. He had worked in two areas in England and for the last three months had been examining a series of positive swabs from Northern Ireland. The type varied in different parts of the country. On the East Coast 60 per cent. were of the intermediate type and 30 per cent. *gravis*. In Northern Ireland 40 per cent. were of the intermediate type, 30 per cent. *mitis*, 5 per cent. *gravis*. He stated that there was another type which

gave some, but not all, the ultimate characteristics of *gravis*. Typing helped one to look out for albuminuria and heart affections. He had found a series of ten *gravis* organisms tested for virulence to guinea pigs all virulent. Drs. Parish and O'Brien had found that specific anti-diphtheritic serum to *gravis* differs little from ordinary anti-diphtheritic serum. Complications of *gravis* infections were probably due to more profuse production of toxin. Where *gravis* strain was present in a carrier member of a family in which one *gravis* case had occurred the carrier might be regarded as virulent. There was no definite proof of mutation of type either *in vivo* or *in vitro*.

MINISTRY OF HEALTH PUBLICATIONS

The subjoined notes regarding recent Ministry of Health circulars, memoranda and reports are made available by courtesy of the Ministry. Readers are reminded that priced documents should be obtained not from the Ministry but from H.M. Stationery Office, Adastral House, Kingsway, W.C.2, who will open deposit accounts and receive subscriptions for the regular supply of publications of a specialised nature. Documents which are not priced in the following list are not obtainable from the Stationery Office, and if any reader wishes for a copy of one of these, it is open to him to apply to the Ministry direct.

Circular 1519. Price 1d. net. By post 1½d. *Maternity and Child Welfare*. Addressed to Maternity and Child Welfare Authorities requesting them to review their arrangements for the supply of milk, meals and other foods to expectant and nursing mothers and young children, in order to ensure that this important matter is adequately dealt with throughout the country.

Circular 1522. Price 1d. net. By post, 1½d. (encloses S.R. & O. of 1937, No. 329). Price 3d. net. By post, 3½d. *Public Health (Imported Food) Regulations, 1937*. Forwards to Port and certain other Sanitary Authorities a copy of the Public Health (Imported Food) Regulations, 1937, which come into operation on January 1st, 1938, and consolidate and amend the Public Health (Imported Food) Regulations, 1925, and the Public Health (Imported Food) Amendment Regulations, 1933.

Circular 1600. Price 1d. net. By post, 1½d. *Public Health Act, 1936. Movable Dwellings*. Draws the attention of Local Authorities to the provisions in the Public Health Act, 1936, relating to Movable Dwellings, and for the regulation of the conditions in Offices.

Poster, Booklet and Folder. Housing (Rural Workers) Acts. Poster, leaflet and booklet, entitled "Rural Workers' Homes" calling attention to the facilities provided by the Acts.

P.H.M.S. Report 79. Price 9d. net. *Reports on Public Health and Medical Subjects No. 79. Cancer*. Memorandum on provision of Radio-Therapeutic Departments in General Hospitals by A. B. Smallman, C.B.E., D.S.O., M.D.

P.H.M.S. Report 80. Price 6d. net. *Reports on Public Health and Medical Subjects No. 80. Laboratory Diagnosis of Psittacosis*.

Report. Price 1s. net. First report of the Advisory Committee on Nutrition.

Report. Price 5s. 6d. net. Report of an Investigation into Maternal Mortality.

Report. Price 2s. 6d. net. Report on Maternal Mortality in Wales.

Form H.256. Housing. Requests Clerks to Local Authorities to furnish a return of the progress made up

to March 31st, 1937, under the Housing Act, 1930, with respect to Unhealthy Areas and Insanitary Houses.

Form H.256a. Housing. Requests Clerks to Local Authorities to furnish a return of the progress made to March 31st, 1937, in their programmes under the Housing Act, 1930.

Circular 1602. Housing (Rural Workers) Acts: Publicity. To county and rural district councils administering the Housing (Rural Workers) Acts, notifying them of the preparation of a poster, folder and booklet on the subject, and asking them how many copies they require for distribution.

Circular 1605. Price 1d. net. By post, 1½d. (encloses copy of Scheme). *Local Government Act, 1929—Welfare of Blind Persons.* Addressed to County Councils, County Borough Councils, Common Council of the City of London and Voluntary Associations for the Blind. Encloses a copy of the Scheme, with some explanatory observations; and directs that the accounts of organisations for Blind Welfare shall continue to be as prescribed in Circular 1306.

The Scheme, made by the Minister under Section 102 (1) of the Local Government Act, 1929, prescribes the annual contributions of Local Authorities to Voluntary Associations for the Blind during the next "fixed grant period."

Circular 1606 (encloses Form Lab. 1). *Laboratory Arrangements.* Requests County Councils and Local Sanitary Authorities to furnish a statement in regard to their arrangements for pathological and bacteriological work.

Circular 1609. Price 1d. net. By post, 1½d. *Departmental Committee on the Cost of Hospitals.* The Circular calls the attention of Councils of Counties and County Boroughs to the First Report of the Committee and to a memorandum prepared by the Management Committee of the King Edward's Hospital Fund for London on Fire Precautions at Voluntary Hospitals.

Circular 1610. (Encloses Forms Port F.1 and Port. F.2.) *Port Sanitary Administration and Medical Inspection of Aliens.* Requests Port and Riparian Sanitary Authorities in England and Wales to complete and return Form Port (F.1, 1937) (Estimated expenditure on port sanitary administration and medical inspection of aliens during the year ending March 31st, 1938) and Form Port (F.2) (Balance of grant in respect of the year ended March 31st, 1937).

Circular 1614. Treatment of Tuberculosis. Directs the attention of County Councils, County Borough Councils and Tuberculosis Joint Committees to the facilities provided at the King George's Sanatorium, Liphook, for the treatment not only of seamen (including ex-Naval ratings), but also of officers of the Naval and Military Services, with a view to the more extended use of the Sanatorium under the tuberculosis schemes of the Local Authorities.

Scheme (encloses Board of Control Circular No. 830). *Local Government Act, 1929. Mental Deficiency Acts, 1913-1927.* Addressed to County Councils, Town Councils and Committees for the Care of the Mentally Defective. Encloses a copy of a Scheme made by the Minister of Health under Section 102 (2) of the Local Government Act, 1929, for the payment of contributions by the Councils of counties and county boroughs or combinations of councils to voluntary associations which undertake the duty of assisting or supervising defectives whilst not in institutions.

Form Housing 172. Return relating to the action taken by local authorities under Sections 18, 42 and 44 of the Housing Act, 1936, in regard to the payment of removal expenses, compensation to shopkeepers and payments for well-maintained houses in clearance areas.

Memo. T. & C. P. 12 (encloses T. & C.P. 11 and Revised Model Clauses). Price 2s. net. *Town and Country Planning.* Revised Edition of Model Clauses (with notes) for use in the preparation of Planning Schemes and Memorandum on points to be watched in the Preparation and Submission of Planning Schemes and subsequent procedure (T. & C.P. 11) together with covering memorandum (T. & C.P. 12).

Scheme. Maternity and Child Welfare Contributions (London) Scheme, 1937. Schemes made by the Minister under Section 101 (6) of the Local Government Act, 1929, for the payment of contributions by the London County Council and the Councils of the Metropolitan Boroughs to Voluntary Associations providing Maternity and Child Welfare services in the County of London during the five financial years, 1937-38 to 1941-42.

S.R. & O. of 1937, No. 216. Price 1d. net. By post, 1½d. The Housing Act, 1936 (Operation of Overcrowding Provisions) Order, 1937.

Circular 1618 (encloses Forms H1, H2 (G), H2 (M), H2 (P) and H2 (T)). *Costing Returns.* Requests Clerks to County Councils and County Borough Councils in England to forward Annual Return of Income and Expenditure in respect of Poor Relief and also Costing Returns in respect of General Hospitals, Maternity Homes and Hospitals, Institutional Poor Relief and Residential Treatment of Tuberculosis, in respect of the year ended March 31st, 1937.

Circular 1620. Price 1d. net. By post, 1½d. (encloses S.R. & O. of 1937, No. 398). Price 1d. net. By post, 1½d. *Supervision of Midwives.* Forwards to Local Supervising Authorities under the Midwives Acts copies of Midwives (Qualifications of Supervisors) Regulations, 1937, prescribing as from June 1st, 1937, the qualifications required for medical and non-medical Supervisors of Midwives.

Circular 1622. Price 2d. net. By post, 2½d. *Maternal Mortality.* Draws the attention of Maternity and Child Welfare Authorities in England to the Report on Maternal Mortality (Cmd. 5422) and the more important of the recommendations contained therein.

Circular 1623 (encloses Form V56). *Venereal Diseases.* Addressed to Venereal Disease Authorities asking for a statement of the extent to which educational and publicity work in regard to venereal diseases is undertaken by the Authorities.

Circular 1626 (encloses Costing Returns—Part 1, 1935-36). *Costing Returns—Year ending March 31st, 1936.* Forwards to Clerks to County Councils and Town Clerks of County Boroughs in England, copies of Part 1 of the Costing Returns for 1935-36 which contains particulars of the average weekly cost in Poor Law Hospitals, General Hospitals (administered under the Public Health Acts, or the Local Government Acts), Sanatoria (and other Institutions for the residential treatment of Tuberculosis) and Maternity Homes and Hospitals.

Model Clauses. Price 1s. net. By post, 1s. 1d. *Town and Country Planning.* Model Clauses without Notes for use in the actual drafting of Schemes.

Cmd. 5452. Price 3d. net. By post, 3½d. *Local Government Superannuation Bill.* Memorandum explanatory of the Bill by the Minister of Health.

Scheme. Local Government Act, 1929. Treatment of Tuberculosis. Scheme for determining the contributions of Local Authorities in Wales towards the Welsh National Memorial Association during the Third Fixed Grant Period.

S.R. & O. of 1937, No. 398. Price 1d. net. By post, 1½d. The Midwives (Qualifications of Supervisors) Regulations, 1937.

POST-GRADUATE COURSE FOR MEDICAL OFFICERS OF HEALTH

Cardiff, September 28th to October 1st, 1937.

(Limited to 40 Participants.)

The programme of the first "Refresher" Course for M.O.s H., arranged by the Society of Medical Officers of Health in collaboration with the Welsh National School of Medicine and Cardiff City Council, is given below. Members are asked to note that applications will be dealt with in strict rotation. The attendance fee for the course is 2 guineas, and applications should be addressed to the Executive Secretary.

TUESDAY, SEPTEMBER 28TH.

Morning Session*.

9.30 a.m.—Outline of the Organisation of Health Services and Teaching of Preventive Medicine in Cardiff.

10 a.m.—Transferred Poor Law Functions—The Cardiff Scheme. R. M. F. Picken, Esq., M.B., CH.B., B.Sc., D.P.H., Mansel Talbot Professor of Preventive Medicine, The University of Wales.

11.15 a.m.—Transferred Poor Law Functions—The Evolution of the Cardiff Scheme. J. Greenwood Wilson, Esq., M.D., F.R.C.P., D.P.H., Medical Officer of Health, Cardiff. Lecturer, Welsh National School of Medicine.

Questions and discussion.

Afternoon Session.

2.30 p.m.—Visit to and Inspection of Llandough Hospital. D. G. Morgan, Esq., M.R.C.S., L.R.C.P., Medical Superintendent.

4.30 p.m.—Demonstration and inspection of plans of new County General Hospital. E. Colston Williams, Esq., M.D., F.R.C.S., D.P.H., Medical Officer of Health, County of Glamorgan. Lecturer, Welsh National School of Medicine.

Plans of new Joint Health and Public Assistance Centre. Dr. Greenwood Wilson.

WEDNESDAY, SEPTEMBER 29TH.

Morning Session.

9.30 a.m.—The Welsh National Memorial Association for the Treatment and Prevention of Tuberculosis. D. A. Powell, Esq., M.D., M.R.C.S., L.R.C.P., Principal Medical Officer, King Edward VII Welsh National Memorial Association. Hon. Lecturer, Welsh National School of Medicine.

10 a.m.—Silicosis and Tuberculosis in Coal Miners. S. Lyle Cummins, Esq., C.B., C.M.G., M.D., LL.D., Professor of Tuberculosis, University of Wales.

11 a.m.—Modern Tuberculosis Laboratory Methods. W. H. Tytler, Esq., M.B., B.A., Research Bacteriologist, King Edward VII Welsh National Memorial Association.

Questions and discussion.

Afternoon Session.

2.30 p.m.—Visit and Inspect Glanely Hospital: (a) Light Department; (b) New Ward for Surgical Tuberculosis. A. Brownlee, Esq., M.D., F.R.C.S., L.R.C.P., L.D.S., D.P.H., Medical Superintendent.

*The morning meetings will take place on each day at the Institute of Preventive Medicine, The Parade, Cardiff.

Thereafter:
Visit and Inspect new Sully Tuberculosis Hospital. W. Davies, Esq., M.R.C.S., L.R.C.P., Medical Superintendent.

THURSDAY, SEPTEMBER 30th.

Morning Session.

9.30 a.m.—The Establishment and Work of the Joint Public Health Laboratory. Dr. E. Colston Williams.

10 a.m.—On the taking of Specimens for Laboratory Examination and the Equipment issued by Laboratories to Practitioners. W. Parry Morgan, Esq., M.A., M.D., B.Sc., Bacteriologist, Cardiff and County Public Health Laboratory. Lecturer, Welsh National School of Medicine.

11 a.m.—The Cryoscopic and other Tests of Milk and other Special Laboratory Practice. S. Dixon, Esq., M.Sc., F.I.C., Public Analyst, Cardiff.

Questions and discussion.

Afternoon Session.

2.30 p.m.—City Lodge Institution. Orthopaedic and Fracture Clinics and their Work. Dr. Greenwood Wilson and A. O. Parker, Esq., M.D., C.M., M.C.P.S., Orthopaedic Surgeon, Cardiff City Council. Lecturer, Welsh National School of Medicine.

3.30 p.m.—The Asthma Clinic and its Work. D. A. Williams, Esq., B.Sc., M.B., B.Ch., M.R.C.S., L.R.C.P., Deputy Medical Superintendent, Llandough Hospital.

FRIDAY, OCTOBER 1st.

Morning Session.

9.30 a.m.—National Housing Administration. Dr. J. Greenwood Wilson.

10 a.m.—Cardiff's Housing Problem. W. Powell Phillips, Esq., M.R.C.S., L.R.C.P., D.P.H., Deputy Medical Officer of Health, Cardiff.

10.30 a.m.—Account of Housing Work in Cardiff and Demonstration of Special Records kept. W. G. Pyatt, Esq., Chief Sanitary Inspector, Cardiff.

Questions and discussion.

Afternoon Session.

2.30 p.m.—Visit Lord Pontypridd Hospital for Early Acute Rheumatism in Children. Cardiff Scheme for Acute Rheumatism in Children. C. W. Anderson, Esq., M.B., CH.B., D.P.H., Assistant Medical Officer, Cardiff. A. G. Watkins, Esq., M.D., B.S., B.Sc., M.R.C.P., Physician for Diseases of Children. Lecturer, Welsh National School of Medicine.

Premises available for Inspection by Arrangement.

Cardiff Isolation Hospital.—Observation Wards, Operating Theatre, etc.

City Lodge Institution.—Maternity Wards and other Special Units.

Ely Institution for Chronic Insane and Mental Defectives.

Greenhill Open-Air School.

Gabalfa Special School for Mental Defectives.

Cardiff Special School for Children with Defective Sight.

Cardiff Institute for the Blind.

Central and District Public Health Clinics.

School for the Deaf.—Manchester University Set for Teaching Deaf and Dumb.

Occupation Centre for Mental Defectives.

Lord Pontypridd Hospital for Rheumatism in Children, Glamorgan Special School for the Blind (Resident).—Bridgend.

Hensol Castle Colony for Mental Defectives.

The Society : Branch and Group Meetings

HOME COUNTIES AND METROPOLITAN BRANCHES.

Presidents : Dr. R. P. Garrow (M.O.H., Hornsey M. B.).
Dr. A. J. Shinnie (M.O.H., City of Westminster).

Hon. Secretaries : Dr. C. Herington (Dagenham U.D.).
Dr. Vynne Borland (Bethnal Green Met. B.).

A joint meeting of the Home Counties and Metropolitan Branches was held at the London School of Hygiene and Tropical Medicine on Friday, June 4th, 1937.

In the unavoidable absence of the President of the two Branches, Dr. Macmillan was elected to preside.

Dr. J. Fenton (Chairman, Central Council for Health Education) then gave an address on the main purposes of the proposed national campaign to encourage the wider use of the local health services and gave illustrations of the extent to which special publicity had led to increased use of these services with resultant benefit to the public.

Mr. P. Scott Rankine, Secretary of the Central Council, then gave an outline of the proposed campaign, followed by the exhibition of a sound film, "The Health of the Nation," prepared in co-operation with the Ministry of Health and the Board of Education.

After discussion by Drs. Borland and Oldershaw, the proceedings terminated with thanks to Professor Jameson and the London School of Hygiene for their hospitality and to Dr. Fenton and Mr. Rankine for their addresses.

YORKSHIRE BRANCH.

President : Dr. J. C. Pickup (M.O.H., Wombwell).

Hon. Secretary : Dr. James Mair, Public Health Department, Harrogate.

An ordinary meeting of the Branch was held in the Pathological Theatre, Medical School, Leeds, on Thursday, April 29th, at 3 p.m.

The President occupied the chair, and was supported by 14 members.

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

The special committee appointed to consider the question of "The Disinfection of Woollen Rags," presented its report which was received and approved.

Dr. J. Wood Wilson then read a paper on "Burning Colliery Spoil Banks," this was followed by a short discussion after which Dr. J. Johnstone Jervis, gave an interesting and lucid description, illustrated with lantern slides of the Garchey system of house refuse removal and disposal. In this system the whole of the ordinary household refuse is deposited in the kitchen sink from which it passes by a large diameter pipe to a collection chamber, the liquid passes directly from this chamber to the sewer, and the remaining semi-solid material is pumped by suction to the disposal plant where after dehydration it is burned in an incinerator. Dr. Jervis said that the system had been well tried out in France, and had proved thoroughly satisfactory. It was, of course, only suitable for use in large blocks of flats, and

was being installed in a block of flats which are being erected by the Leeds Corporation. He hoped that the Branch would visit these flats when completed, and inspect the system at work.

The President on behalf of the Branch thanked both speakers very cordially for their interesting addresses.

SOUTHERN BRANCH.

President : Dr. A. E. Druitt (formerly A.M.O.H., Hampshire).

Hon. Secretary : Dr. E. Croft Watts, Lothian House, Fareham, Hants

A meeting of the Southern Branch was held at the Central Clinic, Bournemouth, on Monday, May 10th.

In the absence of the President, Dr. R. H. Wilshaw was voted to the Chair. There was an attendance of 15 members and visitors.

After the discussion of business, there was a tea interval and Dr. Williamson proposed a hearty vote of thanks to Mrs. and Miss Gordon Smith for providing an excellent tea and acting as hostesses.

Dr. Wilshaw then called upon Dr. H. Gordon Smith (M.O.H., Bournemouth) for his address on the Bournemouth and Poole epidemic of typhoid. The paper, which was published in our last issue (p. 295), was heard with great interest. Drs. Chesney (A.M.O.H., Poole) and Pedley (Dep. M.O.H., Bournemouth) also spoke of their part in tracing the origin of the infection to a particular milk supply.

Dr. Kenneth Grant (R.M.O., Bournemouth Isolation Hospital), spoke of the treatment of the cases and said that serum did not seem to have much effect in the later cases, and that one should be chary of diagnosing perforation as this was often simulated by cardiac collapse. The complications occurring had been one case of perforation and one case of ulceration of the larynx.

Dr. Williamson spoke on the question of compulsory removal to hospital.

Dr. Wilshaw finally congratulated Bournemouth and Poole on their speedy recovery from this epidemic and the regaining of public confidence.

EAST MIDLAND BRANCH.

President : Dr. H. L. Barker (M.O.H., Ilkeston).

Hon. Secretary : Dr. J. A. Stirling, Health Offices, Saltergate, Chesterfield.

A meeting of the above branch was held in the Guildhall, Nottingham, on Thursday, April 8th, 1937. Dr. Fairer was in the chair and 17 members were present.

The Hon. Secretary reported that there was a vacancy on the Branch Council, and it was unanimously decided to ask Dr. Selby to fill the vacancy.

It was unanimously agreed to support the nomination of Dr. E. T. H. Nash for the Presidency of the Society for the session 1937-38.

Short papers were then given on the following subjects:—

- (1) Dr. Weston—Enuresis.
- (2) Mr. Ashton—Dental refusals.

Both papers proved both interesting and provocative, and at the end of a stimulating and lively discussion, a hearty vote of thanks was accorded to the speakers on the proposition of Dr. Morrison, seconded by Mr. Carrington.

Subsequently a formal discussion took place on the practical application of the Midwives Act, 1936.

A further meeting of the above branch was held in the Guildhall, Nottingham, on Thursday, May 6th, 1937.

Dr. Barker was in the chair and 17 members were present, and there were also 13 guests welcomed to the meeting by the President.

The Hon. Secretary reported that Dr. Selby had accepted the vacancy on the Branch Council.

Dr. G. B. Brook, D.Sc., F.R.C.V.S., then opened a discussion on "The significance of clinical examination of cattle in the control of Bovine Tuberculosis." Dr. Brook dealt with his subject in a very interesting and instructive manner and gave interesting comparisons of the various methods used in the control of Bovine Tuberculosis in Sweden, Finland, Denmark, Germany, Switzerland and North America, which he had personally investigated in these countries.

At the close of a very interesting discussion, Dr. Brook was warmly thanked for his paper, on the proposition of Dr. Fairer, seconded by Dr. Tibbits.

MATERNITY AND CHILD WELFARE GROUP.

President : Dr. Agnes Nicoll (A.M.O., Willesden).

Hon. Secretary : Dr. Muriel Radford, 1, Manor Way, Potters Bar.

Asst. Hon. Secretary : Dr. E. Virginia Saunders-Jacobs (A.M.O., Woolwich).

English Speaking Conference on Maternity and Child Welfare.

A number of highly successful and very well attended meetings were held by the Group during and before the above Conference. These included participation in two joint sessions at the Conference; a clinical week-end course for medical practitioners and a dinner.

The Dinner was held at the Fellows' Restaurant of the Zoological Gardens, Regent's Park, on Wednesday evening, June 2nd, at 7.15 p.m. The President, Dr. Agnes Nicoll was in the chair, and 107 members and guests attended and enjoyed a unique and delightful evening. After an excellent dinner, the President proposed the toast of "The King." Dr. Nora Wattie proposed "Our Guests" in charming, well-chosen words, and Dr. R. F. Wodehouse, Deputy Minister of Pensions and National Health, Canada, and Dr. Gaha, Minister of Health, Tasmania, replied.

Colonel Hammerton, C.M.G., D.S.O., then personally conducted the party round the Aquarium, and the members and guests were able to view the floodlit denizens of the Zoo, enjoy the music of the band, and wander at will along the flower-bordered, fairy-lit paths.

The guests of the Group were: Dr. R. E. Wodehouse, Deputy Minister of Pensions and National Health, Canada, and Mrs. Wodehouse; Dr. Gaha, Minister of Health, Tasmania; Miss Halford, O.B.E., Mr. G. L. C. Elliston, Colonel Hamerton, C.M.G., D.S.O., Mr. and Mrs. Arnold Walker, Dr. Letitia Fairfield, Dr. and Mrs. John Scott, Dr. and Mrs. Troup, Dr. and Mrs. Wigley, Mr. and

Mrs. Davenport, Dr. Margaret Lowenfeld and Mr. Scott Rankine.

The members and their guests present were: Dr. M. Back, Dr. and Mrs. Bebbington, Drs. Bergin, Bignold, Brand, Lady Veronica Bruce, Drs. Helen Buch, E. Browell, Calver, Cassie, Hilda Davies, Ethel Emslie, Margaret Emslie, F. Finley, Dr. and Mrs. Freeman, Drs. Gamgee, Margaret Geddes, Miss Gibson, Drs. Gilchrist, Goodwill, Harkness, Herbst, Eleanor Hill, Maule Horne, Nancy Howell, Hudson, Enid Hughes, Marguerite Hughes, Humphreys, Morris Jones, Kidd, Leney, McDowell, Evelyn McGregor, Mackintosh, Mr. Mackintosh, Dr. Jane Maclean, Dr. and Mrs. Russell Martin, Drs. K. M. Mathison, Hilda Menzies, M. E. Merrylees, Dr. and Mrs. Murray, Dr. Agnes Nicoll, Mr. and Dr. Odling-Smeck, Drs. Phillips, Pirret, Dr. and Mrs. A. T. Powell, Drs. Maitland Radford, Muriel Radford, Violet Russell, Dorothy E. Russell, Saunders-Jacobs, Scharff, Mr. Sergeant, Sir Henry and Lady Slesser, Drs. Isobel Smith, Sylvia Smith, Smithard, Sproul, Standing, Strathie, Ruby Thomson, Wallace, Wamsley, Alderman Mrs. Watson, Drs. Wattie, Nora Webster, Ann Mower White, Williamson, Grace Wood, Agnes Young and other guests.

Meetings at the Conference.—On Wednesday afternoon, June 2nd, at 2.30 p.m., a session of the conference was held which had been jointly organised by the Mothercraft Training Society, and the M. & C.W. Group of the Society of Medical Officers of Health. Dr. R. E. Wodehouse, Deputy Minister of the Department of Pensions and National Health, Canada, was an effective and entertaining chairman.

The subject was "Nutritional Problems in Relation to Mother and Child," and the discussion was opened by Dr. Robert McCance (Bio-chemical Department, King's College Hospital, London) on behalf of the Group, and Dr. R. Jewesbury (Physician in charge of the Children's Department at St. Thomas's Hospital, London) on behalf of the Mothercraft Training Society.

In the brisk discussion which followed, Dr. M'Gonigle, Dr. Mary Kidd, Dr. Agnes Nicoll, Dr. Watkins and other took part. Dr. McCance and Dr. Jewesbury replied and Dr. Agnes Nicoll moved a very hearty vote of thanks to the two speakers and to the chairman, which was passed by acclamation.

On Thursday morning, June 3rd, a session was organised by the Child Guidance Council, the National Society of Day Nurseries, the Nursery School Association, and the M. & C.W. Group of the Society of Medical Officers of Health. The chair was occupied by Dr. Gaha, Minister of Health, Tasmania. A crowded meeting listened with great interest to a discussion on "The Future of Preventive Psychology in Relation to Parent and Child."

Dr. J. A. Hadfield (Lecturer in Psycho-Pathology and Mental Hygiene, London University), Dr. Helen Koch (of Chicago University), and Dr. Margaret Lowenfeld (Hon. Co-director, Institute of Child Psychology, speaking on behalf of the Group) read papers. Dr. Stella Churchill, Dr. McCleary, Dr. Irvine and others took part in the subsequent discussion. The openers replied, and a vote of thanks was proposed by Dr. Stella Churchill.

The above papers are published in full in *Mother and Child*, July number.

A *Clinical Course for Medical Practitioners* was arranged by the Group on May 30th and 31st, and proved to be very popular. On Sunday, May 30th, at 10.30 a.m., a visit was paid to the Willesden Municipal Fever Hospital. The President, Dr. Agnes Nicoll, took the chair, and over 40 attended. A paper was read on "Special Points in Administration and Treatment," by Dr. Arthur Troup, the Medical Superintendent of the Hospital. Dr. Troup conducted the party round the Hospital at the conclusion of his paper, and the model isolation wards were found to be particularly interesting. After a welcome cup of coffee and a discussion, Dr. Troup answered questions, and the thanks of the meeting to Dr. Troup and his staff for so generously giving a Sunday morning for our instruction were expressed by Dr. Maule Horne and by the President.

On Monday, May 31st, a practical lecture was given at 11.15 a.m. at St. John's Hospital for Diseases of the Skin, Leicester Square, by Dr. John Wigley, entitled "Common Skin Affections in Infants and Young Children." Sixty-four doctors packed the lecture room, and the President expressed their thanks to Dr. Wigley.

At 2.30 p.m., a visit was paid by a party of over 56 to Moorfield's Eye Hospital, City Road, where Mr. Robert Davenport, F.R.C.S., gave a lecture entitled "The More Common Eye-lesions in the Pre-school Child," and showed some illustrative cases. A welcome and delightful tea closed an instructive and enjoyable week-end, and general appreciation and thanks were expressed by everyone to the lecturers, the hospitals and the Secretary.

It is hoped to report these lectures more fully in a subsequent number of the journal.

Book Reviews

Reid's Practical Sanitation. A Handbook for Sanitary Inspectors, etc. 28rd Edition. Revised and re-written by JOHN J. BUCHAN, M.D., D.P.H. London: Charles Griffin & Co., 1937. pp. 392, 3 plates and 84 diagrams. Price 7s. 6d. net.

Amongst the mass of new and specialised text books that appear year by year to load the library shelves and bewilder the student, it is refreshing to meet an old friend of one's earlier days, rejuvenated and still worthy of its high place in the concourse of newcomers.

"Reid's" appeared in 1892, in order that Inspectors of Nuisances, as they were then called, might acquire "a practical and scientific knowledge of their duties," a need that has not diminished with the passage of years and which is fully recognised in the preface to the new edition. The fact that this handy little volume has passed through no fewer than twenty-five editions, revisions and reprints in the course of forty-five years shows that it has an enviable reputation for fulfilling its primary purpose and is still in demand.

It is not possible to concentrate into three hundred odd pages all the knowledge that a Sanitary Inspector should possess before presenting himself for examination, but here we have an excellent groundwork that can readily be amplified by reference to the larger text books, and further, it is written in an easy style that does not

tax the staying powers of the student. Within its own limitations the ground work is well covered and Chapters V and VI dealing with sanitary work and appliances are particularly useful in that a comparison is made of satisfactory and unsatisfactory work. The diagrams on the whole are clear and good, but it would be preferable to show in the diagram all the necessary details described in the text, e.g., underfloor ventilation in Fig. 76, and in Fig. 27 the protection from damp would not be complete unless the cavity was drained and ventilated or the house-side of its wall rendered damp-proof. For examination purposes, great stress is laid on accuracy of detail in diagrams, and rightly so, hence it is advisable to show the same degree of accuracy in a textbook, e.g., Fig. 62, floor joists are not shown as carried into the house wall; Fig. 52, the joint space and cement mortar filling is shown in one joint but not in the other—there is no such thing as a "tuck-in, tight-fit" joint in drain-laying!

On page 176, the definition of a "carrier" implies that one must have had the disease previously, but this is corrected later in reference to diphtheria. It would be better to define the carrier as "a person who, with or without having had the disease harbours, etc." It might be well, too, to drop the term "waste water-preventer" (page 97) and substitute "flushing cistern," just as "Inspector of Nuisances" in the older editions has yielded place to "Sanitary Inspector" in the present edition, and on page 8, the subtle distinction between a "necessity" (referring to a condition) and a "necessity" (referring to a thing) should be preserved. An obvious misprint occurs on page 232 (hyoid for hyoid bone).

The Appendix, which in the course of 80 pages, gives a summary of Public Health Law, is perhaps too concentrated for continuous reading, but it serves a still more useful purpose, for it does draw attention to the salient points in that maze of legislation, and forms a most useful guide through its entanglements. It is thoroughly up-to-date, too, in that it includes the new Public Health Act of 1936, and the Housing Act of that year, while in the main text, the "one-pipe" drainage system, the needlessness of interceptors and disinfection, especially for bugs, are adequately discussed.

Hospital Design and Equipment.—The number of the *Architects' Journal* for June 24th, is devoted to a survey of modern hospital design and equipment. The number is profusely illustrated with photographs and plans of newly-constructed hospitals and sanatoria in England and on the Continent, and should be of interest to medical officers of health for future reference. It can be obtained, price 1s., from the Architectural Press, Ltd., 9, Queen Anne's Gate, London, S.W.1.

New Posters.—Posters Nos. 11 and 12, published by the Association of Maternity and Child Welfare Centres, 117, Piccadilly, London, W.1, price 1s. 9d., post free, should be useful for display in welfare centres. No. 11 is a letterpress poster dealing with the importance of drinking water as an aid to health, and No. 12 shows the diagram of a bullock sub-divided so as to give the location of the various cuts of beef, together with the prices for English and chilled beef and the calories yielded.

PUBLIC HEALTH

THE JOURNAL OF

THE SOCIETY OF MEDICAL OFFICERS OF HEALTH

No. 11. Vol. L.

AUGUST, 1937

Editorial

The Birmingham Health Congress

The annual congress convened by the Royal Sanitary Institute is the one occasion on which the elected representatives and the expert professional officers of local authorities "get together" in large numbers to discuss their mutual problems and to exchange ideas. The description of the congress as the "Parliament of Health" is rather a misnomer, for its function is essentially different from that of Westminster. Parliament has the executive power to lay down by statute what shall be the public health duties of local authorities, whereas this congress has to discuss the difficulties and shortcomings of what has already been imposed upon them. More important still, those who are responsible for the organisation of the congress have to decide what subjects in the Utopian future of public health can profitably be discussed with some hope of hastening their ultimate achievement.

This year's congress found an invigorating home in the progressive atmosphere of Birmingham and the numbers who attended from all over the British Isles and from overseas again constituted a record—over two thousand. Congratulations must be accorded to Dr. Dudley Robinson and his staff at the Institute and not less to the local committee, notably Mr. Cope, of the Town Clerk's Office, Birmingham, for the masterly organisation which made the running of this great assembly so smooth and efficient.

Reference to the subject-matter of the congress must of necessity be limited here to certain points of special interest to medical officers. The Earl of Dudley's able presidency was marked by personal interest in industrial medicine, and the Minister of Health in his address gave an inspiring survey of the recent marked Governmental activity in public health matters. In the section of Preventive Medicine, which met on July 13th, Sir Arthur MacNalty presided and delivered a delightful and scholarly address under the title "A Coronation Pageant of the Public Health." This section was also the scene of an interesting debate on "The Development of the Maternity Service," in which Professor Munro Kerr, of Glasgow, and Dr. George Buchan, of Willesden, spoke in favour of institu-

Subscription 81s. 6d. per annum, post free, in advance
Single copies 2s. 6d. post free.

"Public Health" is the Official Organ of the Society of Medical Officers of Health and a suitable medium for the advertisement of official appointments vacant in the health service. Space is also available for a certain number of approved commercial advertisements. Application should be made to the Executive Secretary of the Society, at 1, Thornhaugh Street, Russell Square, London, W.C.1.

Contents

Editorial

	PAGE
The Birmingham Health Congress	339
The Superannuation Bill	340
Records and Statistics	342
An Enjoyable Celebration	343
The Tuberculosis Conference	343

Obituary

Dr. A. R. Balmain	344
-------------------	-----

Special Articles

Disinfestation of Verminous Houses and Household Goods by Heavy Naphtha—a Non-Lethal Vapour. By D. H. Geffen, M.D., D.P.H.	345
Burning Colliery Spoil Banks and their Relation to Public Health. By J. Wood Wilson, M.D., CH.B., D.P.H.	349

Summaries and News

Common Skin Affections in Infants and Young Children. By J. E. M. Wigley, M.B., M.R.C.P.	352
The More Common Eye Lesions in the Pre-School Child. By R. Davenport, F.R.C.S.	354
The Heart in Diphtheria (Fever Hospital Group)	355
The Joint Tuberculosis Council	356
Recent Appointments in the Public Health Service	361

The Society of Medical Officers of Health

Branch and Group Meetings	357
---------------------------	-----

Book Reviews

	362
--	-----

Correspondence

Knock-Knee. E. H. Wilkins	363
The Treatment of Children's Teeth. D. H. Oliver	363
A. T. Pitts	364

tional treatment, and Dr. C. E. S. Flemming put forward the B.M.A. case for the use of the general practitioner. Dr. Buchan's statement of his experience as an administrator of the value of a scheme centred round an institution was convincing to all who heard him. On the same morning, Dr. R. R. Kuczynski, of the London School of Economics, read a valuable paper to the representatives of local authorities on "The Future of our Population," and Mr. Noel Baker, M.P., spoke on the National Fitness Campaign.

On July 14th, Dr. Ernest Ward, our President, took the chair at the conference of Medical Officers of Health, and delivered an address which was full of wisdom and humour, with especial reference to the relation between the M.O.H. and his specialist departmental officers, and to that between all public health medical officers and the medical profession and general public. This address was followed by a discussion on a subject which was perhaps the most important of all to those with an eye to the future. This was on "Incapacitating Sickness" and was opened by Dr. Peter McKinlay, of the Scottish Department of Health, which has been responsible for the pioneer work on the investigation of sickness records obtained from the insurance medical service. He was followed by Professor R. M. F. Picken, who said that he had no doubt as to the great value of sickness records and suggested that M.O.s H. of general hospital authorities might well follow the example of Manchester and Glasgow by classifying, in their annual reports, hospital cases by cause, age and sex; for the 5 to 15 age-period he thought that teachers could collect certificates of causes of absence from school, and another source of data was the record of sickness among council employees. Lastly, Dr. E. R. C. Walker made an interesting contribution from the point of view of the panel doctor; his conclusion was that the present insurance medical system was quite inadequate and that "the legislature must be persuaded that it really is true that sickness does not pay, and that the health and well-being of the people is, or should be, the principal aim of Government."

July 16th was distinguished by a thoughtful Presidential Address to the Conference of Health Visitors by Dr. James Fenton on the subject of "The Training of the Health Visitor." Referring to the salaries and prospects of health visiting, Dr. Fenton thought that the supply of candidates would have dried up long ago had health visiting been a man's occupation; the training period was already quite long enough, but he urged that hospital training should be modernised so as to give the preventive outlook to all probationers, whether they were going into the preventive or curative side of nursing.

Many other papers were read which deserve our readers' notice and the "private sessions" in hotel lounges saw many other problems thrashed out. We cannot conclude this brief review, however, without mentioning the genuine hospitality of the Lord Mayor and Corporation, the success of all the social functions of the Congress (including a Shakespearian pilgrimage to Stratford) and the excellence of the Health Exhibition, which for the first time included an exhibit from the physiology department of the London School of Hygiene and Tropical Medicine.

The Superannuation Bill

The Local Government Superannuation Bill, 1937, has passed through all stages in the Commons and is now with the Lords. It seems likely to reach the statute book without further amendment, the appointed day for its operation being April 1st, 1939. The Bill, the main object of which is to compel the universal provision of superannuation schemes for all whole-time officers of local authorities, is a measure long overdue but none the less welcome. Gratification, however, must be qualified by sympathy with those officers whose anticipations of retirement during recent years have been delayed or marred by the absence of the moderate security which superannuation affords.

After the appointed day local government officers will not be deterred, by anxiety regarding loss of superannuation rights, from the desirable fluidity of movement between one authority and another. A further general improvement, which the present Bill has taken from various local schemes, is the provision for allocation of one-third of superannuation benefits to the wife or husband of the retiring officer.

The Society has for many years advocated certain special measures in respect of the particular circumstances of medical and other officers of the public health service; the outcome of the representations* which were first made to the Hadow Committee in 1931 should be reported here.

First, the fate of the case for "added years" for medical officers of local authorities can best be set out in the form of the following extract from the proceedings of the Standing Committee which considered the Bill:—

Captain Elliston: I beg to move, in page 16, line 40, at the end, to insert:—

"() In computing the amount of superannuation allowance payable under this Act a local authority may, in consideration of peculiar

*Memorandum submitted by the Society of Medical Officers to the Departmental Committee on Qualifications, Recruitment, Training and Promotion of Local Government Officers. *Public Health*, April, 1931, p. 212.

professional qualifications or of special circumstances, with the consent of the Ministry of Health, add a number of years, not exceeding ten, to the number of years which the officer to receive the allowance has actually served in the aggregate."

I owe an apology to the Minister for the fact that longer notice was not given of this Amendment, but I dealt with this matter so fully on Second Reading that I think the right hon. Gentleman was probably expecting an Amendment on these lines. Briefly, the Amendment is an expression of the feeling that added years should be allowable by a local authority, in the case of their professional officers, in computing superannuation allowances. These professional officers, as has already been pointed out, enter the service at a comparatively late age and are commonly unable to achieve their full pensions. They enter at a salary level which is higher than that of non-professional officers and which climbs less speedily towards the maximum and their contributions, in relation to the pension finally achieved, are much higher than those of the non-professional worker. This applies to all those professional officers who must devote themselves to the acquisition of training and experience at a time when others have already got into their stride in the local government service. It applies especially to doctors, architects, surveyors, engineers, and solicitors, as well as to health visitors and school nurses—persons whose necessary training delays their entry into the service.

I was impressed by a point which was made in the Second Reading debate by my hon. Friend the Member for St. Albans (Sir F. Fremantle), who pointed out how much it was in the interests of the municipal service to get men with university training and post-graduate qualifications. The quality of the service depends on attracting these men and bringing them in to invigorate it with the experience which they have acquired outside. My hon. Friend also mentioned the fact that the universities to-day are drawing boys from every class of society, and those who read the Cambridge Tripos lists last week must have noticed that they represented all kinds of schools, including grammar schools and secondary schools all over the country. Entrants of that quality are wanted in the municipal service, and it discourages them to-day to know that, by delaying their departure from school and by spending additional years on their education they are handicapping themselves in the service as against those who enter directly from school perhaps at the age of 16. There is a very strong feeling that a proposal such as I submit would be an act of justice to the officers concerned and would be in the interests of the service. I make a strong appeal to the Minister to consider the Amendment with sympathy. It has been suggested that it would interfere with the actuarial structure of the Bill, but I am told that already there are local authorities which allow added years to officials whose entry into the service has been delayed in this way.

The Solicitor-General: This Amendment raises the same point as the Amendment appearing earlier on the Paper—in Clause 8, page 10, line 14, at the end, to insert:—

"Provided that where such contributory employee with professional qualifications:

(a) On ceasing to be so employed is entitled to a pension under any enactment or any scheme made under or in pursuance of an enactment or would be so entitled if he or she had then completed a sufficient period of service or made contributions to a superannuation fund for a sufficient period; and

(b) was to equip himself or herself with the professional training requisite to the discharge of his or her duties as employee unable to take up Local Government service sufficiently early to obtain the award under this Act of a full pension as specified:

any period (not exceeding in the aggregate ten years) during which he or she was engaged in such professional training before he or she was first employed may, if and to the extent that the authority by which he or she ceases to be so employed thinks fit, be treated for the purposes of reckoning the amount of the pension and also (if the case requires) for the purpose of ascertaining whether he or she is entitled to a pension, as a period of service during which he or she made contributions to the appropriate superannuation fund."

which was not moved. It goes even further than that Amendment. It seeks to include not only professional men, but also other people in special circumstances. I am afraid I cannot recommend the Committee to adopt the Amendment or to permit this principle to be established in the Bill. The principle of added years which used to exist has been condemned for a long time past as unsound. Superannuation has been a subject of enquiry by many important bodies set up by the Government in relation to the Civil Service, teachers' pensions, and so on, from time to time, and they have united in condemning the principle of added years as unsound. It was condemned by the Royal Commission on the Civil Service and has been abolished in the Civil Service since 1914. Both the Norman Committee and the Selby-Bigge Committee were definitely opposed to it. I do not need, in view of these authoritative decisions by Departmental Committees, to elaborate the chief reasons, but among others is the fact that the initial salaries of professional men are fixed with a recognition of the fact that they have served those years to which my hon. and gallant Friend has referred. The principle of added years was discarded in 1914, and was not introduced in the Teachers' Act of 1918.

There is another matter from the point of view of administration. It is almost impossible to calculate actuarially what your unforeseen liabilities are going to be if people are to be permitted to add years in the way suggested. There is only one recent precedent that I know of for any Clause of this kind, and that is in the Midwives Act, 1936. That, however, was passed in special circumstances, when an attempt was being made to bring in midwives and start an Act, and in that case it was strictly limited to a period of three years. I hope my hon. Friend, in view of the explanation I have given,

will be able, as in the other case earlier this morning, to withdraw his Amendment, which I am afraid we cannot recommend the Committee to accept.

The Chairman : Does the hon. Member wish to withdraw the Amendment ?

Captain Elliston : I suppose I must.

Amendment, by leave, withdrawn.

It will be seen that even now the peculiar disadvantage suffered by medical officers especially, by reason of their late entry into the local government service, is not appreciated, but the case for their special treatment in this matter still remains and will be urged again.

Even Captain Elliston hardly lays sufficient stress on the fact that it is medical officers of local authorities who particularly suffer the disadvantage of not being able to enter the municipal service until their period of training is over. This does not apply in anything like the same degree to architects, surveyors, engineers or solicitors. The amount of superannuation granted depends on the average salary of the professional officer not at the commencement of his service but during his last five years of service. In these circumstances it is obvious that the other professional officers quoted who receive ultimately salaries as great as, and in many instances greater than, those of medical officers are greatly advantaged under the Superannuation Acts in three respects :—

(a) They can frequently retire on superannuation at 60 years of age—a medical officer can never retire at this age ;

(b) They receive a superannuation allowance which is usually not less than that of medical officers and is frequently greater ;

(c) They have generally paid less *in toto* into the superannuation fund than the medical officer for an equal pension.

The Bill includes provision for the earlier retirement (at 60 instead of 65) of public health nurses and midwives, with optional retirement at 55, as advocated by the Society since 1931. It is interesting to note that the Minister of Health added to the Bill a clause giving permissive power to local authorities to make a "compensatory allowance" from their own funds in respect of the service time lost through this earlier retirement age, such allowance not to exceed five years' value. One may see sufficient "family likeness" between this limited measure of justice and the case for "added years" for medical officers to hope that the latter may one day be achieved.

Records and Statistics

These are days of records, and public opinion is strangely fascinated by, and increasingly absorbed in, the making and breaking of all sorts and conditions of standards to which the epithet may justly

be applied. And perhaps this is as it should be ; for the present year celebrates the centenary of a department which is a most important institution of our national life. Somerset House is indeed in the eyes of the ordinary individual a name to conjure with, but it is very much more than a mere museum of records or a casual collection of a host of documents of four centuries which it preserves. The story* of the General Register Office is an intriguing account of the history, evolution and development of this institution, appropriately illustrated by exhibits which have recently been shown at Somerset House.

The foundations of our invaluable statistical service were built up by the remarkable ability of Dr. William Farr, who with unremitting attention and intense unvarying interest controlled these matters for the first 40 years of the department. It has been said that Farr's life consisted in a chronological list of the productions of his pen. And he was no mean writer ; for his annual dissertations are classics "from first to last marked by the same lucid marshalling of facts, the same masterly command of all the resources of methods and numerical investigations, the same unaffected and vigorous English, breaking out every now and again, when stimulated by a clear view of some wide generalisations, into passages of great eloquence and pure philosophy." He was indeed a master of the methods by which arithmetic is made argumentative, and his was the great task of making all the facts of the registers and records intelligible to humbler minds and of use for future guidance.

And yet in spite of this achievement, the very word statistics still seems to produce in the majority of people a sense of the unintelligible, a feeling of mysticism—even a sense of inexplicable terror. However great may be the aversion to figures, there is no escape ; for it is obvious that statistical methods play no small part in the solution of many problems in medicine and in public health. And it is indeed fortunate that Dr. Bradford Hill has written a series of simple articles for *The Lancet*, now reproduced in book form,† in which, as the foreword puts it, he has succeeded beyond our hopes in demonstrating some of the ways in which investigations can be planned and figures derived from them can be analysed in order to yield fruitful results.

*The Story of the General Register Office and its Origin from 1538 to 1937. Compiled by the Registrar-General in commemoration of the centenary 1837-1937 of the General Register Office.

†Principles of Medical Statistics. By A. Bradford Hill, D.Sc., Ph.D., Reader in Epidemiology and Vital Statistics in the University of London. 1937. *The Lancet*, Ltd., 7, Adam Street, London. Price 6s.

It is an excellent book and, what is more, it is a readable book ; for the author has very skilfully gilded the statistical pill. Taking everyday illustrations of problems in medical work, the attention of the reader is held and the real or imaginary horror of statistics is removed ; while there is a clear exposition of many of the avoidable mistakes into which workers readily fall. Indeed, as Dr. Bradford Hill emphasises, apart from errors of sampling, much of his discussion of the interpretation of figures centres not so much on technical methods of analysis, as on the application of common sense to figures, and in elementary rules of logic. His book should prove an invaluable help to those interested in scientific or in medical investigations ; for it shows that even if statistics are curious things, they are of ever-increasing importance in the advance and development of the art of medicine. Moreover, the reader will appreciate the careful and painstaking way in which the author considers each section and develops his theme ; for throughout there is the evident endeavour to simplify the issue, to avoid overloading "such as have need of milk, and not of strong meat," to prove consistently helpful in practice. And if all this entailed no inconsiderable labour, there is the obvious reward of a widening circle of workers to whom the book will undoubtedly appeal.

An Enjoyable Celebration

Captain G. S. Elliston, M.C., M.P., recently entertained the President and Council of the Society of Medical Officers of Health, together with a few other friends, to dinner at the House of Commons on the evening of July 1st. The occasion, as Captain Elliston explained, was to celebrate the recent issue of the fifteen-hundredth number of the *Medical Officer*, and he also pointed out in his after-dinner speech of welcome that by a curious coincidence the day was the centenary date of the coming into force of the Registration Act of 1836, which had had so much to do with the growth of the public health system. He said that it was only possible for him to entertain the President and Council of the Society as the elected representatives of the whole public health service which had so generously supported the *Medical Officer* since 1908.

The President (Dr. Ernest Ward) made a witty and graceful reply to Captain Elliston's speech and Sir Francis Fremantle then proposed "Medical Journalism," which was acknowledged by Dr. N. G. Horner, of the *British Medical Journal*, and Dr. Egbert Morland, of the *Lancet*. Lastly, Sir Henry Brackenbury proposed the health of the President-Elect and Dr. James Fenton eloquently responded. The whole evening was delightfully informal and friendly.

We should like to express to Captain Elliston congratulations on the evergreen usefulness and vitality of our esteemed contemporary the "*M.O.*" and our good wishes for future issues.

The Tuberculosis Conference

This year, the Conference convened by the National Association for the Prevention of Tuberculosis was held in the capacious University Buildings in the pleasant city of Bristol. Some 300 delegates had been appointed and we noted about 220 present at the opening session. Foreign and overseas representatives included Dr. Meixner, of the National Tuberculosis Association, New York ; Dr. B. C. Roy, Tuberculosis Association of Bengal, and Dr. R. S. Cory, of Jamaica. The sessions were well-attended, as is usually the case when this Conference is held in alternate years in the provinces. The programme was a good one for a mixed audience ; the papers and discussions, on the whole, above the average.

But a very familiar figure was missing. Owing to illness, Sir Robert Philip, that old warrior in the anti-tuberculosis campaign, was not able to preside and there were many references throughout the sessions from overseas, foreign and home delegates to his absence, and many kind messages for a return to health and activity. The chairmen were successively Dr. R. A. Young, Professor Lyle Cummins and Dr. F. J. H. Coutts.

The first item for discussion was "Propaganda and Publicity Methods," opened by Dr. Harley Williams, the Association's own Medical Commissioner, well known throughout the country as a very capable lecturer. There followed Dr. Veronica Dawkins, of the East Anglian Sanatorium, and Mr. Paul Scott Rankine, Secretary for the Central Council for Health Education. The subject of "Propaganda and Publicity Methods" is a wide and general one, interesting alike to the medical officer of health and layman, and the opening speakers dealt ably with the subject.

In the afternoon, "Preventive Institutions (with special reference to Open-Air Schools)" was the subject under discussion, and the most popular paper was contributed by the Headmaster of Clifton College, Mr. Norman Whatley, M.A., perhaps because he mentioned the word "tuberculosis" only once, at the opening of his address. His advice that boys were now in danger of being over-coddled in boarding schools and that too many children of all classes had too little sleep was wise and timely.

On the second day, the subjects under discussion were (1) "Nutrition," and (2) "Equipment and Activities of a Tuberculosis Dispensary." The former was opened by Emeritus Professor J. A. Nixon, of the University of Bristol, who, in a witty

speech, provided an intellectual treat for all those who heard him. He asserted that protein destruction in febrile cases of tuberculosis is not so marked as it is in pneumonia or typhoid fever; that the specific dynamic action of protein is the same in tuberculosis as in normal health. He suggested that as both protein and carbo-hydrates will increase the volume of respiration as well as the total metabolism, a tuberculous febrile patient does not need so large an increase of food as do other febrile patients and, as fat does not increase the volume of respiration to the same extent as protein and carbo-hydrates, the large intake of fat insisted on by the older physicians has a scientific justification. He believed a balanced diet was of great importance in raising resistance—but only when the correct diet was aided by adequate rest and contentment of mind.

Dr. P. A. Galpin, of West Ham, followed with some interesting original observations on the faddy child—the green-vegetable-shy, the fat-shy and the meat-shy child.

"Equipment and Activities of a Tuberculosis Dispensary" was left as to the opening papers in the hands of the tuberculosis service, and was capably dealt with by Dr. L. J. Short, the Tuberculosis Officer for Somerset, and Dr. R. Melville Hiley, the Tuberculosis Officer for Glamorganshire.

We noted at this Conference a larger proportion of lay delegates than usual. Very few medical officers of health now attend and it would appear that less tuberculosis officers also are now attending. It is obviously difficult, perhaps impossible, to fashion a programme on tuberculosis which will contain much that is new and, owing to the large proportion of lay delegates, most of the subjects debated must be more general than special, as it is clearly impossible for the lay half of the audience to sit quietly through very highly technical and specialist medical discussions.

In spite of instructions and exhortations, there are still too many speakers who read their papers—a most unsatisfactory proceeding when the papers are printed and circulated beforehand. Another weariness to the flesh at this and other open conferences is the delegate with one fixed idea. While its introduction may be very adroit, its reiteration becomes wearisome and is one active cause of non-attendance of medical officers. The only remedy here appears to be an active effort towards obtaining names in advance to lead the discussions.

Eradication of tuberculosis is perhaps the most complicated single effort preventive medicine has so far undertaken. In this country, the means to carry it out depend on co-operation between the layman and the medical officer. If, therefore, the public health service must carry the layman with

it in order to be able to carry out its work, then there must be such conferences as are conducted—and well conducted—by the N.A.P.T. But it also follows that the co-operation between the two sides will not be at its best unless medical officers of health and tuberculosis officers attend in at least equal numbers to those of the lay representatives of public bodies.

Obituary

AUGUSTUS ROLLO BALMAIN,
M.D. (LOND.), D.P.H.

We much regret to announce the death in Germany, from heart failure during a motoring holiday, of Dr. A. R. Balmain, deputy medical officer of health for the Borough of Ilford, aged 46.

He received his medical training at Birmingham University and the Middlesex Hospital, whence he qualified M.B., B.S. (Lond.) in 1916. After war service in the R.A.M.C. with the East African expeditionary force he took the D.P.H. and was appointed successively assistant medical officer in Somerset, Birkenhead and Colchester; his last appointment was in 1927, as senior assistant at Ilford.

Dr. A. H. G. Burton (M.O.H., Ilford) writes:—"He was a modest, unassuming, retiring man, and probably only his immediate Chief understood his worth. He came to Ilford in 1927, having previously been assistant medical officer at Somerset, Birkenhead and Colchester, and with the highest recommendations from his previous medical officers. He was first appointed as senior assistant medical officer, but I soon found out his capabilities and I had no hesitation in recommending that he should be appointed deputy medical officer of health in 1928.

"Dr. Balmain, who obtained his M.D. (Lond.) in 1929, had a fine knowledge of modern medical work and was himself a doctor whose opinion could be implicitly relied upon on any medical matter. He had charge for some years of the Diphtheria Immunization Clinics and of the Open-Air School, and was inspector of nursing homes and of massage establishments in Ilford. In addition, he collaborated with me in a good deal of research work and records of cases which would be quite impossible for me to have carried out without his assistance.

"Dr. Balmain was a loyal colleague, ever anxious to assist any member of the staff whom he was able to help.

"It only remains to express sympathy with his wife who was his devoted companion, and to hope that she will be able to bear his loss with the courage which her husband showed during his lifetime."

Disinfestation of Verminous Houses and Household Goods with Heavy Naphtha, a Non-Lethal Vapour*

By D. H. GEFFEN, M.D., D.P.H.

Medical Officer of Health, Urban District of Enfield.

Supported by

MR. S. A. ASHMORE, B.SC., A.I.C., Government Laboratory, and MR. A. E. MCKENNY HUGHES, D.I.C., F.R.E.S., British Museum (Natural History).

In Enfield it is the practice to inspect every Council house as it becomes vacant and to disinfest those that are verminous before they are re-let. I have used most of the proprietary preparations recommended by advertisement and otherwise. To get any sort of result with these, it has been essential to strip the house of woodwork, and in some cases to use a blow-lamp. The stripping and replacing of the woodwork has been costing several pounds per house, and my Council has incurred an expense of over £1,000 per annum in making good houses that have been disinfested.

This large expenditure is due to the amount of woodwork there is in every room, and to the fact that many of the ceilings are made of plaster boards, the joints between which are covered by strips of wood. I am told that the Enfield Council houses present as difficult a problem in disinfestation as can be found. In some cases there are picture rails, and behind one of these picture rails I found a groove where any bug could sit tight, hold his blood-filled abdomen with both hands, tuck his thumbs in his waistcoat-holes, and shriek with laughter at me and all my apparatus.

You might argue that I should use cyanide. I do not think that anyone would care to use cyanide in our Council houses. They are so constructed that it is a practical impossibility to prevent cyanide leaking, not only to the house next door but even farther than this. Some of you may be aware of fatalities that have recently occurred as a result of such leakage. The gas I am now using has a pungent odour, and it can be detected two doors away from the house disinfested.

I have therefore been seeking a method of disinfestation which would not only kill every bug in a house, but would be non-lethal to human beings. Some months ago I had been informed by Mr. Coombs, a Sanitary Inspector at Kensington, that he was using a new method of killing bugs by means of a non-lethal gas, and with the kind permission of Dr. Fenton, I made an appointment with Mr. Coombs to see how he was carrying out this work. I was taken to see the fumigation of a

flat by means of pseudo-cumene (solution F.4). The procedure there appeared to be successful, but the property did not resemble the Council houses of Enfield in any way. Mr. Coombs was dealing with an empty flat in a building many years old, the walls and woodwork of which were firm, solid and of good pre-war construction. The woodwork was well seasoned and reduced to a minimum, and the plaster was hard, firm and taken well down behind the skirtings. You could seal such a room, having filled it with gas, stand outside the door, and smell nothing. In Enfield, with the substance we are using, when a house has been filled with vapour you can smell the gas in some concentration in the houses each side, and possibly even further.

Mr. Coombs mentioned to me that he was working in conjunction with Mr. McKenny Hughes, D.I.C., F.R.E.S., Entomologist at the Natural History Museum, and Mr. S. A. Ashmore, B.Sc., A.I.C., of the Government Laboratory. I communicated with these two gentlemen, and all the experiments that have been done in Enfield have been carried out with their active co-operation.

In this paper I will not refer to the habits of the bug nor to his reactions to certain chemicals, because I think these two gentlemen can do it so much better than I can. My role has consisted in carrying out their suggestions, and giving practical and local help, in which I have been assisted by my Deputy Chief Sanitary Inspector, Mr. Smith.

Our first experiments were with three bedrooms in a Council house. We darkened the rooms to simulate night-time and encourage the bugs to leave their hiding places, heated the rooms with Primus stoves to a temperature of about 80° F., removed the lamps, and sprayed with pseudo-cumene, using a gallon per 750 cubic feet. When we opened the room the next day we found many dead bugs on the floor; there were, however, two or three bugs which had survived, and the experiment was accordingly a failure. Further experiments gave similar results. The point about pseudo-cumene is that you need a concentration of 0.15 in the atmosphere for 24 hours to exterminate vermin. As we were working during the winter time this could not be obtained because such a

*Paper read to the Home Counties and Metropolitan Branches of the Society of Medical Officers of Health, Friday, May 7th, 1937.

concentration is only reached at a temperature of about 50° F. Moreover, the walls of the houses were absorbing the pseudo-cumene, and some of it was disappearing through the ceiling into the loft.

Our next experiments were done with a cheaper substance of the same nature, called heavy naphtha. You might ask why not have a fire in the room so that you could maintain a temperature of, say, 70° F. and obtain a concentration that would be lethal in less than 24 hours. Unfortunately, this will not do, because heavy naphtha is like paraffin and must not be brought near a naked flame. It was decided to spray the loft or roof-space, but before doing so, two more Primus lamps were used in each room so that we started off with a temperature of about 90° F. By the time we had sprayed the loft and rooms and closed them the temperature had dropped to about 70° F., and within a few hours it was below 50° F. Our results, although better, were not satisfactory. We determined that we wanted something in the room that gave off heavy naphtha continuously.

In an endeavour to secure this, we placed blankets on the floor of the roof space, and hung them at first perpendicularly on the walls and later horizontally across the rooms as well. We heated the rooms, removed the heaters, sprayed the loft, woodwork and the blankets in the rooms, and left the house for 24 hours. Our results were now considerably better. Lastly, we tried leaving a garage heater lamp, having a copper gauze covering, burning in the room after spraying. A temperature of about 70° F. was maintained in one room, and I am satisfied that if you could do this throughout the house, your result would be satisfactory. I must admit, however, that I am rather nervous about leaving any lighted lamp in a room where there is heavy naphtha. During the summer time it has been possible to maintain a higher temperature without the use of this heater and the results have been very satisfactory. I am satisfied that provided you have got a sufficiently high temperature, which should be easy during the summer months when bugs are the greatest problem; provided your technique as regards the use of blankets is satisfactory, and provided that you do the whole house thoroughly, you can get as good results with heavy naphtha as with any other substance. I consider that the technique is the most important part of the whole procedure.

Heavy naphtha is an easily evaporated liquid, used as a disinfestant by means of a spray. It irritates the eyes and is generally unpleasant in heavy concentration, and men using it must use gas masks. I have found that if it gets on the hands continuously it can produce a dermatitis. One of my men even got a dermatitis of his ear when naphtha had dropped from the ceiling or from

the horizontal blankets during the course of spraying. The regular use of lanoline will prevent this.

One point about disinfestation with heavy naphtha is that all the bugs do not die hidden behind woodwork. They attempt to escape from the gas, usually find their way into the room, give up the ghost and lay their bodies where they may be inspected by the staff. This is a useful indicator, for if no dead bugs are found it is almost certain that the house is free from vermin.

Whilst I believe that with proper technique you can do a house by means of one spraying, so far, for experimental purposes, I have not attempted to do so. Our procedure has been as follows:—

If an inspector is certain there are bugs in a house we use heavy naphtha. If he is doubtful we use sulphur as a detection test to see if bugs are really present.

Having determined the likelihood of bugs we use heavy naphtha. If, after opening the house, no bugs alive or dead are found, we clear the house, but we do not call this a success because we have no proof that bugs were originally present. If, after the first dose, dead bugs are found in the rooms, we give the house a second spray. If, as a result, no bugs are found, we consider that the house was thoroughly disinfested on the first spraying, and we call this a success. If dead bugs are found after the second spray, we do a third or fourth one. In this way we are able to say what houses were thoroughly disinfested on the first attempt and so on. So far I have disinfested 50 houses found to be verminous when vacated.

The following table shows the number of treatments which were necessary to secure that no vermin alive or dead were found in any house:—

After one spraying	..	18
„ two sprayings	..	17
„ three „	..	13
„ four „	..	2

I think it is fair to assume from these figures that 35 houses could have been rendered free from vermin by means of one spraying, 13 by means of two, and two by means of three. These 50 houses, moreover, include those in which initial experiments were made and before the present technique was adopted. I am satisfied that we are now securing disinfestation of houses in nearly all cases with one spraying.

The real test of the matter lies in what happens to the house after it has been occupied by human beings, that is the “human test.” The houses have been inspected after some months’ occupation. In ten cases complaints have been received from the tenants that live bugs have been found. In one of these cases it was discovered that the bugs had been imported with furniture. In eight of the nine other cases repeated visits by my sanitary inspectors

have failed to find live bugs or evidence of their presence. We supplied the tenants with a disinfestant to be used as a spray, and no further complaints have been made. In one case the occupier is still complaining. Here, again, many of these houses were disinfested before the technique had reached its present level. Factors, such as infestation from houses next door, and from furniture, must be taken into consideration.

Our next experiments were to see if we could disinfest furniture in a van. At this time I had dealt with about 20 houses by means of pseudo-cumene or heavy naphtha. In no case had the woodwork been touched, and there had been a saving of over £200. Encouraged by this, I took one of our disinfecting vans, which is zinc lined and reasonably airtight, and arranged for electric heaters, two thermostats and a thermometer to be installed.

The van having been altered and fitted up, I collected 100 bugs and prepared for my first experiment. By the time I was ready to carry out the experiment, 95 of them had died and I was left with but five. The van did not heat up properly, and the bugs survived. What was wrong with the van I do not know, but in spraying naphtha on the zinc walls of the van it condensed and remained in a pool on the floor. The electrical apparatus was overhauled, and the van lined completely with fairly heavy blankets which had been washed in order to remove their greasy dressing and increase their absorbent properties.

My next experiment was with 40 bugs. These were put in calico bags, five per bag. The van was filled with old mattresses and clothing, and the bugs concealed in positions which would give them the maximum protection from any gas. The van was closed and kept at a temperature of 102° F. for five hours. At the end of that time all the bugs were dead bar five; of these, two subsequently died. Three bugs survived, but those were in an air pocket in the middle of a folded feather bed where no gas could get at them. The experiment was almost a success under the most stringent conditions. My next experiment was with another 40 bugs. These were placed in the van and a temperature of 106° F. maintained for seven hours. The result was a complete success.

I have brought the van here this afternoon. It is outside the building for your inspection, full of clothing, bedding and furniture. It was sealed this morning and filled with heavy naphtha vapour at 7 a.m. There were placed in it this morning 100 live bugs. These were divided into lots of ten and placed in linen bags, hidden in the van as follows:—

Underneath a flock mattress.
On a feather bed.

In the middle of a heap of clothing.
In another heap of clothes.
In the folded corner of the feather bed.
Between the seat and back of an upholstered arm-chair.
Inside a flock pillow.
In an overcoat pocket.
In a heap of blankets.
On the seam of a mattress.

I propose to open this van after the lecture in order that you may see the results. (*The van was opened after the lecture and the hundred bugs recovered, all of which were dead.*)

The cost of heavy naphtha (which must conform to the official specification set out in Appendix I), is 2s. per gallon in 250-gallon lots, in 50-gallon drums, and is obtainable in any quantity from The Gas, Light and Coke Company. The cost of disinfesting a house—and you must do the whole house—is about £1 a time, which means if you do the house twice, £2, labour included. It has the great advantage that you will not kill anybody in using it. Its use in a van is simplicity itself, and the cost should not be more than 10s. a van-load, for material and labour.

Excluding cyanide, of which I have no personal experience, heavy naphtha has proved itself to be a far better disinfestant than any substance I have used hitherto, both in the house and in the van. It has the great advantage that it is non-lethal to human beings, and does not necessitate the removal of woodwork nor any expensive interference with the property before it can be used effectively.

The house must be empty for heavy naphtha to be used, but it is not necessary to disturb the tenants on either side of the house.

At the end of this paper will be found three appendices dealing with:—

- I. The specification for heavy coal-tar naphtha.
- II. The apparatus required.
- III. The cost of converting the van for use in these experiments.

Mr. S. A. Ashmore, B.Sc., A.I.C., of the Government Laboratory, indicated the stages in the development of the use of heavy naphtha for disinfestation. The use of orthodichlorobenzene had been abandoned because pathological experiments had shown it to be a liver poison. An effective substitute was required which was harmless to man yet cheap and easily applied. In the preliminary experiments pseudo-cumene (1, 2, 4 trimethylbenzene) was used and it promised well. This substance was present in considerable quantity in coal-tar naphtha and a special fraction was obtained rich in pseudo-cumene. Field experiments using this fraction were very satisfactory and ultimately heavy naphtha, with a boiling range of 160° C. to 190° C. was used in its entirety.

Mr. McKenny Hughes, D.I.C., F.R.E.S., of the Natural History Museum, stated that he could think of no more

difficult material upon which to work than the Council houses of Enfield. The use of cyanide would be extremely dangerous, if not impossible, and in dealing with the problem in Enfield he had met every difficulty that was likely to confront any M.O.H.

He was satisfied that heavy naphtha in sufficient concentration had a deleterious effect on ova of the *Cimex lectularius* in that either the eggs failed to hatch or the bug, on hatching, died almost immediately.

He had carried out various experiments both in houses and at the Museum. He stressed the fact that the obtaining of a sufficient concentration for a sufficient time was the essential part of the procedure and, furthermore, that the technique of the use of heavy naphtha was one of the most important factors in its efficiency.

APPENDIX I.

Specification for Heavy Coal-Tar Naphtha.

1. Colour : Shall not be darker than a freshly prepared solution of 1 ml. of N/10 iodine in 1,000 ml. of distilled water.
2. Specific gravity : Not less than 0.835 and not greater than 0.910.
3. Water : Shall be free from water and other visible impurities at 15.5° C.
4. Distillation range : Method as defined in B.S.I. Specification No. 479 for coal-tar naphthas.
Up to 160° C. not more than 5 ml.
Up to 190° C. not less than 90 ml.
5. Flash-point (Abel) : Not less than 105° F.
6. Tar acids and tar bases : Not more than 0.25 per cent. of tar acids and 0.25 per cent. of tar bases.

APPENDIX II.

The following is the apparatus required for the disinfection of an ordinary Council House.

Apparatus and where obtained	Cost.
Merryweather foot-operated spraying machine (Merryweather & Sons, Ltd., Greenwich Road, S.E.10)	£4 10 0
Two "Degea" gas masks with 2,730 "A" canisters (Wallach Bros., 49, Tabernacle Street, E.C.2)	5 8 0
Two metal containers	0 10 0
Angle pins and hooks (locally)	0 10 0
One sealing machine, 2-inch (Samuel Jones & Co., 7, Bridewell Place, E.C.4)	1 1 0
Gummed Rolls (fifteen coils, 2 ins. by 800 ft.) Per roll of 15 coils	1 2 6
Eight Primus stoves (No. 101/4) (Condrup, Ltd., 77, Fore Street, E.C.2)	12 0 0
Forty-eight blankets, with tapes and rings for hanging on walls (locally)	4 0 0
Lanoline (locally)	0 2 6
	£29 4 0

APPENDIX III.

Cost of Converting the Motor Van.

The following are the particulars of the work carried out by the North Metropolitan Electric Power Supply Company, in altering the disinfecting van for the disinfection of furniture and bedding with heavy naphtha.

£ s. d.

Fitting six 2-inch diameter gas-tight tubes each 7 feet long, controlled by two thermostats connected in series, one thermostat to be fixed in the end adjacent to the driver's cabin which would be the normal control switch to operate at 100° F., and a second thermostat to be fixed in the false floor clear of the tubes set to operate at a higher temperature probably 150 or 170° F. to guard against the development of a dangerous temperature in the false floor space. An indicating thermometer fitted in the cabin. The wiring to terminate in a 15-ampere 3 pin plug fixed in a convenient position outside the van.

The cost of carrying out the necessary wiring in V.I.R. cable enclosed in galvanised screwed tubing and the fixing of the apparatus was

6 10 0

To Supply—

6 7 feet lengths of "Unity" gas-tight tubes at 75s. each ... £22 10 0
2 gas-tight thermostats at 80s. each 8 0 0
1 flush type thermometer 1 5 0

31 15 0

Less 10 per cent.... 3 3 6

28 11 6

Ten blankets 35 1 6
Brass tubing and brackets to support the blankets 2 5 0
... .. 1 4 0

Total cost 38 10 6

A "Bed Bug" Film.—During the week of the Royal Sanitary Institute's Health Congress at Birmingham, Messrs. Newton, Chambers and Co., of Thorncliffe, Sheffield, showed to interested audiences a new film which they have produced to illustrate some of the problems of disinfection and in particular the use of their product Zaldecide. The film, which bears the happy title, "The Prey of the Spray," cleverly demonstrates the social difficulties involved by some methods of disinfection. The technique of the use of "Zaldecide" is well seen and certain of the micro-photographs of the hatching and so on of the *Cimex* are excellent. The film is of 16 mm. size and non-flam., so should be available for showing to groups of people interested in the problem. A documentary film of the development of Messrs. Newton, Chambers and Co.'s varied undertakings also proved most interesting. The firm was founded in 1793 and its enterprises range from coal and iron and engineering to the extraction of the chemicals which are familiar to the public health service.

Burning Colliery Spoil Banks and their Relation to Public Health*

By J. WOOD WILSON, M.D., CH.B., D.P.H.

Assistant County Medical Officer of Health, West Riding, Yorks.

The subject of Burning Colliery Tips seems to be always with us in a mining district and no satisfactory solution has yet been found. In recent years the problem has been taken up nationally: the Ministry of Health have asked the County Medical Officer of Health for information on the number of burning tips in the county area, what measures were taken to prevent or extinguish the fires and the extent of the nuisance caused. A Bill was introduced and questions have been asked in Parliament.

At the outset of the investigation which I was asked to undertake I found that the subject was a complex one, being bound up with legal enactments, colliery practices as regards tipping, and the health of persons resident near burning tips. Unfortunately, information on the last point, which was the main reason for investigation by a public health department, was the most difficult to obtain.

I propose to discuss the results of my investigations under the three headings:—

1. Law relating to Burning Colliery Tips.
2. Colliery practices as regards tipping.
3. Health of persons near burning tips.

1. Law Relating to Colliery Tips

One of the definitions of a nuisance given in the Public Health Act, 1875, is that of Section 91(4):—"Any accumulation or deposit which is a nuisance or injurious to health."

From this it would appear that if injury to health could be proved as a result of a burning colliery tip, action could be taken against the owners. The first proviso under this section, however, exempts from any penalty the owner of a business which necessitates the accumulation of deposit if the best available means have been taken for preventing injury to the public health.

The Public Health Act, 1936, which comes into force on October 1st, 1937, re-enacts similar provisions in Sections 92(1) (c) and 94(4).

In June, 1936, the Minister of Health replying to a question in the House of Commons stated that "any action designed to make obligatory on all local authorities concerned the duty of removing the menace to health of burning pit heaps would be outside the scope of a consolidation Bill."

That further power is desired in some quarters

*A paper read to the Yorkshire Branch of the Society of Medical Officers of Health, Leeds, April 29th, 1937.

is shown by the terms of a Bill, Public Health (Coal Mines Refuse) Bill, which was introduced in February, 1936, and ordered to be printed. The purpose of this Bill is to "deem a deposit of refuse from a coal mine which is liable to spontaneous combustion a deposit within the meaning of Section 91(4) of the Public Health Act, 1875, and to preclude the first proviso of that section from applying."

It will be realised that action under the Public Health Acts is a very difficult matter. I do know of one instance, however, where a local authority gave a colliery company three weeks in which to abate the nuisance of a burning tip. The colliery company were willing, set men on to dig the fire out, and as the tip luckily was a small one, succeeded in six months' time.

It is, of course, possible for proceedings to be instituted in the High Court, by fiat of the Attorney General on the ground that a common law nuisance is present, but I understand such actions are rare and the results uncertain.

It is fortunate, however, that colliery companies have not generally taken advantage of the strict legal requirements; as a rule they have been helpful when approached informally to abate a nuisance to surrounding residents.

There remains under this heading the right of an individual to protest against the spoiling of his land by the action of another. This covers those actions by a farmer for compensation for damage to crops. These actions are very often successful. In many cases the colliery companies agree to pay the difference between the price obtained by the farmer for his crop and the average price. In some cases the collieries own the surrounding farms themselves and thus prevent such actions.

2. Colliery Practices as Regards Tipping

[In this section of his paper, the details of which are not of technical interest to medical officers, Dr. Wood Wilson described (a) the varied practices adopted for tipping refuse at 134 collieries which he visited, (b) the means of preventing tip fires, and (c) methods employed for the extinction of tip fires. Under heading (a) he found that 64 collieries had no tip fires and that 78 had. He showed that under heads (b) and (c) there was a great variety of practice. It was his view that the usual cause of tip fires was spontaneous combustion, and this was the basis for most of the methods of prevention

TABLE II.

	Deaths in the Year, 1935, per Thousand estimated Population from :					
	All Causes.			Respiratory Diseases.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
England and Wales ...	12.49	11.06	11.75	1.36	0.98	1.16
W.R. Mining Districts ...	10.71	9.87	10.31	1.36	1.07	1.22
W.R. Textile Districts ...	14.50	13.01	13.70	1.35	0.92	1.12

in use ; few collieries, however, had any definite plan in this connection. With regard to heading (c)—extinction of burning tips—the methods attempted were by flooding externally with water, flooding internally by percolation, blanketing with various inert materials, and isolation of the burning portion. Out of 28 attempts only two had been completely successful.]

3. Health of Persons Resident near the Burning Tips

This part of the investigation proved very difficult and it was soon realised that only general ideas could be formed. The views of the medical officers of health to the different local authorities concerned could be summed up in the words " Burning colliery tips are unpleasant as they spoil the amenity of a district for residence, but injury to health is no greater than in any industrial area."

That there is a greater risk in industrial areas than in rural areas is shown by figures for the County Area. In 1935, the death rate in the urban districts was 12.5 per 1,000 as against 10.3 for the rural districts, and 11.7 for England and Wales. Comparison of the respiratory diseases death rate is also interesting and the following Table I gives comparative rates for the five years 1931 to 1935 for England and Wales, the aggregate of the West Riding Urban Districts and the County Boroughs of Oldham, St. Helens and Dewsbury.

TABLE I.

	Average Death Rates 1931-35 per Thousand estimated Population from :	
	All Causes.	*Respiratory Diseases.
England and Wales ...	12.03	1.35
W.R. Urban Districts ...	12.58	1.36
Oldham C.B. ...	14.50	1.88
St. Helen's C.B. ...	12.13	1.97
Dewsbury C.B. ...	14.18	1.88

*Pneumonia, bronchitis, etc. Does not include deaths from tuberculosis of the respiratory system.

It can be seen from the above table that the death rate from all causes and respiratory death

rate for the West Riding Urban Districts compares very favourably with that of industrial towns.

Table II at head gives the comparative rates for 1935 for England and Wales, mining and textile districts in the West Riding Administrative County.

The above figures show a lower death rate in mining districts as compared with textile districts and a higher respiratory death rate, but the differences are not significant.

An attempt was made during the investigation to obtain information from householders in the vicinity on how the burning spoil banks affected them, particularly as regards health. To call at every house in some cases would have been impracticable and so a random selection was made in order to obtain an insight into the effects produced in a particular district. In this connection it was noted that employees at a colliery were very loyal to the company so that few complaints were received from them ; this attitude to a certain extent made enquiry into effects on health less reliable.

Of the 78 colliery tips on fire in the county, 39 were the subject of complaint from householders. These 39 tips were all on fire to some extent, some much more than others. In all cases smoke and fumes were evident, dust was rarely in great quantity and the presence of flames was varied.

The complaints received from the districts in the immediate vicinity of these tips are classified in Table III :—

TABLE III.

Subject of Complaint.	Frequency (i.e., Number of Localities).
<i>Personal—</i>	
Sore throat	6
Cough	5
Headache	2
Boils	1
Smell	4
Compelled to keep windows closed	4
<i>Household—</i>	
Tarnishing of metals	23
Smuts	4
<i>Vegetation</i>	
... ..	22

(Note.—The numbers refer to the number of localities at which the complaint was made and not the number of individuals making the complaint.)

It will be seen from the above that complaints of injury to health were in the minority, also the evidence that fumes were to blame was not altogether reliable.

Climatic conditions, of course, affected the severity of the complaints, rain often being the cause of more fumes and lighting up of the burning heap, while the direction of the wind could banish completely any cause for complaint.

The presence of offensive fumes causing bedroom windows to be closed at night is a factor which requires consideration as a possible source of injury to health, due to lack of sufficient ventilation.

It is to be noted that dust blown from the tips was seldom a cause for complaint, the chief complaint of the housewife being the blackening of silver and brasswork. The tarnishing of household metal work was indeed a very marked feature of most districts.

The number of houses within a short distance of the burning tips was estimated where complaints were received of nuisance. In sixteen instances there were no houses within 400 yards of the tips, in the remaining 23 cases houses were distributed in the vicinity as follows :—

	Number of Collieries.	Total Number of Houses (approx.).
Within a radius of 100 yards	8	129
Between 100 to 200 yards ...	11	228
Between 200 to 400 yards ...	20	1,286

As regards the range of effects of the fumes it is to be noted that in the 16 cases where the nearest houses were more than 400 yards from the burning houses, the complaints of harmful effects to spoil bank, the complaints of health were rare, the most usual complaint being of damage to vegetation.

While in many ways it might be thought that injury to health is established by the complaints of residents, the scarcity of definite evidence is obvious. In the first place, there are the views of local medical officers of health who consider that in general, health in the vicinity of a burning spoil bank does not suffer to any great extent, and in the second place evidence of householders cannot be considered unanimous. Even in the course of a no means exhaustive enquiry among residents many would be heard to state that they had never had a day's illness.

One local authority with a housing estate in close proximity to a burning bank arranged for the air to be sampled but again the findings were against definite injury to health.

The report of Richardson and Jaffe, Analytical Chemists, was as follows :—

(1) Air sampled on tip where smoke and flames were issuing :

Carbon monoxide ... 40 parts per million.
Sulphuretted hydrogen 200 "
Sulphur dioxide ... 600 " "

(2) Air sampled 50 yards from smoke.
Total sulphur compounds 20 parts per million.

Carbon monoxide ... None.

(3) Air sampled at houses just outside colliery.

Carbon monoxide ... None.

Sulphur compounds ... None.

" In our opinion the air from the burning tip is not detrimental to health. The sulphur dioxide is not so great as is given off by mill chimneys, whilst the carbon monoxide does not equal the amount due to a motor car exhaust.

" The various fumes given off are not sufficiently serious to be deleterious to the men actually engaged in extinguishing the burning material.

" By the time the fumes have blown outside the grounds they are so diluted as to be negligible."

Conclusions

As a result of this investigation I came to the following conclusions :—

(1) The number of burning colliery tips in the West Riding Administrative Area has increased from 45 in 1931 to 78 in the year 1936.

(2) Measures were taken by a few colliery companies to prevent fire.

(3) Measures were taken by most colliery companies to extinguish a fire if complaints were received of nuisance.

(4) Complaints of persons living in the vicinity of a burning tip were mostly of damage to household fittings and vegetation.

(5) Although the health-giving advantages of a pure atmosphere cannot be questioned, nevertheless it has been found impossible to obtain conclusive evidence of injury to health from the fumes given off by a burning tip.

(6) Owing to the variety of opinions held by colliery officials on the subject of burning spoil banks it is suggested that an investigation into the means of preventing spoil bank fires and the means of extinguishing them would be of considerable value.

THE Joint Tuberculosis Council announce the arrangement of courses of fourteen sessions in Artificial Pneumothorax Work to be held at the Brompton Hospital ; each course will extend over a fortnight and will be limited to four members, who will have the opportunity of performing refills, and if possible, an induction themselves. The fee for the course will be 5 guineas. All enquiries should be addressed to Dr. William Brand, 8, Christ Church Place, Epsom, Surrey.

COMMON SKIN AFFECTIONS IN INFANTS AND YOUNG CHILDREN

During their clinical week-end course preceding the Maternity and Child Welfare Conference, the M. and C.W. Group of the Society attended, on Monday, May 31st, at St. John's Hospital for Diseases of the Skin, Leicester Square, where Dr. J. E. M. Wigley, M.B., M.R.C.P., gave a lecture on "Common Skin Affections in Infants and Young Children," which is summarised below.

Dr. Wigley said that the commonest conditions in young children were:—

1. Papular Urticaria (or "lichen urticatus," "strophulus," "gum rash," etc.)
2. Infantile Eczema.
3. Napkin Area Eruptions.
4. Impetigo in various forms.
5. Warts.
6. Naevi.

With regard to relative frequency, he said that in an analysis of 1,100 cases about 30 per cent. belonged to group 4 and 11 per cent. to group 1, but there was only one case of congenital syphilis.

Papular Urticaria

This was a very common affection up to three years of age, but uncommon after that. It commenced as a red blotch with a raised papule in the centre, after a few hours the blotch disappeared but the papule remained and became flesh coloured. Fresh crops appear at night, and give rise to intense irritation. Its distribution might be anywhere, but it was uncommon on the palms and soles.

In considering the *differential diagnosis*, nocturnal itching should suggest *scabies*. "The commonest cause of itching is the itch." Such a case should be considered to be one of *scabies* until it had been proved that it was not. The *sites of election of scabies* were between the fingers, on the ulnar surfaces of the wrists, on the inner sides of the elbows, the anterior folds of the axillæ, the breasts in women, the gluteal region, the glans penis and prepuce, and the dorsal surfaces of the feet. In infants it was also found on the face, the nape of the neck, the palms and the soles. In fact "an eruption on the palms and soles of infants and young children was *scabies* or congenital syphilis," and the latter was rare. Burrows could easily be seen in a case of *scabies*, they could be further demonstrated by putting a drop of ink over a suspected burrow, leaving it for a few minutes and then blotting it off. *Scabies* might be masked by a pustular eruption in some areas of distribution, and it was necessary first to treat the underlying *scabies* with sulphur; if the diagnosis was in doubt a two-day therapeutic test with sulphur could be done.

Chicken-pox might be simulated if the rash became bullous, but in chicken-pox lesions occurred on the mucous membranes.

Etiology.—The cause still seemed to be elusive. Experiments had been carried out to ascertain the cause with relation to the home conditions, particularly the sleeping conditions. R. Hallam observed that children did not develop it in hospital, and it was uncommon among the

well-to-do. There was not an allergic diathesis, the exciting cause did not appear to be a food factor, and no connection had been proved with the bedding, clothes, vermin, house dust, domestic animals, or other humans. Excessive carbohydrates in hot weather exaggerated it, and it was believed by some that bacon fat was responsible.

Treatment.—A mild rhubarb and soda mixture could be given, the carbohydrate intake should be reduced and a soothing application used, such as oily calamine liniment or a 1 per cent. naphthol ointment.

Infantile Eczema

This commenced on the face with redness and a glazed appearance, vesicle formation then occurred with crusting, and it often spread to the scalp. It might also spread to the limbs and all over the body. It gave rise to intense irritation, and it might be covered with pustular crusts, hence the name "pustular eczema."

Etiology.—This condition was due to a hypersensitivity of the skin cells, or to the action of an allergen on the infant, usually of exogenous origin. The child was unduly susceptible to external irritants and there was usually a history of one of the allergic manifestations in the family. It had been shown that 80 per cent. of these children were sensitive to egg white, others were sensitive to other foods. Attempts at desensitisation had usually proved useless. There was some evidence that there was an alteration in the cell chemistry. Teething rendered a child more irritable.

Treatment.—(1) In 99 per cent. of cases *dieting*, other than the reduction of quantity, had no effect. Dr. Wigley had tried dieting without effect, and he did not consider that feeds should be varied solely because a child had eczema.

(2) *Scratching* should be prevented, this was often difficult and mechanical means should be employed. Infantile eczema usually cleared up by about two to two and a half years of age and, if the child had been prevented from scratching, did not scar.

(3) The skin should be *protected* from external irritants, bland oily lotions and ointments should be used (not calamine lotion). Soap and water should not be used.

(4) Sufficient *sedative* should be given to prevent scratching and to let the household sleep.

Napkin Area Eruption or "Simple Infantile Erythema of Jacquet"

The napkin area included the lower abdomen, buttocks, genitals, thighs, calves and heels and consisted of a number of convex surfaces and of sulci. The convex surfaces suffered from irritation and were: (a) the lower abdomen, genitals and perineum, (b) the upper and lower halves of the thighs, (c) the buttocks, scrotum and calves. The sulci in between served as regions for the growth of micro-organisms.

Jacquet described *four stages*:—

(1) A *simple erythema* of the convex surfaces extending to the lumbar region, the surfaces being uniformly red, shiny and glazed. This condition was seen in very young infants and varied from day to day.

(2) An *erosive stage* with small bright red disc-like erosions which might coalesce with vesicles round the

edges. This condition was usually seen in slightly older babies.

(3) A *post-erosive stage* (sometimes mis-diagnosed as a congenital syphilide) consisting of red areas, scattered over which were a number of pseudo-papules (composed of granulation tissue). These might not be on an erythematous base.

(4) *Definite ulceration*.—The ulcers were punched out, sharply marginated, and were suggestive of congenital syphilis.

The *differential diagnosis from congenital syphilis*. The general state of nutrition is quite good, whereas in a case of congenital syphilis with a diagnosable eruption the child is miserable and wasted. In napkin eruptions the rash is limited to the convex surfaces and is absent from the face (muzzle area), palms, and soles; it is of a red colour with constant variations of colour. Other signs of congenital syphilis such as snuffles were absent, and the Wassermann reaction was negative.

The *causes* of the condition were a lack of cleanliness; soiled or wet or insufficiently rinsed napkins; too tight napkins; rubber pants; green stools with irritating diarrhoea; and excess of ammonia and ammonium salts in the urine.

Treatment.—The diarrhoea should be treated by attention to the diet and the administration of Hyd. c. crete. The ammoniacal urine by the administration of large doses of acid sodium phosphate or by applying napkins which had been damped with 1/1,000 mercury perchloride solution. Cleanliness should be maintained and talcum powder could be applied.

Impetigo

Impetigo in *infants* retained its phlyctenular character instead of drying in crusts. It attacked covered areas and was found in the napkin area. It might occur as general *pemphigus neonatorum*, or as a *local condition* in older children. (*Pemphigus neonatorum* was a bad older children. (*Pemphigus neonatorum*.) The initial name, this was really a bullous impetigo.) The initial lesion was a tense blister situated on a red base which easily ruptured leaving an excoriated area. Impetigo lesions were always found in more than one situation and should be looked for particularly around the finger nails. The condition might go on to ulceration, leaving an "ecthyma" (an ulcerating impetigo in debilitated children).

Impetigo in *older children* occurred in the form of small blisters with a clear fluid which dried up in an hour or two leaving a scab with satellite scabs around it. It was found on the face and neck where it was almost always associated with *pediculi capitis*, and on the hands.

The *differential diagnosis* was from congenital syphilis.

Treatment.—The infant should be entirely immersed in a boracic bath and while in the bath each blister should be opened with a diphtheria swab, and the contents twisted on the swab and brought away. The infant should then be taken out of the bath and each lesion painted with a coloured fluid such as mercurochrome or gentian violet, twice a day. So treated the condition cleared up in a few days. For *older children*, thorough free bathing of the lesions with a simple fluid such as saline, boracic, or peroxide, should be employed, and

the lesions then dabbed with drying lotion such as copper sulphate, grains four, zinc sulphate grains six and water to one ounce, or calamine lotion. The drying lotion limited the spread of the disease and was much better than Ung. Hyd. Ammon. dil.

Pityriasis

This really meant scaling, and there were numerous varieties.

Seborrhœa of the face and scalp was probably due to *Malassez' pityrosporon* combined with an ordinary white staphylococcus, it consisted of areas of scaling with a slightly greasy tinge particularly on the scalp, behind the ears, and in the midlines. It tended to disappear spontaneously in infants, but if it persisted extensive scaling of the scalp supervened with red cracked areas behind the ears and eruptions in the axillæ.

The *treatment* was the application of mild sulphur and salicylic ointment to the scalp, which should be left on for 12 hours and then washed out. The other lesions should be bathed with alkaline lotion, or saline solution, and an oily calamine liniment applied. The cracks should be treated with 1 per cent. silver nitrate lotion.

"*Scurfy patches*" of the face, variously known as "pityriasis alba," "wild fire," etc., occurred around the nose, spreading from the angles of the mouth, and in isolated sharply demarcated patches on the cheeks. Remedies were legion, but a mild sulphur ointment was the best, and too much soap and water should be avoided.

Warts

These were common and easily diagnosed but difficult to treat, they might, however, disappear spontaneously. There were a number of varieties. There was the *plane* (or flat or juvenile) wart, consisting of areas (or lines or patches) of flat flesh-coloured papules. These would respond to divided doses of X-rays. Then there were *warty warts* on the fingers, etc., which could be very obstinate to treat. These might be frozen with carbon dioxide snow until the surrounding tissue was frozen to an eighth of an inch beyond the wart; or they might be scraped out with a sharp spoon, with or without an anæsthetic, and silver nitrate applied; or the actual cautery might be applied to about a third or half its depth; or radium might be employed, but this should be very carefully used, as it was difficult to hit the correct dose. Internally administered drugs were valueless.

Naevi

Angiomatous Naevi usually occurred as "Strawberry Marks" or as "Port Wine Stains." The former disappeared spontaneously in a large number of cases and it was unnecessary to treat them unless for cosmetic reasons or to please the mother. Carbon dioxide snow helped them to fibrose. The "Port Wine Stains" did not disappear and should only be treated for cosmetic reasons. They did not respond well to carbon dioxide snow or to radium; it was often better to leave them, and if removal seemed necessary for cosmetic reasons to consult a plastic surgeon.

THE MORE COMMON EYE LESIONS IN THE PRE-SCHOOL CHILD

The following is a summary of a lecture delivered by Mr. Robert Davenport, F.R.C.S., at Moorfields Eye Hospital, City Road, E.C.1, on Monday, May 31st, before the M. and C.W. Group of the Society, during the week-end course preceding the Maternity and Child Welfare Conference.

In opening his talk, Mr. Davenport drew attention to the considerable decrease in the incidence of inflammatory eye conditions in children. This was particularly the case with phlyctenular ophthalmia of any severity.

Ophthalmia Neonatorum

As this was a specialised subject, it was not considered, but stress was laid on the avoidance of too zealous drug treatment in the minor degrees of "sticky" eyes seen in the infant.

A silver preparation could be used at the outset; but after that, bland irrigations should suffice, with oily drops to follow each treatment for the safety of the corneæ. Eyelids readily became irritable if over-treated, and thus the inflammation would drag on.

Obstruction of the Lachrymal Passages

Congenital lachrymal obstruction was quite common, and accurate diagnosis very important.

If efficient treatment—in the large proportion of cases, probing of the passage into the nose—was supplied in the first weeks of life, a normal state was immediately the result on most occasions. If allowed to drag on, the subsequent infection made the cure infinitely slower to obtain. The unilateral, watery, or sticky eye should be suspect; and if pressure over the site of the lachrymal sac induced regurgitation of mucopus into the conjunctival sac, the diagnosis was certain.

Probing should be done by someone practised at it, for it was only safe in such hands. A very fine probe should never be used, as a false passage may be made more easily by such; and in case any false passage has been made, the passage should never be syringed through, immediately after probing.

A general anæsthetic was not necessary in a child of a few weeks old.

Lid Infections

(1) *Styes*.—These were common, but fortunately seemed to give a child much less pain than in the case of an adult.

Very little could be done in a young child to affect the course of a sty, beyond such application of heat as the child would allow. Prevention was the difficulty. Commonly the styes came with teething, but sometimes a crop appeared over a period of a few months and cleared up, apparently in no relation to any treatment. The text book stressed the association of an error of refraction, but this was far from constantly the case. Locally, a mercury lotion would keep down staphylococci, and iron and vitamins A and D should be used. In older children, staphylococcal vaccines or toxoid seemed to help, but in many instances a sudden end of the styes seemed as unexplained as the beginning, and no doubt

related to the general "make up" of the child at the time.

(2) *Meibomian Glands*, when acutely infected, were much like styes, but the chronic granuloma, or "cyst," usually had to be incised and curetted, and this meant a general anæsthetic for the young child.

(3) *Blepharitis*.—The ulcerative variety was the more usually seen in young children, often a sequel to measles.

Here again, the frequency of an error of refraction was probably much over-estimated, although such must be eliminated.

The condition was most intractable, as even under the most favourable institutional conditions, a case of any severity might not be got quite clear of ulceration for actually years. Home treatment was seldom thorough enough, for the essential requirement was the frequent removal of every crust, either by sod. bicarb. lotion or a weak mercury lotion, and the rubbing in of ointment—the yellow oxide or ammoniated mercury.

As the condition improved, zinc and ichthyol ointment might be used in place of the mercury.

Adequate treatment on these lines should clear the less severe degrees fairly quickly; and it was most important that the lash line should be as little damaged as possible, for such damage might make for trouble in later life.

Vitamins, iron tonics, etc., should be given, although their value seemed disappointingly small.

Conjunctivitis

The widespread epidemics of "blight," the freely discharging eyes of the Koch-Weeks' bacillus infection, have practically disappeared from this country of recent years. Although not very serious, it was extremely contagious.

Pneumococcal infections had become much more common, at any rate in adults. The secretion was the least marked feature; but the intense reaction and folliculosis of the conjunctivæ gave rise to difficulty in diagnosis, and often made it a much more painful and troublesome condition to treat. The cornea, too, was very liable to become involved in these cases. Thus, oily drops, e.g. Parolein, were very useful after irrigation, so that the corneal epithelium might be protected.

Phlyctenular ophthalmia of a serious degree was fortunately far less common than in the past, due of course to better upbringing and nutrition of the young and a better appreciation of the condition, which, though not tuberculous itself, seemed to be definitely the expression of a sensitised child.

The condition was described, and the intense blepharospasm and intolerance of light particularly stressed. The value of powdered calomel dusted into the conjunctivæ was mentioned, and the need for dealing with tonsils and adenoids, as well as the essentials in the way of sunlight, vitamins, diet, etc.

The danger of overdosage in these directions was just as much as that of overdosage by sunlight in a case of phthisis; and in convalescence the children should be sent to the country in preference to the seaside.

Interstitial keratitis was mentioned, mainly to draw attention to the marked decrease in the intensity of cases seen at the present day.

Congenital cataract.—In these cases it was important that an opinion should be got early, because where the opacity was dense, the light transmission was so low that nystagmus was readily established. A gap should be got as early as possible, either by iridectomy or by breaking up the opaque lens.

Glioma retinae.—This was a very rare condition, but was mentioned in view of the gravity of the condition and the fact that the altered reflex from the pupil of a young child was often the earliest evidence. When such a sign was detected, its cause should at once be determined, if possible.

Squint

A case of epicanthus and one of true convergent strabismus were shown, side by side; and the diagnostic points, which may be difficult to assess in a young child, demonstrated.

When a true squint existed, the refraction must be estimated; and if, as was the case in the vast majority of squinters, an error was found, glasses must be ordered and worn.

The answer to the question: "How young can glasses be worn?" should be: "When it has been found that they are needed." Children under one year would happily wear glasses, though squints were quite infrequently seen at so early an age. If the glasses put the eyes straight (as was so in many cases), well and good; both maculæ should be used to essentially the same degree, and neither be suppressed. If the squint persisted, occlusion of the fixing eye, so as to develop the amblyopic macula, was most essential. This was the most important detail after the prescription of glasses; for, if at an age suitable for orthoptic training an eye was still amblyopic, nothing could be done till occlusion had levelled up the vision, a much longer process after five or six than before.

The avoidance of false projection was a most difficult point to explain, but was a bugbear in freely alternating squint cases. If possible, the child should work always on a one-eyed basis, alternating occlusion until ready for training to start. It was seldom possible to make much headway in orthoptic training with the pre-school child. The essentials were to have it ready for training in the best possible condition, *viz.* wearing glasses, both maculæ seeing well, and, if possible, no false projection in the alternating case.

DR. BESSIE HATHERLEY, A.M.O. (M. & C.W.), Birmingham C.B., has gained the Mastery of Midwifery of the Society of Apothecaries of London.

By an editorial error on page 915 in our July issue, it was stated that the Institute of Child Psychology was returning to its former name, the Tavistock Clinic. It is actually the Institute of Medical Psychology which is again using that title. The Institute of Child Psychology is an entirely separate body.

THE HEART IN DIPHTHERIA.

A meeting of the Fever Hospital Medical Services Group was held at the house of the Society on May 28th, with Dr. E. H. R. Harries, Group President, in the chair. A discussion on "The Heart in Diphtheria" was opened by Dr. H. Mason Leete, Medical Superintendent, Hull City Hospital.

Dr. H. Mason Leete said diphtheria had been especially severe in Hull during the past six years, and the numerous toxic cases gave opportunity for a study of the toxic myocardium. The chief observations were clinical and were an attempt to classify in a roughly quantitative manner the varying degrees of cardiac dysfunction. A clinical distinction was drawn between general toxic death in the first week of disease and cardio-toxic death in the second and third weeks. Characteristic pulse rate curves were described for severe and moderately severe cases of myocardial disease. Attention was called to fairly constant changes in the relative intensities of the heart sounds which occurred during the progress of a severe case, to the occurrence of extra-systoles and reduplications, and it was suggested that it was possible to place these phenomena in a scale which shows increasing or decreasing cardiac impairment. Proteinuria is an almost constant accompaniment in cardiac-toxic cases. A combination of the observations enables one to determine the state of the heart with a sufficient degree of accuracy to gauge progress, to give a sound prognosis and to be a guide for general management and treatment of the case. The explanation of some of the phenomena calls for a careful comparison of clinical and electrocardiographic findings. [Some examples of such a comparison were given. The paper was illustrated by a series of lantern slides.]

Dr. M. Mitman (Eastern Hospital, L.C.C.) said that Dr. Mason Leete's clinical stages of diphtheria were substantially similar to his own. In the first week there was evidence of local lesions and general toxæmia, but electrocardiographic changes were rare. In the second week, there was clinical and corresponding electrocardiographic evidence of cardio-vascular damage in the more severe cases. Of the electrocardiographic signs the most common were changes in the form and voltage of the Q R S complex, changes in the direction of the T wave in significant leads, and evidence of conductive lesions in the bundle and its branches. He believed that lengthening of the P R interval was not common, and that when damage to the main bundle occurred it produced a complete heart-block. He thought Dr. Mason Leete's first type of pulse chart was often associated with complete heart-block, but he pointed out that complete heart-block sometimes occurred with a normal pulse rate. An indication of serious cardiovascular damages could be obtained not only from the quantity of albumen in the urine, but also from the diminution in the quantity of urine passed. He believed that the cardio-vascular phenomena in the paralytic stage, as well as the paralysees themselves, were of central nervous origin. He had enquired of physiologists if the cardiac irregularities and the tachycardia of this stage could be

produced by damage to the central nervous system, and had been assured that they could.

Dr. H. Stanley Banks (Park Hospital, L.C.C.) said that, of the various factors concerned in the production of the heart lesion in diphtheria, not the least important was the dosage and route of injection of the antitoxin. He noted that none of Dr. Leete's cases had received more than 60,000 units of antitoxin, some as little as 16,000 units, divided between the intramuscular and the intravenous routes. The division of the dose in this way was, in his opinion, unnecessary and wasteful. The effective dose in toxic diphtheria was the intravenous dose and he advocated larger intravenous doses as a means of preventing or modifying the heart lesion. He knew the financial and mechanical difficulties involved in such a system of dosage, but believed that it paid handsomely. He asked whether any member had followed up the late W. E. Dixon's work on the prevention of the heart lesion by preliminary administration of large doses of digitalis. He had not so far been able to determine what cases, if any, were suitable for this method.

He had nothing but admiration for Dr. Leete's system of analysis and graphic representation of the salient clinical features of a case of diphtheria.

Dr. E. James (Romford Isolation Hospital) expressed the view that *gravis* strains were not always responsible for a high case mortality. In a series of some 800 cases of diphtheria admitted to hospital from Dagenham, Hornchurch and Romford during the past 2½ years, approximately 70 per cent. were classified as *gravis* and 20 per cent. as intermediate strains, yet the latter had been nearly twice as lethal as the *gravis*. What was the explanation of this?

JOINT TUBERCULOSIS COUNCIL

A meeting of the Council was held at the house of the Society of Medical Officers of Health, 1, Thornhaugh Street, Russell Square, London, W.C.1, at 10 a.m. on Saturday, May 22nd, 1937.

Present—Drs. S. Vere Pearson (Chairman), F. J. C. Blackmore, W. Brand, L. S. T. Burrell, Esther Carling, J. E. Chapman, W. H. Dickinson, J. C. Gilchrist, F. W. Goodbody, C. O. Hawthorne, F. R. G. Heaf, Prof. W. W. Jameson, Drs. G. Jessel, Peter Edwards, Mr. J. E. H. Roberts, Drs. N. Tattersall, H. G. Trayer, W. H. Tytler, Jane Walker, Ernest Ward, James Watt, W. Burton Wood.

- The minutes of the last meeting were approved.
- The Secretary announced that 750 copies of the Infection Memo. had been printed. The Medical Research Council were considering the republication of the Memo.s by Drs. W. H. Tytler and Peter Edwards. The Registrar-General had written that a tuberculosis mortality figure for the nursing profession would be included in the Occupational Mortality Volume of his decennial supplement to be issued about the end of this year, but no special statistics of nurses in tuberculosis institutions are available.

- Election of New Member. Mr. Harry Platt was elected to fill the Council vacancy.

- Dr. J. B. McDougall gave a short verbal report on the Empire Conference on the Care and After-Care

of the Tuberculous recently held at Overseas House. Dr. McDougall was cordially thanked for his report and a brisk and fruitful discussion followed.

It was decided to form a Committee comprising:—
Dr. S. Vere Pearson (Convener), Dr. Jane Walker, Prof. W. W. Jameson, Prof. S. Lyle Cummins, Dr. J. B. McDougall, Dr. F. R. G. Heaf and Dr. F. W. Goodbody, to consider what help this Council can give the Colonies in their effort to control tuberculosis.

5. The following Committees were elected:—

Pneumothorax.—Dr. R. R. Trail (convener), Dr. S. Vere Pearson, Dr. G. Jessel, Dr. W. Brand, Dr. D. P. Sutherland, Dr. James Watt, Dr. C. O. Hawthorne, Dr. Peter Edwards and Dr. D. A. Powell.

Employment.—Dr. J. B. McDougall (convener), Dr. D. P. Sutherland, Dr. Jane Walker, Dr. G. Jessel, Dr. Peter Edwards and Dr. C. O. Hawthorne.

Milk.—Dr. C. O. Hawthorne (convener), Dr. Jane Walker, Dr. James Watt, Dr. W. H. Tytler, Dr. G. Lissant Cox, Dr. Esther Carling, Dr. D. P. Sutherland and Prof. W. W. Jameson.

Infection.—Dr. Esther Carling (convener), Dr. Jane Walker, Dr. James Watt, Dr. Peter W. Edwards, Dr. J. C. Gilchrist and Dr. H. G. Trayer.

Gold.—Dr. L. S. T. Burrell (convener), Dr. Peter W. Edwards, Dr. F. R. G. Heaf and Dr. H. G. Trayer.

Tuberculin.—Dr. D. P. Sutherland (convener), Dr. James Watt, Dr. J. C. Gilchrist and Dr. N. Tattersall.

6. The Pneumothorax Committee, the Gold Committee and the Tuberculin Committee were not yet ready to report.

7. On behalf of the Milk Committee, Dr. Hawthorne gave an informative verbal report. He gave some account of nutrition experiments now being undertaken at the Rowett Institute and at Reading to ascertain the relative food value of pasteurised and untreated milk. So far, the rat had been the experimental animal, but work on calves was now commencing. The Government had promised legislation on pasteurisation and Dr. Hawthorne would endeavour to ascertain when that will be introduced and what measures are proposed.

8. Dr. Brand gave an account of recent Post-Graduate courses which he had organised. A Victoria Park course, February 1st to 6th, had been attended by 18, and Drs. Trail and Kerley had given a course at the City Road Hospital with 17 participants. A course in Artificial Pneumothorax would be undertaken at Brompton Hospital, and Dr. Peter Edwards would continue his courses at Market Drayton.

9. The question of standardisation of X-ray reports was discussed, and was referred to the Tuberculosis Association which has a Committee considering the subject.

10. Adequate publicity for the Council's publications was again brought forward and it was left to the Officers of the Council to go into the question of circulation and sales of our Reports.

11. Dr. Blackmore raised the question of "Holidays with Pay," a matter vital, he believed, in the prevention of tuberculosis. The Secretary was asked to put this on the Agenda for our next meeting.

12. Saturday, November 20th, at 10 a.m., were the date and time fixed for our next meeting.

The Society: Branch and Group Meetings

EAST MIDLAND BRANCH.

President: Dr. H. L. Barker (M.O.H., Ilkeston).
Hon. Secretary: Dr. J. A. Stirling (M.O.H., Chesterfield).

The Annual Meeting of this Branch was held at the Ilkeston Waterworks at Whatstandwell on Thursday, June 17th, Dr. Barker occupying the chair. Fourteen members and two guests were present.

The Annual Report of the Hon. Secretary and Treasurer was submitted and approved and the Hon. Secretary was thanked for his services during the session.

The following Office Bearers were elected for the Session 1937-38.

President.—Dr. A. C. Tibbits.
President-Elect.—Dr. A. E. Newth.
Vice-President.—Dr. H. L. Barker.
Hon. Secretary and Treasurer and Representative on Executive Council.—Dr. J. A. Stirling.
Branch Council.—Drs. Banks, Booth, Buchanan, Campbell, Fairer, Ferguson, Macdonald, McKenzie, Morrison and Selby.
Co-opted Dental Associate.—Mr. V. C. Carrington, member.

Dr. Graham and Mr. Littlar were re-elected Auditors. At the conclusion of the formal business, the members spent a very interesting and instructive time inspecting the waterworks under the able guidance of the Engineer.

The members then adjourned to the New Bath Hotel to take tea at the kind invitation of the President, and after tea the members of the Branch were warmly welcomed by Councillor E. Hesketh, Chairman of the Ilkeston and Heanor Water Board and Alderman J. Woolley, J.P., Chairman of the Ilkeston Health Committee. Dr. A. C. Tibbits proposed a vote of thanks to Councillor Hesketh and Alderman Woolley and also to the President for his kindly hospitality and this was seconded by Dr. Kerr and carried with acclamation.

EASTERN BRANCH.

President: Dr. I. B. M. Green (Assistant S.M.O., Norfolk C.C.).
Hon. Secretary: Dr. V. F. Soothill (M.O.H. and S.M.O., Norwich).

A meeting of the Eastern Branch was held at the Offices of the Public Health Department, Norwich, on Thursday, July 8th, 1937, the President occupying the chair.

The Hon. Secretary reported that Dr. A. M. N. Pringle is retiring from his appointment at Ipswich at the end of the year. It was proposed by Dr. A. P. Agnew, seconded by Dr. G. W. Riddell and Resolved that the Branch do recommend Dr. A. M. N. Pringle for election as a fully-paid life Fellow of the Society.

The Hon. Treasurer submitted the balance sheet of the Branch for the year ended July 8th and it was approved.

The following Officers were elected for the ensuing year:—

President.—Dr. A. P. Agnew (M.O.H., Forehoe R.D.).

Vice-President.—Dr. I. B. M. Green (Assistant S.M.O., Norfolk C.C.).

Hon. Secretary.—Dr. G. L. Leggat (Deputy M.O.H., Norwich).

Hon. Treasurer.—Dr. G. W. Riddell (Assistant M.O.H. & S.M.O., Norwich).

Branch Representative.—Dr. V. F. Soothill (M.O.H. & S.M.O., Norwich).

It was proposed by the President, seconded by Dr. A. P. Agnew, that a letter of appreciation be sent to Dr. V. F. Soothill for his long and valuable services as Hon. Secretary, also that a letter of thanks be sent to Dr. G. W. Riddell for his past services as Hon. Treasurer.

It was decided that the Annual Dinner be held in Norwich. The date and time to be left to the President and Hon. Secretary to arrange.

HOME COUNTIES BRANCH.

President: Dr. R. P. Garrow (M.O.H., Hornsey M.B.).
Hon. Secretary: Dr. C. Herington, Public Health Dept., Dagenham.

A meeting of the above Branch was held at 1, Thornhaugh Street, W.C.1, on Friday, July 9th, 1937, at 5 p.m., there being present the President and seven other members.

Apologies for absence were received from Drs. Adamson, Bruce, Buchan, McMaster, Milligan, Powell, Tapper, Watts and Williams.

The minutes of the meetings held on May 7th and June 4th, 1937, were read, confirmed and signed.

A report on the proceedings of the Tuberculosis Group Committee by Dr. Renwick was read and the thanks of the Branch accorded to Dr. Renwick for same. A letter from Dr. Mayberry was read resigning his position as a representative on the Tuberculosis Group Committee.

A communication was received from the Secretary of the Society stating that Dr. Forgan was available for lecturing on the Administrative Control of Venereal Diseases, and the Secretary was instructed to bear this in mind when framing the programme for the forthcoming session.

A letter was also read from Mr. Elliston which stated that Messrs. Vitamins, Ltd., would be pleased to entertain a party from the Branch and conduct them over their factory. The Secretary was asked to give this consideration at a later date.

The election of Officers of the Branch for the session 1937-38 resulted as follows:—

President.—Dr. C. Leonard Williams.

Hon. Treasurer.—Dr. K. E. Tapper.

Hon. Secretary.—Dr. C. Herington.

Representatives on Council of Society.—Drs. Garrow, Herington and Williams.

Representatives on the Tuberculosis Group Committee.—Drs. Dobson, Lorraine and Renwick.

Representatives on Kent Branch Council of B.M.A.—Drs. Brocklehurst and Johns.

Interesting discussions in which all present took part

were initiated by Dr. D. J. Thomas *re* the registration of children under the age of nine years attending residential schools under the Children and Young Persons Act, 1932, and by Dr. R. P. Garrow *re* nursery schools and nursery classes.

The Secretary informed the Branch of the recent sudden decease of Dr. Balmain. The members present expressed their sympathy with his widow and the Secretary was instructed to convey the same to Mrs. Balmain.

MIDLAND BRANCH.

President: Dr. A. Massey (M.O.H., Coventry C.B.).
Hon. Secretary: Dr. R. H. H. Jolly (M.O.H. Wolverhampton).

The annual meeting was held at the City Isolation Hospital, London Road, Coventry, on Thursday, June 24th, 1937, at 8.15 p.m.

The President (Dr. A. Massey) and 20 members were present. Apologies for absence were received from 54 members.

The President referred to the loss sustained by the Branch through the recent deaths of two of its senior members, Dr. W. L. M. Goldie and Dr. H. C. Bracey. Members present expressed their sympathy by standing in silence.

The minutes of the last Annual Meeting which had been published in PUBLIC HEALTH were confirmed and signed.

Election of Officers and Council.—The following were elected:—

President: Dr. E. S. Robinson.
President-Elect: Dr. H. Paul.
Vice-Presidents: Drs. G. A. Auden, H. D'Arcy Ellis, P. G. Horsburgh, A. Massey and E. H. Snell.
Elected Members of Council: Drs. G. N. Anderson, P. S. Blaker, M. Burn, E. Cassie, H. Wyndham Parker, H. Gibbons Ward, A. Hamilton Wood, and J. A. M. Clark and W. A. Marris (Representing the Staffs. and Birmingham Branches of the B.M.A.).
Hon. Treasurer: Dr. E. H. Snell.
Hon. Secretary: Dr. R. H. H. Jolly.
Hon. Auditor: Dr. H. Gibbons Ward.
Representatives on the Council of the Society: Drs. H. Gibbons Ward and R. H. H. Jolly.

During the afternoon members and friends inspected the Isolation Hospital and also the combined Welfare Centre and School Clinic at Gulson Road. At the conclusion of tea, which was served at the Isolation Hospital, Dr. Hamilton Wood proposed a hearty vote of thanks to the President for the interesting programme he had arranged and also for his hospitality. Dr. Massey suitably replied.

NORTH-WESTERN BRANCH.

President: Dr. S. T. Beggs (M.O.H., Middleton M.B.).
Hon. Secretary: Dr. J. E. Spence, Town Hall, Eccles, Lancs.

An ordinary meeting of the Branch was held at Parker's Restaurant, St. Mary's Gate, Manchester, on Friday, April 9th, 1937, the President occupying the chair. Fifteen members were present.

The minutes of the last meeting were confirmed and the President introduced Miss D. A. Bardsley, M.Sc.,

who gave a paper entitled "Observations on the Bacterial Content of Ice Cream."

Following Miss Bardsley's paper and a discussion in which several members joined, it was unanimously resolved that the following resolution relating to the manufacture of ice cream should be forwarded from the Branch to the Council of the Society for their consideration:—

"That this meeting of the North-Western Branch of the Society is of the opinion that

- (1) that all producers and retailers of ice cream should be registered;
- (2) that local authorities should be empowered to make bye-laws for the construction of premises on which ice cream is manufactured and the sterilisation of all vessels and containers in which the product is manufactured and stored;
- (3) that all ice cream should be wrapped at the source of manufacture and that the retail sale of the product from open containers should be prohibited;
- (4) that the sale of "cold mix" ice cream should be prohibited;
- (5) that a standard of bacteriological purity for ice cream, at least equal to that of accredited milk, should be adopted."

An ordinary meeting of the Branch was held at the Newton Approved Farm School, Newton-le-Willows, on Friday, May 7th, 1937, the President occupying the chair. Twenty-four members and friends were present.

The President introduced Mr. J. Vardy, the Headmaster, who gave a very interesting and exhaustive account of the work of the school. A feature of the school was the lack of all evidence of restraint over the boys, the control of the boys being by persuasion rather than by corporal punishment. A system of payment for good work in the workshops and for good conduct generally is in force and the boys have two accounts, one in the Post Office Savings Bank and one in the canteen. The boys are allowed considerable freedom and are allowed to go into the village to the cinema although this privilege is used less frequently now as the school possesses its own sound machine and hires suitable films. They are not cut off from contact with the outside world.

The school accommodates about 130 boys who remain as a rule for three years, the first year being spent in school after which the boys are drafted into the engineering or plumbing shops or on to the farm or nursery garden where they are trained for a suitable vocation both practically and theoretically. On leaving the school the boys are kept under supervision for three years and it is found that in about 90 per cent. of cases the results are satisfactory.

The physical welfare is carefully watched, the boys have a liberal and varied dietary and any who are malnourished on admission have an additional allowance of milk and cod liver oil emulsion.

In conclusion, Mr. Vardy thought that although the number of admissions to approved schools was increasing this was due rather to a broader basis of cases than an actual increase in delinquency.

The members were afterwards conducted round the school workshops and farm, witnessed an exhibition of physical training, and were entertained to tea by Mr. and Mrs. Vardy. On behalf of the members and guests Dr. H. Whitehead (Wigan) expressed to Mr. and Mrs. Vardy their interest in all they had seen and their appreciation of the hospitality which had been given them.

The Annual Meeting of the Branch was held at the Town Hall, Middleton, on Friday, June 25th, 1937, the President occupying the chair. Twelve members were present and apologies were received from 18 members.

The minutes of the last annual meeting were confirmed. The Hon. Treasurer's annual statement of accounts, which had been audited, were submitted and adopted. The Hon. Secretary's annual report was also adopted. Dr. F. Hall, County Medical Officer of Health for Lancashire, was proposed as President of the Branch for the Session 1937-38 by Dr. F. T. H. Wood and seconded by Dr. J. E. Spence and was unanimously elected.

The following officers were also elected for the session 1937-38.

Vice-President: Dr. S. T. Beggs.
Hon. Treasurer: Dr. F. T. H. Wood, O.B.E.
Hon. Secretary: Dr. J. E. Spence.
Council Representatives: The President, Dr. F. T. H. Wood and Dr. F. A. Sharpe.

Committee: Drs. Lissant Cox, R. M. Galloway, Jean Mackintosh, C. O. Stallybrass, G. H. Trayer, H. Whitehead, A. Simpson and Mr. R. Bradbury, L.D.S.

A notice of motion by the President that a badge or some other method of distinguishing members who have held office of President of the Branch be instituted was fully discussed and it was decided to postpone further consideration of the matter.

The Honorary Secretary submitted suggestions for the programme for the next session and in view of the better attendance at evening meetings proposed that all meetings should be held in the evening.

It was resolved that the Hon. Secretary send a questionnaire to all members of the Branch asking for their opinion on the time at which meetings should be held and submit the replies to the committee for further consideration.

It was resolved that an invitation to all meetings of the Branch be extended to R.A.M.C. Officers in the North-Western Command through the D.A.D.M.S. of the Command.

It was also resolved to hold the annual dinner at the Midland Hotel, Manchester, on Friday, December 10th, 1937.

After the meeting the members visited a farm producing Accredited milk, unfit houses at Birch, Hebers Service Reservoir, Boardshaw Housing Estate and new junior school, and Alkington Hall.

The party then returned to the Town Hall where they were welcomed by the Mayor, Mr. Alderman T. J. Hilton, J.P., and Councillor Dawson, Vice-Chairman of the Health Committee, and entertained to tea. On the proposition of Dr. F. T. H. Wood and seconded by Dr. J. Yule, a hearty vote of thanks was accorded to the Mayor and Corporation for their hospitality.

SOUTHERN BRANCH.

President: Dr. A. E. Druitt (formerly A.M.O.H., Hampshire).
Hon. Secretary: Dr. E. Croft Watts, Lothian House, Fareham, Hants.

On Friday, June 4th, the Southern Branch paid a visit to Messrs. Huntley & Palmer's Factory at Reading.

The members were welcomed by Dr. Colgate and Mr. Walker, who conducted them round the factory and showed them all the processes in the manufacture of biscuits. One machine, worked by hand, had been in use for over a hundred years and was still making biscuits.

After being conducted round the factory the members were entertained to tea.

Mr. Walker gave a most interesting talk on the history of biscuits from 5,000 years ago to the present day, the story being continued by Dr. Colgate, who explained the chemical and bacteriological examination of the raw materials used and the finished article.

Drs. Cronk and Williamson thanked the speakers for their kindness in giving the members a most interesting afternoon.

On leaving the works a box of biscuits was presented to everyone present.

The Secretary was instructed to write a letter of thanks to Messrs. Huntley & Palmer.

The Annual Meeting of the Branch was held at Southampton on Friday, July 9th, 1937. Dr. A. B. Williamson took the chair until the arrival of the President.

A letter from Dr. James Fenton was read thanking the Branch for nominating him for the Presidency of the Society.

The following Officers were elected for the session 1937-38:—

President.—Dr. E. Croft Watts.
Hon. Treasurer.—Dr. H. L. Cronk.
Hon. Secretary.—Dr. C. F. Pedley.
Representative on Council.—Dr. R. H. Wilshaw.
Representatives on Tuberculosis Group.—Dr. W. J. Hart and Dr. W. D. Beck.
Executive Committee.—Dr. Maurice Williams, Dr. Hart and Dr. T. E. Roberts.

Tetanus Conveyed by Pigeon Carriers.—Dr. MacLachlan reported a case of tetanus in a baby of 18 months old. The baby suffered from scabies and apparently picked up a germ in the garden, which had been manured by pigeon manure. The soil contained the tetanus germ, as did also the excrement of one of the pigeons; this was the first case on record where tetanus had arisen from a pigeon carrier.

National Health Services Campaign.—Mr. Paul Scott Rankine, Secretary, Central Council for Health Education, then gave an interesting address on the National Health Campaign to be opened in October next. A hearty vote of thanks was accorded to Mr. Scott Rankine.

Dr. Maurice Williams reported a death from diphtheria in a child who had been immunised. This child was a perfectly healthy child who was immunised on May 25th, 1935, with one dose of $\frac{1}{2}$ c.cm. A.P.T. The Schick test in July, 1935, proved negative. In

June, 1937, the child developed typical clinical diphtheria and died. A discussion followed in which Drs. MacLachlan, Drutt, Hart and Williamson took part.

Dr. MacLachlan spoke on the use of Proseptasine in erysipelas, by the administration of two tablets four-hourly until the temperature fell to normal, and no other treatment. He stated that it was very efficacious in erysipelas but not so much in scarlet fever.

Dr. Maurice Williams proposed and Dr. Williamson seconded, that the Secretary be instructed to write once a year to medical officers of health asking for a list of their assistants with a view to increasing the membership of the Branch by inviting all non-members to join. This was carried.

YORKSHIRE BRANCH.

President: Dr. J. C. Pickup (M.O.H., Wombwell).

Hon. Secretary: Dr. James Mair, Public Health Department, Harrogate.

An Ordinary Meeting of the Branch was held in the Civic Hall, Leeds, at 3 p.m., on Friday, May 28th, 1937.

The President occupied the chair, and was supported by 19 members.

With the permission of the meeting, Drs. G. H. Pearce and L. Pickering-Pick withdrew their nominations for membership of the Council.

The Branch then proceeded to elect by ballot the Officers for the Session 1937-38 with the following result:—

President: Dr. J. M. Gibson.

Vice-Presidents: Dr. J. C. Pickup and Dr. G. C. F. Roe.

Hon. Secretary and Treasurer: Dr. J. Mair.

Nine Members of Council: Drs. G. Buckle, R. S. Donaldson, J. J. Jervis, T. N. V. Potts, G. Russell, J. Sharpe, R. Sutherland, R. Watson and J. Wood-Wilson.

Maternity and Child Welfare Group Representative: Dr. J. J. Buchan.

Dr. R. Watson, Medical Officer of Health, Doncaster, gave a short account of a Milk-borne Scarlet Fever Epidemic, and was followed by Dr. H. M. Holt, Medical Officer of Health, Keighley, with a paper on "Physical Education in relation to the duties of a School Medical Officer." An interesting discussion followed in which most of the members took part and after the speakers had replied to questions raised they were cordially thanked for their very excellent papers.

TUBERCULOSIS GROUP.

A meeting of the Tuberculosis Group Committee was held at the house of the Society on May 21st, 1937, at 10.30 a.m.

Present—Dr. N. Tattersall (chairman) and Drs. Renwick, Christopherson, Fenwick-Jones, Beck, Bickerson, Blackmore, Midgley, Ward, Deaner, Edwards, Watson and Elliott.

The minutes of the last meeting were read and signed.

1. Council Representative reported that:—

- (a) A County Boroughs Group had been formed.
- (b) The pamphlet on co-operation between the

tuberculosis service and general practitioners had been published in *Public Health*.

(c) The opinion of the General Purposes Committee on the memorandum concerning holiday facilities for tuberculosis medical officers was four weeks' minimum leave annually, with six weeks for medical officers resident in institutions. This had not yet been before the Council.

(d) The General Purposes Committee felt that the duties of a group or branch representative are matters for the group or branch to settle with its representative.

(e) A deputation from the British Medical Association met the Ministry of Health and had a satisfactory talk about the Superannuation Bill. The Committee felt that this superannuation matter should have been circulated to all branches and groups for their opinions and suggestions. Dr. Ward was instructed to raise at the General Purposes Committee meeting the question of the general principle of the circulation to Branches and Groups of information on all matters of general public health importance, and in particular the Sankey Report on Voluntary Hospitals.

(f) Central Council for Health Education. Some general information was given about a health propaganda campaign which had financial backing from the Government and would be launched in the autumn. Dr. Blackmore inquired whether we could find out what the medical members of Parliament were doing about the "holidays with pay" movement as a means to better national fitness.

(g) Central Council for the Care of Cripples. A national and some local organisers had been appointed in connection with Lord Nuffield's scheme.

(h) The reorganisation of the journal was proving financially successful, and Dr. Ward quoted figures.

(i) Particulars were given of the number of applicants for various public health appointments.

2. Dr. Blackmore reported on the Empire After-Care Conference.

3. Dr. Tattersall gave an account of the joint meeting with the Maternity and Child Welfare Group. Drs. Davies and Tattersall spoke for the T.B. Group, and all those present felt that the meeting had been well worth while.

4. The circular letter to M.O.s.H. concerning tuberculous pregnant women was amended.

5. Dr. Ward reported that he had been instrumental in drawing the notice of the Ministry of Pensions to the report of the inquest on H. G. Ratcliffe, a tuberculous pensioner, and read a letter from the Ministry on this matter.

6. The following officers were nominated for 1937-38: *President*—Dr. N. Tattersall.

Vice-Presidents—Dr. H. G. Trayer, Dr. T. R. Elliott.

Council Representative—Dr. E. Ward.

Hon. Secretary—Dr. R. L. Midgley.

7. The next meeting of this Committee was fixed for Friday, November 19th, at 10.30 a.m., in the house of the Society.

MATERNITY AND CHILD WELFARE GROUP

MIDLAND SUB-GROUP.

President: Dr. A. Hamilton Wood (C.M.O.H., Warwickshire).

Hon. Secretary: Dr. Agnes H. M. Young, 25, Leam Terrace, Leamington Spa.

The Summer Meeting of the Sub-Group was held in Warwickshire on Friday, June 18th, and Saturday, June 19th, 1937. On Friday evening, the members met in the Warneford Hospital, Leamington Spa. Dr. Hamilton Wood presided, and eight members attended. Dr. Hamilton Wood, in a few remarks, welcomed the Sub-Group to Warwickshire and gave some interesting accounts of the M. and C.W. work of the county. He also referred briefly to the loss sustained by the Sub-Group in the death of Dr. Horace Bracey, Assistant County Medical Officer of Health for Warwickshire, after which the members stood for one minute "In memoriam." Dr. F. Clayton, Senior Physician, the Warneford Hospital, Leamington Spa, then read a most interesting paper on "Thoughts on Current Medicine." In it he discussed such questions as "the present-day habits of our profession and of the public entrusted to us," "Why is it that with all our increasing knowledge concerning prevention, early detection and therapeutics, our hospitals remain full, their waiting lists longer and their needs more clamantly advertised?" He added such sound comments as: "Civilised conditions have not fostered obedience to the ordinary well-known laws of health: implicit faith in the bottle of medicine dies hard and man treats his body shabbily and irreverently." He illustrated this point by informing his audience that during the last five years in the West Midland region of the National Health Insurance, the annual number of prescriptions has risen from 4,105,292, to 4,586,024 (i.e., over 400,000) and the prescription frequency per person (insured) from 8.71 to 8.96. He suggested that the doctor should think in terms of physiology rather than pathology and that very good results arise from the amalgamation of the former with therapy. He deplored the practice of flogging our alimentary tracts with aperients on the assumption that health can be retained thereby. He advocated in their place mechanical measures designed to give the bowel the stimulus which nature has intended it to receive, physical activity and a less civilised diet. In concluding he treated on such subjects as vitamins and immunology. His original and scholarly address was much appreciated by the members. In the discussion which followed, Drs. Hamilton Wood, Morris Jones, Balsillie and Young took part. Dr. Morris Jones proposed a vote of thanks to Dr. Clayton for his most enjoyable paper. The Board of Management of the Hospital entertained the visitors to coffee after the meeting.

On Saturday, June 19th, at 10.30 a.m., the members were welcomed to the Blind Babies Home, Sunshine House, Leamington Spa, by Mr. Howell Jones, Visiting Ophthalmic Surgeon, and the Matron. The visitors had an opportunity of viewing the home and grounds and of watching the babies at play and the older children in the Kindergarten Department. Mr. Howell Jones explained the purpose of the home and how it was now used for mentally defective blind babies and children. He then demonstrated some interesting cases.

A luncheon was held at the Gaiety Café, Leamington Spa. Dr. Hamilton Wood presided over eighteen members and guests. Guests and members alike enjoyed an excellent lunch and indulged in an interchange of ideas—professional and otherwise. Brig.-General Wiggins (Chairman, Warwickshire Public Health Committee) in felicitous fashion, proposed the toast of "The Sub-Group," to which Dr. Hamilton Wood replied. The toast of "The Guests" was wittily proposed by Dr. Katherine Scott, and Dr. Gibbons Ward made a most suitable response.

The company then proceeded to the Royal Pump Room and Baths, Leamington Spa, where they were conducted over the premises by the Manager. The splendidly-equipped baths and most modern electric treatment rooms were inspected and admired, few of the members sampling the Spa water. Dr. and Mrs. Hamilton Wood then entertained the company to tea, for which Dr. Middleton Martin expressed much thanks.

In the evening, eighteen members and friends dined at the Memorial Theatre, Stratford-on-Avon and sixteen proceeded thereafter to the evening performance of "A Midsummer Night's Dream." This concluded an interesting and enjoyable programme—and a very successful Summer Meeting.

RECENT APPOINTMENTS IN THE PUBLIC HEALTH SERVICE

The following are some recent appointments in the public health departments of various local authorities. The Editor will be grateful if members of the Society will notify him at once of any new appointments, giving details such as salary, date of appointment, etc.

- Benenden, Kent, The National Sanatorium: Med. Supt., Dr. F. Temple Clive (A.T.O., Hackney and Bethnal Green Met. B.s.).
- Blackpool C.B.: A.M.O.H., Dr. J. Eric Rankine (A.M.O.H., Kesteven (Lincs.) C.C.).
- Bootle C.B.: A.M.O.H. & A.S.M.O., Dr. J. V. Walker (A.M.O.H., Norwich C.B.). Salary £575 rising to £700.
- Chatham M.B.: M.O.H. & S.M.O., Dr. J. C. Sleight (M.O.H., Chelmsford M.B.). Salary £900, rising by £50 p.a. to £1,100.
- Leamington Spa M.B.: M.O.H., Dr. E. R. W. Gilmore (Deputy M.O.H., Coventry).
- Lindsey (Lincs.) C.C.: R.M.O., Branston Hall Sanatorium, Dr. D. H. Williams (R.M.O., Prestwood House, Stourbridge).
- Luton M.B.: Deputy M.O.H. & Deputy S.M.O., Dr. Noel F. Pearson (A.M.O.H., Luton M.B.).
- Luton M.B.: R.M.O., Borough Maternity Hospital, Dr. Dora Davies.
- Middlesex C.C.: A.M.O.H. & S.M.O., Dr. Eleanor G. Porter.
- Perth and Kinross C.C.s: A.M.O.H., Dr. Gertrude I. R. Tannahill.
- Pudsey M.B.: M.O.H., Dr. Wm. J. Frain (Senior A.M.O.H., West Suffolk C.C.).
- Surrey C.C.: A.M.O.H., Dr. T. E. Jones-Davies.
- Tipton U.D.C.: M.O.H., Dr. W. K. Dunscombe (A.M.O.H. & S.M.O., Smethwick C.B.).

Book Reviews

Vitamins in Theory and Practice. By LESLIE J. HARRIS, SC.D., D.S.C., Nutritional Laboratory, University of Cambridge and Medical Research Council. 2nd edition. 1937. Cambridge University Press. pp. xix + 242. Price 8s. 6d. net.

That Dr. Harris' admirable book on vitamins supplies a need is shown by the appearance of a second edition two years after the original publication. It will be remembered that the original book was based on a series of popular lectures given at the Royal Institution in 1934, but the author replies to the charge that it is wrong for research workers to engage in popular writing on their subjects by pointing out that most members of the general public and some of the medical profession derive their knowledge of vitamins largely from the advertisements of patent remedy proprietors. Further, he points out that books written by those without special knowledge tend to err in fact as well as in emphasis, so that he is therefore supplying a demand for exact information. This book is indeed an excellent survey, written in very lucid style on a fascinating subject the knowledge of which is constantly being added to. Since the first edition, for instance, the importance of vitamin B₂ as a separate factor has been recognised. We recommend this book to our readers and wish that there were others who, like Dr. Harris, could so clearly expound the subjects in which they were experts.

Modern Principles of Ventilation and Heating. By T. BEDFORD, D.S.C., PH.D., Investigator on the Medical Research Council's Industrial Health Research Board; Lecturer in the Department of Industrial Physiology, London School of Hygiene and Tropical Medicine. 1937. London: H. K. Lewis & Co., Ltd. 23 illustrations. pp. 85. Price 4s. 6d. net.

This book should be a really useful addition to the public health department library. It gives a compressed but comprehensive survey of modern knowledge of ventilation and heating, and is well illustrated by photographs and diagrams and well supplied with bibliographical references to larger works. Dr. Bedford's work on this subject is so well known that it is hardly necessary to commend this publication of his three lectures given under the Heath Clark bequest for 1936, but it should be sufficient to say that it clearly summarises current views and recent advances in connection with ventilation and heating and their influence on health.

Prognosis. Vol. II. Various authors. Published by *The Lancet* Limited, London. 1937. pp. 410. Price 10s. 6d. net.

A surgeon attached to St. Thomas's Hospital when pressed by patients or their relatives to state what was the probable outcome of the disease from which the patients suffered, most frequently sought refuge in the statement, "I am not a prophet." In spite of knowledge accumulated from many sources and by many acute observers, the probable outcome of many illnesses is so

problematical, so many imponderables influence the issue, that few members of the medical profession are in a hurry to put on the mantle of the prophet and yet, as the Editor of *The Lancet* states in the preface to this the second volume of these essays, to the patient the prognosis is the essence of any medical consultation. It is true patients clamour for treatment of some kind to relieve their distresses, but in almost all cases the patient is chiefly concerned with what will be the ultimate outcome of the disease afflicting him. The practitioner may usefully bear in mind the words of Hippocrates quoted in the excellent preface, "He will carry out treatment best if he know beforehand from the present symptoms what will take place later."

Writing on "Prognosis on Hemiplegia in Middle Life," Dr. Neill Hobhouse says, "The ultimate outlook can therefore only be considered in conjunction with the mode of treatment adopted," and another writer states, "Prognosis, therefore, will be influenced by the choice and possibility of appropriate treatment." This is so abundantly true that it is to be hoped that treatment will receive more thorough consideration in the student's curriculum, but it is well to bear in mind that in our present state of knowledge treatment can only have a very temporary effect in a large number of conditions and, while doing all he can to relieve the patient, the doctor can do little to stay the inevitable progress of the disease.

Although some of the commoner diseases are dealt with, considerable space has been devoted to those less frequently met with in general practice for, as the Editor of *The Lancet* points out, the experienced general practitioner will have developed his own ideas of the prognosis in the conditions most frequently met with, and it is especially in the less common complaints that he requires guidance. These articles by well-known specialists provide the information desired and should prove of the greatest interest and use to the general practitioner and indeed to the majority of the medical profession. Space does not permit of a discussion of the various and numerous articles, but reference may be made to a subject of considerable importance about which the medical profession is not particularly well informed, namely, prognosis of malocclusion of the teeth, a subject clearly discussed by A. T. Pitts.

Psychological disturbances receive attention, but while the general practitioner will be grateful for the help he will obtain from the discussion of manic-depressive psychosis, one regrets the tendency in this speciality to use terms incomprehensible to the ordinary reader. What, he may ask, is the "cyclothymic temperament" and what is the "syntonic type"? Are these terms really necessary?

Milk Consumption. By K. A. H. MURRAY. University of Oxford Agricultural Economics Research Institute, Parks Road, Oxford. 1937. pp. 64. Price 2s. 6d.

This account of a valuable field-research should be acquired by all who are interested in the question of increasing milk consumption. There is an excellent introduction summarising the evidence on milk as a food and previous surveys of the actual amounts consumed

in various strata of society. Dr. Murray then describes his own investigation of the intake and use made of milk by 587 households in Oxford; he is careful to show milk as one food only and in relation to the other foodstuffs bought. The information obtained is valuable and clearly set out. One of his conclusions is that dietetic deficiencies will probably be remedied by foods cheaper than liquid milk, and another that education and advertisement are more important factors in increasing milk consumption than the economic ones.

A PUBLIC HEALTH BIBLIOGRAPHY

The following is a list of books published recently which have a bearing on public health work. We are indebted in this connection to the Librarian of the London School of Hygiene and to Messrs. H. K. Lewis & Co.'s Library List:—

- A Text Book of Mental Deficiency (Amentia), by A. F. Tredgold. 6th edition. 25s.
- Anatomy and Physiology of Physical Training, by J. B. Gatenby. 7s. 6d.
- Chemistry of Food and Nutrition, by H. C. Sherman. 5th edition. 12s. 6d.
- Chronic Miliary Tuberculosis, by C. Hoyle and M. Vaizey. 12s. 6d.
- Dictionnaire des Bactéries pathogènes, by P. Hauduroy, G. Ehringer, A. Urbain, G. Guillot and J. Magrou. Pub. in France. 120 francs.
- Handbook of Hygiene for Students and Practitioners of Medicine, by J. W. Biggs. 10s. 6d.
- Milk Products, by W. Clunie Harvey and H. Hill. 16s.
- Reading, Writing and Speech Problems in Children, by S. T. Orton. Pub. in U.S.A. 8s. 6d.
- Report on the British Social Services, Political and Economic Planning. 10s. 6d.
- Seven Stages of Childhood, by E. Sloan Chesser. 7s. 6d.
- Synopsis of Obstetrics and Gynaecology, by A. W. Bourne. 7th edition. 15s.
- The Control of Bovine Tuberculosis in Man, by Nathan Raw. 6s.
- The Human Needs of Labour, by B. Seebohm Rowntree. New edition. 2s. 6d.
- The Ocular Fundus in Diagnosis and Treatment, by D. T. Atkinson. 45s.

Droitwich Spa.—A beautifully produced booklet has reached us from the Spa Director of Droitwich Spa. The booklet gives an interesting short survey of the causation and alleviation of rheumatic conditions, with special reference to the particular facilities of Droitwich, and should be of interest to medical officers of health in connection with the general problem of rheumatism. The printing and lay-out of the booklet are a delight to the eye. Copies are obtainable on application to the Spa Director, Droitwich Spa, Wilts.

Correspondence

KNOCK-KNEE.

To the Editor of PUBLIC HEALTH.

SIR,—Following on a suggestion made by Dr. St. Clair Stockwell, in the discussion following my paper* on "Poor Physique in School Children," that knock-knee might not occur to the same extent in boys as in girls, I have worked out its incidence in the two sexes separately. The figures show that, at the age of five to six years, the incidence and severity is practically the same in both sexes.

	Boys. Per cent.	Girls. Per cent.
Straight legs	20.8	21
Knock-knee, $\frac{1}{2}$ in. or $\frac{3}{4}$ in.	21.6	19.2
" 1 in. to 2 in.	50.2	52.6
" 2 in. " 3 in.	5.8	5.8
" 3 in. " 5 in.	0.8	0.2
Bow-leg	1.0	1.2
Total examined	576	500

Yours faithfully,

E. H. WILKINS.

11, Vesey Road,
Wylde Green, Birmingham.
June 29th, 1937.

* PUBLIC HEALTH, June, p. 291.

THE TREATMENT OF CHILDREN'S TEETH.

To the Editor of PUBLIC HEALTH.

DEAR SIR,—Some points in Mr. Pitt's paper in your June issue call for comment.

"Caries affecting the milk molars may also start at an early age. I frequently see it in children of 3 years."

Most school dentists who attend to children of pre-school age see it and treat it earlier than this, and it so happens that this week I have been treating carious D.s in a baby of a year and ten months (before eruption of the E.s) and though this is admittedly early, the age of two is quite common and many children of three have caries well advanced.

"The key tooth in caries of the milk dentition is the first molar, not because of its intrinsic value, but because of the difficulty of treating it."

This is utterly wrong.

It is a key tooth because of its position as a space-retainer and it is in fact no more difficult to treat than any other tooth provided that due regard is paid to its limitations and that attempts are not made to conserve it alive when it is obviously unsavable. In the permanent series a pulp is frequently to be found closer to the surface than is normally expected. Mr. Pitt's estimation of a millimetre "or a little more" as the depth at which the pulp is reached in first deciduous molars loses practically the whole of its significance in view of the fact that the deciduous pulps are delightfully inconsistent in this respect and very frequently recede to the approach of caries. Mr. Pitt says himself later in his paper that "the reparative function of the pulp is higher in children than in adults." It is just this function which so often saves the situation in these first baby molars and a great many of them are found, for this reason, to be easily savable, even when interstitial caries is well advanced. These cavities are quickly prepared,

and it will be seen at once whether or not recession has taken place. One would here venture the opinion that this reparative function is by no means confined to the deciduous dentition and that much may yet be learned of this aspect of caries, possibly along the lines of Mr. Broderick's investigations.

Mr. Pitts labours the point of conservation of the deciduous molars quite unnecessarily. Would he condemn carious permanent incisors on sight because they sometimes come to grief under synthetic fillings? The analogy is there and the first deciduous molar is no more unsavable than these teeth. In fact, the risk of systemic damage in the case of failure would seem to be so much greater in the one case than in the other that the position might almost be reversed, or, to carry the thing a little further, one might give up all attempts at conservation of any teeth except where cavities are simple enough to be foolproof.

On the question of treatment of exposed pulps in deciduous teeth, one would refer Mr. Pitts to current literature and particularly to American procedure, although it is not often found practicable in this country on the score of the time available to treat large numbers of children.

Mr. Pitts' remark about some dentists belonging to what may be called the *ad hoc* school, is somewhat humorous when he refers to extractions being the easier way in view of his own attitude to the first deciduous molar. One would like to remark here that the effect of dental sepsis in children is not underrated by school dentists.

When Mr. Pitts says that he is prepared to condemn without qualification the practice of conserving deciduous molars as part of the routine in the mass dentistry inevitable in the public dental service, he either underestimates the ability of the school dentist or overestimates his own judgment and experience of the dental treatment of children.

In a letter to the *British Dental Journal* of December last, I referred to premature loss of first deciduous molars frequently necessitating the reviewing of the whole course of future treatment. Mr. Pitts, in his present paper, would seem to urge that early removal of these teeth is a convenient method of orthodontic extraction. In fact, this is not so, for the more usual result is overcrowding in the pre-molar region, and I look upon Mr. Pitts' assertion as merely begging the question. The fact that in the school dental service long periods must often elapse between treatment makes the point, to my mind, the more important and the successful conservation of all the deciduous molars the more imperative when possible.

One can do no more than touch briefly on these points at the moment, but let it not be assumed that, because those who have the dental treatment of children as their life's work have large numbers to contend with, they must, of necessity, throw overboard all the best principles of treatment.

Yours truly,
(Signed) D. H. OLIVER, M.C., L.D.S. ENG.,
Bracken Holme, D.O., Hants. C.C.),
Chandlers Ford, Hants.
July 5th, 1937.

To the Editor of PUBLIC HEALTH.
SIR,—In reply to the letter from Mr. Oliver, I should like to offer a few observations.

Mr. Oliver disagrees with my statement that the first deciduous molar is the key tooth on account of the difficulty in treating it satisfactorily. He challenges my statement about the closeness of the pulp to the surface. Has he made a series of sections of this tooth and examined them? If he will do so he will find that I have not underestimated the size of the pulp to the tooth. No doubt variations in the size exist in this tooth as with all others but they do not amount to much.

There is no anatomical justification for the statement that the deciduous pulps are "delightfully inconsistent" in this respect. Mr. Oliver talks about the recession of the pulp in response to caries. This will occur if the caries becomes arrested, and if this condition is present no sane dentist would dream of removing the tooth. But interstitial caries is rapid; it does not become arrested because the surface is not self-cleansing and there is little reaction in the pulp. When Mr. Oliver says that first milk molars are no more difficult to treat than any other tooth and that they are easily savable even when interstitial caries is well advanced, I am amazed. I lay no claim to infallibility of judgment or exceptional skill in treatment, but I based my statements on an experience of thirty years, much of which has been spent in treating large numbers of children at the largest children's hospital in the country, and I contend that my experience justifies the statement I have made.

I say unhesitatingly that the incidence of suppurative sequelæ to caries in the first milk molar whether treated or not, is higher than in any other tooth and it was because of this that I put forward the view that for practical purposes this tooth should be regarded as unsavable under the conditions which exist in the school dental service.

When I talked about the reparative function of the pulp in children, it was in the section headed "The Permanent Dentition," and was intended to refer to the permanent teeth. It may occur in the deciduous teeth but to a lesser extent, and from my experience (no doubt unfortunate compared to the happier results obtained by Mr. Oliver), it is conspicuously absent when interstitial caries of the first milk molars has occurred.

Mr. Oliver has completely misunderstood the drift of my remarks about the removal of the first milk molar in regard to malocclusion. I made it quite clear that the premature loss of deciduous molars would lead to loss of space for the premolars and would show itself later by the second premolar being crowded out of line. What I suggested was that it might be possible that the drift forwards of the six-year-old molar which led to this result might in its turn allow the third molar to come forward and thus give it just that extra room which would prevent impaction and its attendant discomforts. I did not say that this would occur; I suggested it as a possibility which was worth investigating further.

Yours faithfully,
(Signed) A. T. PITTS.
50, Brook Street, W.1.
July 10th, 1937.

PUBLIC HEALTH

THE JOURNAL OF

THE SOCIETY OF MEDICAL OFFICERS OF HEALTH

No. 12. Vol. L.

SEPTEMBER, 1937

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

Editorial

The Annual Report of the Ministry of Health, 1936-1937

The annual report of the Ministry of Health, although not of such direct interest to us as that of the Chief Medical Officer's, is a document which well deserves study by members of the public health service. It stands, so to speak, for the speech of the chairman at the annual general meeting of a large undertaking, when the directors are presenting their balance sheet and revenue account, describing the past year's working of their enterprise, and justifying new departures which they hope will result in dividends.

The present Minister of Health has every cause for gratification in the story which the recently-issued eighteenth annual report* lucidly discloses. In his characteristic introduction, Sir Kingsley Wood justifiably says that 1936-1937 "was in itself a good year for health," and refers to the new public service of midwives, the measures in hand to extend the child welfare and school medical services, upwards and downwards respectively, and to the extension of the health insurance scheme to cover the adolescent, as likely to make the year noteworthy for the efforts directed to strengthen the weakest links in the existing scheme for national health and welfare.

The first chapter of the report itself deals with the relations between the Ministry and the public. This chapter strikes at once the human note which continues throughout the report and which is very proper for a Government Department which concerns the man-in-the-street almost more than any other. It is interesting to read that there were actually over 34,000 visitors at the Ministry during 1936—an increase of nearly 25 per cent. over five years before—presumably many of these being members of the general public seeking to solve problems by personal interview. This chapter also refers to the constant effort of the Department to avoid "the laboured obscurities and tedious

*Eighteenth Annual Report of the Ministry of Health, 1936-1937. H.M. Stationery Office. pp. 328. Price, 5/- net.

Contents

Editorial	PAGE
The Annual Report of the Ministry, 1936-37 ...	365
Milk Policy	368
The New D.P.H. Rules	369
Health Organisation	369
Special Articles	
The National Campaign to Encourage a Wider Use of the Health Services. By Paul Scott Rankine, B.A.	371
Quantity plus Quality? The Work of the League of Nations Housing Commission. By J. Greenwood Wilson, M.D., F.R.C.P., D.P.H. ...	375
The Medical Officers of Health of the Army. By Col. A. C. Hammond-Searle, M.C., B.A., M.B., D.P.H.	381
Physical Education in Relation to the Duties of a School Medical Officer. By H. Mainwaring Holt, T.D., M.B., D.P.H.	385
An Investigation into Congenital Heart Disease. By T. Islwyn Evans, M.A., M.B., D.P.H. ...	387
News	
Recent Appointments in the Public Health Service	380
Ministry of Health Publications	384
Recent or Impending Retirements... ..	389
The Society of Medical Officers of Health	
Notices	389
County Borough M.O.H. Group	389
County District Group	390
Maternity and Child Welfare Group	390

circumlocutions of 'officialese'—this has a homoeopathic touch!

In this chapter also, further mention is made of the coming campaign to encourage a wider use of local health services, in which the Ministry and the Board of Education are being assisted by the Central Council for Health Education. (A paper by Mr. Paul Scott Rankine, Secretary of the Central Council appears on page 371 of this issue, in which he gives some useful advice on the best means of "putting over" the campaign locally.)

Finally, there is announced the preparation of a permanent Health Exhibit for the 1938 Empire Exhibition at Glasgow. This will no doubt be in much demand thereafter by local health departments.

Chapter 2 gives a general survey of the financial side of the Ministry's work. The services administered by the Ministry in 1936 cost £65,000,000 voted by Parliament, and £75,000,000 in respect of the health insurance non-contributory schemes. The first item of £65,000,000 is the one with which we are mainly concerned, as it includes £39,500,000 payable as "block grants" to local authorities; the actual total of "block grants" was over £45,000,000, but the cost was reduced by an appropriation of nearly £6,000,000 from the Road Fund. This figure has, of course, remained fairly constant during recent years owing to the provision of five-year fixed-grant periods under the Act of 1929. The Ministry of Health vote, whose net total is about £21,500,000 has shown an increase over recent years, as it includes a growing item—some £14,000,000 in 1936—for housing grants.

Part B of the report deals in some detail with public health services. First, as to maternity and child welfare, it is stated that there are now over 3,000 infant welfare centres, an increase of 58, and 1,568 ante-natal clinics, an increase of 77. The number of children under one year of age who attended the centres during the year reached a new record level of 60.5 per cent. of the total notified live births, and the percentage of expectant mothers attending ante-natal clinics was 48.85, a fractional increase on the previous year, but comparing favourably with the percentage of 43.07 in 1934. The maternal mortality rate in England was 3.81, the lowest since 1922, and that in Wales 5.17, a rate only bettered in 1930; the report expresses the hope that the new midwives service will henceforth ensure a qualified midwife for every confinement, whatever the patient's means. Regarding the midwives scheme, it is stated that 69 authorities propose to employ midwives direct, 38 to make arrangements with voluntary associations or welfare councils, and 58 to combine these methods. One notes with interest that the demand for confinement in institutions provided or subsidised

by local authorities is still growing, the number admitted being 144,988 in 1936, as compared with 134,846 in 1935. It will be interesting to see whether the new service slows up this tendency.

The infant mortality rate of 59 for 1936 is gratifyingly low and would have been lower had there not been exceptional weather conditions in the first quarter of the year. The total number of attendances at infant welfare centres is increasing rather more rapidly than the actual number of children attending, but with regard to the toddlers, the Ministry's circular of May last does not seem to have taken effect as yet. However, it is said that 46 authorities have now established separate toddlers clinics; that 56 have arranged for the school medical service to be available for pre-school children; and that some 67 have appointed additional health visitors.

Under the head of "supply of extra nourishment," there is not yet time for the results of circular 1,519 of April last to have been evaluated, but the report states that at the beginning of this year, 364 out of 374 welfare authorities were supplying milk either free, or at less than cost to expectant mothers; 363 to nursing mothers; and 362 to children under five years of age.

Tuberculosis mortality in 1936 was the lowest yet recorded; pulmonary deaths in England and Wales were 23,801 in 1936, as compared with 31,066 in 1927; and non-pulmonary 4,467 in 1936 as against 7,107 in 1927. It is remarkable that the standardised yearly death-rate from tuberculosis has now been halved as compared with that of the decade 1901-1910, and almost quartered as regards non-pulmonary tuberculosis. Another interesting item under this head is the 25 per cent. increase in X-ray examinations, from 98,446 to 121,951. The number in 1932 was only 63,823.

Under venereal diseases, it is shown that the number of attendances at centres remains at about three-and-a-quarter-millions as compared with about one-and-a-half millions in 1921. Last year over two-fifths of the new cases proved to be non-venereal. It is noteworthy that the total number of cases of syphilis dealt with at frequent centres in England has declined by 56 per cent. since 1920. The Ministry, however, feel that educational and propaganda work can still be intensified, with special reference to getting in touch with women suffering from gonorrhœa, and the Minister proposes during 1937 to review the existing arrangements for public education on this topic.

There is nothing else of particular note under the heading of "infectious diseases," with two exceptions: the increase in enteric, largely owing to the Bournemouth, Poole and Christchurch outbreak, and the discovery of yellow fever

amongst the crew of a vessel in a British port for the first time since 1865.

Chapter 2 of this Part deals with food and drugs, and especially with the aspect of nutrition and the report of the Advisory Committee. Attention is again drawn to the fact that only about $\frac{1}{2}$ pint of milk in all forms is consumed per head per day in this country, only about 60 per cent. of the amount which is considered desirable. Regarding adulteration of foodstuffs, 146,438 samples were analysed during the year, of which 7,802 (5.3 per cent.) were reported against. Although many samples were taken at random, others were taken from sources where there was reason to expect adulteration; it is suggested, therefore, that the true percentage of articles adulterated, or below standard, is probably substantially less than that given above.

Chapter 3, "Sanitary and Other Services," indicates that there was much activity in developments of water supply and sewage disposal, especially in schemes shared by two or more authorities, and there was also an increase of expenditure on open spaces and playing fields.

Chapter 4 gives an account of the surveys carried out by the Ministry to satisfy themselves that a proper standard of public health services is being maintained in the various areas. In this chapter of the report attention is directed mainly to the hospital aspect, and a general review of the impressions formed from the surveys will not be made until the second surveys of local authorities are completed. Regarding Municipal General Hospitals, local authorities are making steady progress, and 92 poor law institutions containing 50,000 beds have now been appropriated. During the past seven years, local authorities have spent nearly £4,000,000 on improving and extending hospital accommodation.

The last chapter of the "Public Health" part of the report is devoted to "International Health," in which the Department has always shown an active interest. Dr. M. T. Morgan has continued to represent the Ministry at the International Head Office in Paris, which is mainly concerned with the administrative side of international health work, and with the Health Organisation of the League of Nations, whose work is described on another page of this number.

We are not directly concerned with the next part of the report on public assistance, but the section referring to the special provision made for old people and for young children is of interest.

Part D deals with housing and town planning. Most of the details of this work are already familiar to our readers, but it may be said that the year under review was the fourth of the five-year plan for slum clearance and that up to the end of 1936,

100,355 houses had been demolished and 127,553 houses built to replace them. Local authorities "declared" 4,746 clearance areas with a population of 226,000. The figures relating to overcrowding have already been published in the Report on the Overcrowding Survey. It is pointed out that concentration on slum clearance must have priority, but that there is reason to believe that overcrowding is already being systematically abated by specific building, by removals as between privately-owned houses, and by re-allocation of tenancies on municipal housing estates.

Under "Housing," we are reminded that the total figure of 3,328,398 houses built between the Armistice and March, 1937, represents the rehousing of roughly one-third of the population of England and Wales since the war. Under rural housing slum clearance, out of the 51,000 unfit houses discovered, some 5,000 have been repaired and 17,500 new subsidised houses and 8,500 unsubsidised new houses have been provided. The rate of progress in reconditioning existing houses under the Housing (Rural Workers) Acts has been doubled since 1932-33. Regarding house management, 80 local authorities have definite schemes for rent rebates and the employment of qualified property managers is definitely increasing.

The chapter on town and country planning shows increased progress, and 16 schemes have been approved by the Ministry as against 8 during 1935-36. Three-fifths of England and Wales are now under planning control, but the hope is expressed that the pace can still be speeded up. This chapter is well worth close perusal.

Part E, "Local Government," has an interesting chapter on local legislation and byelaws, a subject with which medical officers of health are often closely concerned. Private Bill legislation enables local authorities to meet special local needs, and, moreover, often gives opportunity for pioneering in public health measures. It is mentioned that during 1936 the Surrey County Council obtained unusually wide powers for the control of swimming baths, and that the L.C.C. obtained unusual powers to advertise the amenities of London. This part also deals with progress of the review of local government districts under the L.G.A., 1929. The final result is likely to be a reduction in the total number of urban districts from 783 to 624, and of rural districts from 652 to 483. In addition, 33 urban districts have obtained Charters of Incorporation, 41 county boroughs have been extended, and 189 municipal boroughs have been altered. The report states that "the reduction in the number of local authorities is an incident rather than a main objective of the Act of 1929," but the Society would no doubt still like to see a more

drastic reorganisation of areas in respect of public health administration.

The next part of the report, which deals with national health insurance and pensions, does not directly concern us. We may hope, however, that our colleagues on the curative side of the profession will agree that the record issue of 63,000,000 prescriptions at the average cost per insured person of 3s. 1½d. are really arguments for the advancement of preventive medicine. The total extent of medical benefit was £9,430,000; as regards additional benefits, £2,174,000 went to dental and £542,000 to ophthalmic benefit.

The last part of the report refers only to Wales and summarises the year's work in the same lines as the earlier parts of the report which deal mainly with England.

We believe that the arrangement of the report has been somewhat altered from that for 1935-36. The present report is certainly a very well expressed, well indexed, and generally interesting document, and is full of useful information on all aspects of the activities of local government which are the concern of the Ministry. We would repeat our commendation of the report to those who wish to study the working machinery of local government in this country in some detail.

Milk Policy

The Government White Paper* presented to Parliament just before the recess gives promise of several interesting legislative moves in regard to the milk supply generally, and to those aspects in particular on which the Society of Medical Officers of Health has long been urging action.

First, paragraph 11 mentions special assistance to be given to T.T. milk producers and paragraph 12 draws attention to the provision by the new Agriculture Bill of financial assistance towards the eradication of bovine tuberculosis by means of the attested herds scheme. A strong recommendation for the commencement of the cleaning up of dairy herds was made by the Committee on Cattle Diseases in its report published in 1934, and the Milk Act of the same year introduced the attested herds scheme. Progress has, however, been slow, mainly because most of the owners of herds suitable for attestation were already producers of T.T. milk and would not have benefited financially by coming under the scheme. The Government have realised that material encouragement must be given to the increase of "quality" herds and milk, and the proposals of the White Paper should have the result of accelerating the process.

Secondly, paragraph 16 refers to the recommendation of the Committee on Cattle Diseases as to the introduction of some measure of compulsory pasteurisation. The Government now propose that any local authority shall be enabled to apply for an order making compulsory the efficient pasteurisation of milk sold by retail in its area. Certain conditions will, however, be attached; these are that no such Order shall come into operation within two years after it is made, that milk from T.T. herds and sterilised milk shall be exempt and that milk retailed from dairies drawing their supply from a single herd shall be exempt for three years from the date of operation of the Order. We do not fully appreciate the reason for the long intervening period in a matter which recent events have again shown to be of vital public health importance, but the general tenor of this proposal will be welcomed by progressive local authorities.

Last, but not least, paragraph 21 announces that the Government will facilitate a reduction in the price of liquid milk to welfare authorities for supply either free or at reduced rates to expectant and nursing mothers, and to children under school age.

It will be remembered that in 1935, the Society discussed such a proposal with officials of the Milk Marketing Board and expressed the view that a reduction in price of at least 1d. per pint would be essential in order to increase the present demand under welfare schemes. We also urged at that time that medical selection of cases for supply of free or cheap milk would create difficulties. Details are lacking in the present proposal and will be awaited with interest.

A recent document* presented to the Minister of Health and Secretary of State for Scotland by the Children's Minimum Council, has as its main and drastic suggestion the reduction of the price of milk to 3d. a quart, about half the existing retail price, to the section of the population which really needs it. The cost of this in respect of Government subsidy is estimated at £1,663,000 per annum, but this may be optimistic. On the whole, we feel that increased use by local authorities of their present powers will be the most effective means of getting milk to those who need it. However, the memorandum of the Children's Minimum Council is interesting reading and its general argument will have the sympathy of medical officers.

*Memorandum on Milk for Mothers and Children under Five. The Children's Minimum Council, 72, Horseferry Road, London, S.W.1. Price 6d.

The New D.P.H. Rules

The revised resolutions and rules of the General Medical Council relating to diplomas and degrees in sanitary science, public health and state medicine come into operation on October 1st, 1938, and are noteworthy in several respects. The Council of the Society had the opportunity of commenting on the rules and of putting forward amendments, and it is of interest that a number of the Council's suggested alterations have been embodied in the new rules.

The more important changes are as follows:—

1. It will no longer be necessary for a candidate to possess a registrable medical qualification before admission to the final examination for the D.P.H. The diploma will be similar to other post-graduate qualifications—open to anyone holding an approved medical degree, not necessarily obtained in this country.

2. Persons, if they choose, may proceed to a course of study for the D.P.H. immediately after qualification, but they will not be granted the diploma until a period of two years has elapsed since the date on which they obtained a medical qualification.

3. Two types of curriculum are envisaged:—(a) a whole-time course of instruction lasting not less than nine calendar months, and (b) a course of not less than twelve calendar months, of which at least three consecutive calendar months must be devoted to whole-time study of the subjects required for Part I of the examination.

4. Laboratory instruction has been simplified. The old requirements regarding meteorology, climatology, radiology and electrology have disappeared. No longer will it be necessary for students to spend many hours in the laboratory carrying out practical exercises in chemical analytical processes. In place of these studies is substituted instruction in the application of the principles of physiology (including biochemistry), chemistry and physics to environmental and personal hygiene. As a result of these amendments a licensing body need not include a test in practical chemistry in the examination for Part I of the diploma.

5. The requirements for Part II of the diploma have been somewhat extended. The number of hours of instruction in an approved institution has been increased from 120 to 160, and certain new subjects have been added, such as statistical methods, industrial hygiene and the welfare of industrial workers, mental hygiene and the principles of genetics.

6. Practical instruction under the supervision of a medical officer of health must now deal with hospital services and with mental health services. The supervising medical officer of health must be

an officer who devotes the whole of his time to public health work, of an area approved by the licensing body.

It must be remembered that these rules lay down *minimum* requirements. There is nothing to prevent a licensing body, or any institution approved by such body, from making such additions as may seem desirable. Thus it is likely that most institutions will wish to include some practical chemistry in the curriculum for Part I of the diploma, though probably of a different kind from that provided in the past.

These new rules give greater freedom for development to teaching institutions. They insist that the basis of a student's scientific work for the diploma shall be bacteriology, immunology and parasitology, with physiology and biochemistry as substitutes for what has up till now been mainly elementary analytical chemistry. They do away with haphazard attendance for the performance of laboratory work and make necessary a planned course of instruction for Part I, permitting part-time attendance only for Part II of the course. These changes are timely and the new rules should need but minor alteration for many years to come.

Health Organisation

If each individual has the defects of his qualities, then each generation is not without the disadvantages of its progress; and in an age of amazing production there is no little danger that the tumultuous output of all sorts and conditions of medical literature (original as indeed each piece of work claims to be) will overwhelm even the most talented brain and impede the very advance it claims to assist. In a praiseworthy effort to maintain equilibrium, the Health Organisation of the League of Nations acts as a control agency through which many of the problems of public health are studied: each question passes through three successive orderly stages—of exploration when the problem is surveyed and analysed into its component parts; of appropriate technical study carried out in close collaboration with experts of different countries from which may emerge the basis for practical recommendation; and finally, of action and fulfilment.

The organisation is topical enough to set a three-year plan of work, and the survey* which concluded at the end of 1936 had studied nutrition, housing, and physical fitness, among a number of other important, if less spectacular, features: and the new programme is largely a continuation of the work already done, with such permanent activities

*League of Nations. Health Organisation. Report to the Council on the Work of the Twenty-fifth Session of the Health Committee. Geneva, May, 1937.

*Milk Policy. H.M. Stationery Office. Price 2d.

as the epidemiological intelligence service and the commission of biological standardisation. The epidemiological service was established in 1921, and although utilised primarily for Eastern Europe where severe epidemics were raging, its work gradually extended to cover the whole world, and its activities will be maintained and developed in future. Part of the work will be continued on the so-called health indices, the object of which is to find some way of recording in statistical form the state of the public health in different countries by indices of vitality (fertility, population), and of health (mortality, morbidity, physical and mental defects), and the indices will also relate to environment and various medical and sanitary activities.

Biological standardisation presents evergreen problems; because with the advance of science, new therapeutic agents gain acceptance and require to be assayed, while certain of the standards already adopted require to be improved, and others of a composite nature may have to be replaced by the active substance in pure form. Further work is to be undertaken in connection with a number of serological products, such as anti-anthrax, anti-swine-erysipelas, anti-viper sera, tuberculin, and staphylococcus anti-toxin; but in the case of vitamins and sex hormones, so rapid have been advances that the recommendations of 1934-35 are already out of date and further conferences are being planned.

Rural hygiene has received considerable attention; and emphasis is laid on the study of subjects like the cost of different types of rural health services as compared with their efficiency, the expert examination of drinking-water and sewage, the hygiene of foodstuffs, especially the problem of milk, typhoid infections in rural areas, and the treatment of manure to prevent fly-breeding. And a conference on this survey is being held in August, 1937, in Bandoeng. It has become evident that the problems connected with rural life have been approached on the too-narrow lines of purely medical and health services, and that an extended investigation is required including social and economic aspects.

Housing is being studied on modern lines, based on the scientific analyses of the numerous factors affecting the comfort and the mental and physical well-being of the occupants. It is necessary to define human requirements in respect of such factors as temperature, humidity, air, light, noise, and motion, then to select simple and suitable methods of measurement, and finally to find economical and satisfactory ways of construction.

This work is discussed on p. 375 of this issue by Dr. Greenwood Wilson.

No report at the present time would be complete without reference to nutrition, and it is gratifying that the procedure followed by the Health Organisation has produced some helpful results in a comparatively short period. Thus the Technical Committee will remain the pivot of all activities in this field, and has recommended for further study a number of problems—the assessment of the nutritional state of children, the nutritive food requirements during the first year of life, minimum vitamin, mineral and fat requirements, the nutritive and supplementary values of different protein-containing foods, the relative value of different cereals according to the degree of milling, the effect of sugar on health, the influence of climate on food requirements, the optimum amounts of milk required at different ages—a Herculean task.

Some account* is given of the work of experts appointed to study methods of assessing nutrition, the aim being to review the somatometric, clinical and physiological tests hitherto employed and to make a critical examination of the results. The comparatively simple purely somatometric methods useful for large-scale investigations, give an indication of the general physical condition of the individual, but the findings do not relate exclusively to nutrition. Measurement of height and weight may serve for the easy detection of pronounced malnutrition, but cannot give any indication as to whether this condition is due to organic or to dietary causes; and it is only when data of mean height and mean weight are periodically recorded at comparable times of the year, and compared with other observations concerning social conditions, school results, standard of living, clinical findings and certain physiological tests that they can give useful information on the state of nutrition considered in relation to the mode of nourishment.

The more complex methods (for latent vitamin, mineral and protein deficiency, and cardiovascular tests) are unsuitable for large scale enquiries; and although still in the experimental stage they may, when applied to a comparatively small number of persons, be expected to yield new knowledge concerning the stages of malnutrition and concerning the field of nutritional hygiene.

Obviously, there is much ground still to be covered, but in all the branches of work supervised by the Health Organisation there is enough evidence to show that the investigations are being controlled and guided scientifically and wisely.

* Bulletin of the Health Organisation, Vol. VI. No. 2. April, 1937. League of Nations, Geneva. Published by Allen & Unwin, London. Price 2s. 6d.

The National Campaign to Encourage a Wider Use of the Health Services

By PAUL SCOTT RANKINE, B.A.,
Secretary, The Central Council for Health Education.

[Dr. James Fenton, Chairman of the Central Council, read a paper preceding Mr. Rankine's, when he outlined the evidence which showed the need for the proposed campaign and gave examples of the successful results obtained by propaganda in local and foreign health campaigns and in other fields of publicity.]

Before dealing with the details of the campaign, I should like to review briefly the events since the Central Council began, in the spring of 1936, the formulation of preliminary proposals to advertise the health services, for submission to the Ministry of Health. In the summer of that year a survey was carried out in the course of which a committee examined available evidence as to the extent to which the services now available were not being used, the possibilities of obtaining results from propaganda, both in relation to the health services and in other fields, the suitability of various media, the actual obstacles which were preventing people using the services, the services which could be most appropriately dealt with, and the kind of person to whom propaganda should be addressed.

With reference to this last point, I think you would find very interesting the results of a very small research investigation which was carried out amongst a hundred working-class families taken at random. This investigation was not carried out for the purpose of showing the need to encourage a wider use of the health services; it would, of course, be fantastic to base any results with reference to this on such a small investigation. Its object was rather to enable the publicity material to be related as closely as possible to the realities of the situation. It is of interest, however, to note that when a hundred mothers were asked what the Medical Officer of Health was, only 24 gave a reasonably accurate description, 41 had a very vague idea, and 35 had no idea whatever. It is also interesting to note that of 30 mothers having infants at three months and under, 17 did not go for advice to the ante-natal clinic, for the following reasons:

- 6 did not think it necessary;
- 4 did not know of it;
- 8 did not like it;
- 2 did not know how to set about it;
- 1 consulted a private nurse, and
- 1 had heard that women were "treated very badly" at the clinic.

*A paper read to the Home Counties and Metropolitan Branches of the Society of Medical Officers of Health, June 4th, 1937.

Other investigations, too, were carried out by interviews with Medical Officers of Health, and by investigators accompanying Sanitary Inspectors and Health Visitors on their rounds. It was clear that the campaign would have to give to people, the majority of whom knew vaguely of health services, a new and fresh motive to find out more about them and take advantage of them. We ought not to ask people to use services which they should have been using all the time and could use any time, but we ought to invite them to take part in the great modern drive for building a fitter Britain, which involves their doing something "to-day." We ought to make the health services a new and a topical subject of conversation; to make people look out for the posters appearing throughout their area, and the films shown at their cinemas, to be interested in the campaign as a campaign. It is therefore the object of the first period of the campaign in October of this year to crystallise this motive round the idea of a national campaign, with the slogan "Use your Health Services."

The next step is to clarify this vague awareness of health services into certain concrete conceptions, and it is with this object in view that it was decided to concentrate on well-defined services, and to devote separate campaigns to these: in November and December, 1937, the Maternity and Child Welfare Service; in January, 1938, the School Medical Service; and in February and March, 1938, the Social Hygiene and Tuberculosis Services. Throughout these campaigns the object will be to specify some simple thing which the ordinary man or adolescent or mother or father should do, and to show how desirable, how easy and how urgent it is for him to do it.

Another principle which has been evolved as a result of these inquiries is that our propaganda should aim not merely at conveying information to the ignorant, but at overcoming obstacles in the mind of the prejudiced. Amongst certain classes one finds the impression that the use of public health services is only for the very poor and not quite respectable, that a free service provided by a municipality must necessarily be less efficient or less effective than paid services, or at any rate that personal consideration for the needs of the individual must be lacking. Amongst others there is the feeling that some services cannot possibly be free—that some payment will eventually be asked for,

however small, which it will be embarrassing to be unable to make.

One thing is certain—that the subject of the health services is one which in human interest and even in drama lends itself particularly well to a publicity campaign and that it is readily adaptable to almost every method of propaganda and publicity.

The Press

The Press is the medium of propaganda usually first resorted to by the commercial advertiser for a national campaign. The Central Council were unable to recommend to the Ministry the insertion of paid advertisements in the Press. First, it was estimated that £83,000 would be necessary for Press advertising and no such sum was available. Secondly, it was felt that municipal developments were of sufficient news value to deserve and to obtain editorial support in national and local newspapers. Researches show that something like four times as many people read the news columns as those who read the advertising columns of the newspapers.

The subject of health is also one of half a dozen subjects—crime, religion, education, sport and politics being usually regarded as the others—which are always news. The health services offer such a variety of popular topics for journalistic treatment—motherhood, babies, saving of life, food, schools, infection, illness—that news editors will not be able to say that we are harping too much on one subject. These topics lend themselves to every form of news item, local personalia, letters to the editor, leading articles, gossip columns, book reviews, news photographs, reports of speeches, organised publicity events, such as the opening of clinics, health weeks.

The M.O.H. and the Press

To make the best of the news value of the health services in this way it is, however, essential to have the local co-operation of Medical Officers of Health. At one time it was suggested that a journalist should be sent around the country collecting news from Health Departments and sending these items in to another journalist in London, who would write them up and submit them to the papers. Many a good health services "news story" is lost in the pages of local journals which, if written up, would make headline news in the national dailies. We were not able to carry out this suggestion owing to expense, but if Medical Officers of Health take the opportunity of this campaign to establish an especially close liaison with the local Press, ample space will be devoted to the health services in the editorial columns of local papers.

It is, perhaps, too much to expect that the

Medical Officer of Health himself should have the time to contribute articles to papers on the local services at the commencement of each period of the campaign, although editors would probably be very pleased to publish such articles. May I suggest, however, that interviews might be given to representatives of local papers, in which the Medical Officer of Health could elaborate his attitude to the national campaign and outline the health services available in his area?

It is actually through the public-spirited co-operation of the Press in past years that public opinion has been aroused on such subjects as the special areas, unemployment, housing and slum clearance.

I remember being in the Berlin office of the Reuter's News Agency during one of the periodical German shortages of food—particularly eggs—and seeing pinned on the notice-board a blunt personal note to reporters by the Editor-in-Chief in London, saying "England is interested in Eggs"—the word eggs being three times underlined. We want to persuade national and local editors to instruct reporters that "England is interested in the Health Services." Granted that we can "sell" the basic story of the health services to Editors, the fact that the health services are news will become part and parcel of the editorial policy of newspapers and every reporter himself will be looking out for health services stories.

The Cinema and Films

The cinema and the films constitute another great national medium of propaganda. You will be pleased to hear that the film which we are going to see at the end of this meeting* has now been booked by 600 cinemas, and we are informed that not less than a thousand cinemas will show this film. By the autumn of this year it will have been seen by between ten and fifteen million people. Another film dealing more specifically with the health services and the history of their development is in course of preparation and will, we hope, be exhibited by the same number of cinemas during the actual period of the campaign. It is hoped that Medical Officers of Health will obtain every ounce of publicity value for their own services out of the showing of these films in their areas. Medical Officers of Health will be informed from time to time as soon as the bookings of the film are made for their areas. It is suggested that occasion might be made for an official visit by members of the Corporation and for the display of posters and the distribution of leaflets at the cinemas when the film is being shown. Slides or stills might also be

* *The Health of a Nation*.—A sound film produced by the Pearl Assurance Society with the co-operation of the Ministry of Health and the Board of Education.

prepared with the addresses of local centres and clinics, for display on the screen at the completion of the film. Cinema proprietors have been found very ready to co-operate.

We hope also that the fullest possible use will be made of the film at meetings organised by local authorities in connection with the campaign.

The Central Council are particularly anxious that fuller use should be made of the existing films which have been produced with reference to the public health services, by such bodies as the British Social Hygiene Council, the National Council for Maternity and Child Welfare, and its constituent societies, the National Association for the Prevention of Tuberculosis, and the Dental Board of the United Kingdom.

All Medical Officers of Health have now received copies of the Central Council's *Health Education Year Book*, in which full particulars of these films will be found. If this campaign is to have the weight which will be necessary to make any appreciable effect upon the attendance at clinics, welfare centres, etc., the display of posters and distribution of leaflets should be supported locally by special meetings and film displays. These may take the form of film shows in the cinemas to school children, afternoon meetings for mothers, and evening meetings for the general public. There is no lack of good films and literature for this purpose. If guidance is desired, the Central Council is at your disposal to submit draft programmes for your consideration.

Our past experience in organising many of such programmes each year in the course of Health Weeks has been that, granted a wise admixture of entertainment and propaganda, they are well supported and appreciated by the general public.

Films in this campaign are particularly important in view of the fact that they provide the most concentrated and effortless form of education and are a medium understood by the most illiterate section of the public, most in need of the health services.

"Existing Audiences"

I should now like to refer to a new avenue of publicity, that is, "existing audiences"—namely, those who meet regularly as women's institutes, mothers' unions, girls' friendly societies, British Legion clubs, church and chapel organisations, factory and office societies, training centres, young men's and young women's Christian associations, working men's clubs, co-operative guilds, youth organisations and sports associations. The value as propaganda of addresses and film displays to these small audiences is only beginning to be appreciated by those engaged in educational and publicity work. It has been estimated that existing audiences of

this kind throughout the country constitute an aggregate audience in the neighbourhood of sixteen millions—seven million women, five million men and four million juveniles. The familiar surroundings of the audience's regular meeting place provides the best possible psychological background for propaganda which so intimately concerns their lives, and enables the propaganda to be related in the closest possible manner to normal daily life. I would like to suggest that there is here a field for expansion of all propaganda work, and, so far as the national campaign is concerned or any particular section of that campaign, if a circular were addressed to the secretaries of these local associations offering a speaker or a film showing, they would, I am sure, be found very willing to co-operate.

Broadcasting

The value of broadcasting from the point of view of influencing action may be assessed from the fact that national advertisers find it worth their while to pay nearly a million pounds each year to subsidise advertisement programmes on foreign stations heard by listeners in this country.

I would like to make one or two suggestions as to how we might obtain fuller advantage of the time given to health subjects on the air. We all know that people are more likely to be influenced in the mass than individually. When there is a broadcast in connection with any health subject which concerns us, would it not be possible to organise local meetings, with the object of listening collectively to a relay of the broadcast speech, and supporting it by speeches by prominent local persons. This form of relay meeting proved of great success when the Duke of Windsor, then Prince of Wales, spoke at an Albert Hall meeting in January, 1932, in support of Social Service for the Unemployed. Meetings were organised locally by Councils of Social Service, and the aggregate audiences ran into several hundreds of thousands.

I should like to suggest that, when time is obtained on the air, more should be done to advertise the talks locally, just as if they were public meetings, to ensure that people listen in.

Health Weeks and Exhibitions

The Health Week and Exhibition at which stands are devoted to tableaux and other exhibits relating to the different health services is another very valuable and intensive form of propaganda which should be used to the full in this campaign. I think that the majority of local authorities are now aware that the Central Council will undertake the organisation of such Health Weeks, so as to relieve the Medical Officer of Health from a

burden of detailed work, and I do not wish to take up your time this afternoon with a subject on which you are probably fully informed and for which the Central Council has won such a widespread reputation. May I suggest, however, that as Empire Health Week falls this year at the commencement of the campaign, a special effort should be made to direct the health propaganda carried out during that week towards the subject of the health services and the need for their increased use? Any assistance which the Central Council for Health Education can give will be given willingly.

Health exhibitions give a very wide field of presentation; facts can be presented either as tableaux, as models, as displays similar to shop window displays, or as illuminated statistics.

Health weeks are often condemned as being spasmodic efforts with little lasting effects. They are not intended, however, to supplant the day-to-day propaganda of the health visitor and the sanitary inspector, etc., but to support it and to obtain the co-operation of many who are only able to give their support on special occasions. They are a splendid opportunity for having health sermons preached in churches, health week addresses given in men's clubs, factories and welfare centres; of interesting business men at chamber of commerce and rotarian meetings, and of devoting more time in the school curriculum to health and hygiene. Desirable as all these things may be throughout the whole year, it is often only during the special occasions presented by a health week that one is able to persuade people to co-operate.

In our files we have many letters testifying to the lasting value of health weeks, not only as regards the interest they have given rise to but as regards actual increased attendances at clinics and dispensaries, etc. They are also valuable in gaining support for new or proposed municipal enterprises.

Posters and Leaflets

Lastly, I come to printed matter—posters, leaflets, display cards, traffic notices on buses. The poster must be an absolutely essential factor in any propaganda campaign. It is a link in the chain from the mind of the publicist to the individual which, if omitted, can deprive the message of all effect. Films, broadcasts, talks, leaflets, exhibitions and Press articles can clarify the mind of the public on the details of services available, and the way in which advantage may be taken of them; but even after seeing the most striking film, or after being impressed by a moving address or a newspaper article, the individual is liable to put off

until forgotten the action required by him or her—the particular action of approach without which no health service can come into co-operation. The function of the poster is to act as a constant reminder; whereas the article or the film or the lecture is only seen or heard once, the poster strikes upon the conscious and unconscious mind of the individual probably several times a day, as he moves from place to place. It enables us to get at the man-in-the-street in the street. The poster may only be able to convey a short message, but in the course of the national campaign we shall use it as a knot in everyone's handkerchief to use the particular health services which apply to him. In order to make this reminder most effective, we shall repeat the design chosen for each of the separate campaigns over and over again on every piece of printed matter to be issued during the period of the campaign.

We have sought the advice and co-operation of artists of national reputation and one of the most famous studios in the country, and I think that from a technical point of view it will be found that the posters will compare favourably with any in use by national advertisers.

So far as leaflets are concerned, the leaflets issued will be bright, easily understood and tempting to read. When we remember that many of those for whom the health services are designed find reading of any kind laborious, it is essential that we should avoid the cold print and rather barren and unappetising settings too often issued from Town Halls, provided that this can be done consistently with dignity.

In order to make our reminder most effective, we shall repeat the same design for each of the separate campaigns over and over again on the large 16-sheet posters, double-crown posters, mounted display cards, traffic notices, and on the covers of the leaflets to be issued. We are happy to be able to state that the demand for posters of all sizes and shapes, and for leaflets, has exceeded expectations, and it is particularly gratifying to note the number of local authorities who are purchasing space on the hoardings for the display of the large commercial posters, some 10 feet × 6 feet.

In conclusion, I should like to emphasise the complete interdependence of every method of publicity. The cinema and the radio can arouse interest, the Press and the leaflet can inform, the poster remind, but there is no use arousing interest if we do not follow it up with facts, and there is no use informing people of certain facts if we do not constantly remind them to act on them. Propaganda must advance on all fronts, or it cannot advance at all.

Quantity plus Quality?

The Work of the League of Nations Housing Commission

By J. GREENWOOD WILSON, M.D., F.R.C.P. (LOND.), D.P.H.
Medical Officer of Health, City and Port of Cardiff; Lecturer in Preventive Medicine, Welsh National School of Medicine.

Since the War 3,328,398 new houses have been built by local authorities and by private enterprise in England and Wales.¹ In all other civilised countries of the world during the same period the movement to build new houses has been paralleled, but it is probably beyond dispute that Great Britain leads the world in *numbers*. Up and down the country millions of little boxes have sprung up, many of them covering not more than 760 superficial square feet. Within each of these little boxes exists a little world, not only as respects the emotions and human relationships of its inhabitants, but as regards its *climate* which is a little climate or "Microclimat"² modified from the weather or "Macroclimat"³ outside—the climate or "Macroclimat"³. We know little enough of the effect of climatic conditions upon human beings. How much less do we know of the effect of these conditions when modified by the dwelling houses that are supposed to protect their inhabitants from the worst extremes of climate. To what extent do these houses fulfil such protective functions? Do they insulate from excessive heat and cold? Do they keep out damp? It is not intended again to discuss failures in this respect that result from jerry-building, which has been dealt with elsewhere⁴. The building industry itself, through its newly constituted National House-Builders' Registration Council⁵, is now making strenuous efforts to rid the housing problem of this evil, which has been so aptly described by Sir Kingsley Wood as a "mean fraud"⁶; and the new Ministry of Health Model Byelaws, Series IV, should also help local authorities more than ever before to check shoddy building. But even where houses are honestly built to minimal specifications, the question arises, are those specifications the best that can be evolved to satisfy the reasonable demand that healthy houses shall provide an environment that is healthy in *all* respects? Do they provide their inhabitants with a well-ventilated, comfortable and reasonably quiet environment for periods which in the aggregate amount to at least half their lives? Are they conveniently situated or accessible to centres for work, education, shopping and recreation? The answers to such questions, which are of vital importance to the continuance of a healthy human race, involve consideration, not only of housing, constructional problems, but also of town planning, industrial location and noise prevention. The chief difficulty has been lack of data. Sporadic

efforts have been made in this country to obtain them—see, for example, "Slum Clearance and Rehousing"⁷ by the Council for Research on Housing Construction (Chairman: Lord Dudley) or the Report of the National Housing Committee on Housing and Planning Policy (Chairman: Lord Amulree). For many years the Building Research Station at Watford, whose work is too little known, has been carrying out most important research into the quality of building materials and their usefulness for different types of building. At the present time a Departmental Committee is considering, amongst other things, what are the essentials of health and comfort in building flats for the working classes. The Building Centre at Bond Street, London, which is also too little known, constitutes a permanent exhibition for the education of the public in building and housing problems, and the Anti-Noise League has been striving to awaken public opinion to the importance of abating noise. The Housing Act, 1935, set up a Statutory Committee of Housing Experts for the purpose of advising the Minister of Health, when so desired by him, on any question arising in connection with the "execution" and "operation" of the "enactments relating to housing" and within whose purview, therefore, it may fall to consider, and suggest remedies for, many housing problems. More recently, a Royal Commission has been set up to study the location of industry and their work also should have a bearing on housing and town planning. But despite these manifold and varied activities it cannot be said that we have yet evolved in this country a "quality" housing policy. Since the War, we have had, and with increasing momentum, a vigorous and highly successful "quantity" housing policy, but for building and planning an ideal human environment we have not yet got much beyond the somewhat negative standards of Section 62 of the Housing Act, 1930, that a house must not lack adequate air space or ventilation, must not be damp, must not be without adequate and readily accessible water supply or sanitary accommodation or other conveniences, and must not have inadequate paving or drainage of courts, yards or passages.

Apparently other civilised countries also find themselves with similar lack of standards for ideal housing conditions, because the League of Nations, through a specially appointed Housing Commission, is seeking to provide the necessary

scientific data on which a *quality* housing policy might be based. Their ultimate object is, in their own words, "to arrive at a definition for various climates, customs and regions, of standards of what might be called healthy urban and rural housing and healthy town and country areas."

With this object in view the Commission has set itself an ambitious programme of study:—

(a) Hygiene of the environmental conditions in dwellings (temperature, freshness, humidity, movement of the air and temperature of the enclosure).

(b) Noise and housing.

(c) Sun-exposure.

(d) Natural and artificial lighting.

(e) Density of the population, "zoning" and open spaces (gardens, parks, playgrounds, etc.).

(f) Campaign against smoke and air pollution.

(g) Methods of water supply, sewage, waste and garbage disposal.

(h) Administrative and legislative aspects of housing hygiene.

(i) Definition of healthy urban and rural dwellings, as well as healthy cities and rural areas (regional types of urban and rural dwellings and of urban and rural planning).

The League Housing Commission rightly claims that although, on the one hand, the use and means of providing for hygienic housing have, for the most part, been studied, improved and applied by specialists in various branches, *e.g.*, heating, ventilation, lighting, sanitary engineering, etc., (1) architects and town planners have been more prominent in these activities than health experts, (2) as a rule no regular co-operation has been established between medical men and the various technical experts. More and more numerous methods of building and arranging dwellings have been used; but although they may be considered as a step forward from the technical point of view, it does not necessarily follow that they offer advantages from the health point of view. Sufficient account has not always been taken of the fact that all the research work and all the technical efforts must aim at the improvement of the living conditions of the occupants. Yet the purpose of housing that must never be lost sight of is to ensure the comfort, the physical and mental fitness, and therefore also the health of the occupants.

Noise and Health

The execution of the Commission's study programme will be accomplished by the setting up of sub-committees to deal with each item. The Committee on Noise and Housing has already presented a preliminary report.

The first step in dealing with any problem must be to measure its extent. Thus, although there have been in existence for some time instruments

of precision for measuring both the power or energy and the loudness (two distinct factors) of noise, instruments whose readings can be expressed in *noise units*, it has remained to express the noises of everyday life in terms of those units. The unit of measurement of noise in some countries is the *decibel* and in others is the *phon*.

The League Committee has submitted the following table illustrating approximately the loudness of some of the noises of everyday life:—

Decibels or Phons.	
0	.. limit of audibility.
10	.. slight rustling of leaves.
20	.. whispering.
30	.. very quiet street.
40	.. average noise in dwellings.
50	.. noise in commercial premises.
60	.. ordinary conversation.
70	.. loud conversation.
80	.. heavy urban traffic, loud radio.
90	.. proximity of motor-cycle with silencer.
100	.. very loud motor horn at about 7 metres.
110	.. metal worker's shop, proximity of pneumatic road drill.
120	.. aeroplane propeller at 5 metres.
130	.. limit of pain.

It is human to find comfort in labels. A pain in the side becomes more bearable if it is "appendicitis," and he whose bedroom window opens on a main road at bank-holiday time may yet find sleep, when counting sheep has failed, by estimating the number of *decibels* that afflict him! The very word *decibel* is soothing. It recalls the *dulcimer*—and Coleridge:

"A damsel with a dulcimer
In a vision once I saw:
It was an Abyssinian maid,
And on her dulcimer she played,
Singing of Mount Abora."

In the U.S.A., U.K., Germany and Sweden, attempts have been made to arrive at a standard of noise that compromises between what is objectionable and what is practicable. The figures recommended, which tally with one another to a large extent, range between 20 and 40 decibels, depending upon the circumstances and the character of the noise. Measures may be taken to ensure that such standards of noise are not exceeded in flats or other premises. They require to take account of the noise made by traffic and industrial noises, and that made in the building itself by neighbours. They comprise questions of technique, building and internal planning, town planning, legislation and education.

Although science has yet to solve many of the problems of noise, it is definitely worth while to

indicate the palliative and preventive measures which may be taken in view of the present state of knowledge and experience in various countries.

The most important of these measures are briefly indicated by the Committee as follows:—

1. Measures Involving Minor Expenditure.

(a) The use of the quietest rooms in the house as bedrooms—particularly for young children.

(b) The cultivation of public opinion that in the use of powerful wireless sets and other sources of sound the feelings of neighbours are worthy of consideration.

(c) The use of suitable ear stops by individuals whose rest and sleep is disturbed by noises outside their control—particularly by night workers who have to sleep during the day.

(d) Reduction of internal noise in a dwelling:—*

(i) Good internal planning of the dwelling before construction.

(ii) The use of sound-absorbing wall and ceiling finishes to an extent depending on the conditions. It must not be forgotten that agreeable acoustic conditions inside a room are likely to result from the use of thick carpets, heavy curtains and furnishing.

(iii) The insertion of canvas hose or the like in ventilating ducts between the fan and rooms concerned.

(iv) The use of resilient supports for machinery such as water pumps, compressors, refrigerators or air conditioners.

(v) The insertion of a length of rubber hose in the water piping system to prevent the conduction of sound from taps or circulating pumps.

The measures listed in this group are capable of immediate application and are calculated to lessen the harmful effects of noise and by so doing improve the living conditions of families and individuals whose dwellings are of necessity in noisy areas.

2. Measures Involving Expenditure by Individuals or Public Authorities.

(a) Town planning with a view to locating dwellings in quiet areas, and as far as possible away from roads subjected to heavy traffic.

(b) Co-operation between the local authorities and industrialists in planning the layout of noisy plant, *e.g.*, transformer stations may be screened by existing buildings.

(c) Allowance of more time by local authorities for the execution of road breaking contracts.

(d) Reduction of noise at its source, *e.g.*:—
(i) Use of silencers on motor vehicles and road breaking pneumatic hammers.

* Many of the methods mentioned here are shown in working models at the Building Centre, Bond Street, London.

(ii) Increasing restriction of the use of motor horns by day or night.

(iii) Restriction of speed of traffic in residential areas.

(iv) Installation of quiet sanitary appliances.

(v) Wearing of shoes with rubber heels.

(vi) Use of resilient floor coverings of thick carpets.

(e) Insulation of dwellings against external noise.

The adoption in building practice of the use of materials and methods of construction calculated to reduce the loudness level of noise penetrating a dwelling, *e.g.*:—

(i) Double windows.

(ii) External and partition walls providing agreed standards of insulation.

(iii) Use of resilient floor coverings (floating floors) and suspended ceilings.

(iv) Use of noise filtering ventilators, and ventilating ducts lined with sound absorbent materials.

No one who has studied this outline can continue to believe that anti-noise propaganda is "just another publicity stunt," for it is evident that those who thought it out are practical men genuinely convinced of the urgent necessity of devising means to make modern "civilisation" safe and healthy. They urge that "Health authorities, scientists, architects and engineers should be encouraged to face problems of noise without delay and, side by side with the promotion of further research, technical instruction should be provided for those who are and who will be responsible for safeguarding the amenities of home life and of residential areas."

Harassed M.O.'s H. should note the suggestion of additional duties!

Hygiene and Environment

The Committee on Hygiene and Environmental Conditions in the Dwelling has also presented its report to the League Housing Commission. The report begins by going back to first principles, namely, that the primary object of housing, in its most primitive as in its most up-to-date forms, is to protect the individual from climatic discomforts, especially heat and cold. The environmental conditions of the dwelling which provide this protection must accordingly be such as to permit the maintenance of equilibrium between the production and the loss of heat from the human body. In addition to the maintenance of thermal equilibrium, environmental conditions should be such as to promote physical and mental fitness and the feeling of well-being. (Thus, if my neighbour is "out of sorts" when I call upon him I should not jump to the conclusion that his long-suffering "liver" is at fault. The trouble may be a thermal dis-equilibrium of his dwelling.)

The principal environmental factors influencing the maintenance of thermal equilibrium, and consequently physical and mental fitness and the feeling of well-being, are:—

- (a) The dry-bulb temperature of the air.
- (b) The humidity of the air.
- (c) The movement of the air.
- (d) The mean radiant temperature of the surroundings, including walls, flooring, ceiling or roof, windows, heating appliances, human bodies.

Although it does not directly affect the thermal equilibrium of the human body, a fifth factor, the quality of the air—and more especially its purity—must also be taken into consideration, because it may have a fundamental influence on the sense of well-being and physical and mental fitness.

Various methods have been suggested for combining in a single index the effects of the factors regulating the heat loss of the human body. The Committee enumerates the several methods proposed. It adds that it is impossible to establish a uniform standard applicable in every country for the optimum environmental conditions governing bodily heat exchanges. Standards or zones of comfort have been indicated by the hygienists of various countries on the basis of the various indices that have been suggested. These standards are valid only for the region, type of occupation, indoor conditions (residence, office, workshop, theatre, cinema, restaurant, train, etc.), national or local heating methods, type of clothing, age, race, season and climate for which they were established.

What is more, other things being equal, the sensation of comfort varies in different individuals. For this reason, the zones of comfort indicated by the various methods represent a sort of "mean" comfort, *i.e.*, the sensation of comfort as felt by the majority of persons examined.

Owing to differences of climate and national custom, hygienists hold different views as to the best standards for temperature movement and moisture of the air. Thus, British authorities are in favour of a lower range of temperature for home or similar conditions than their American colleagues, although their views on minimum air movement are the same. Whereas Anglo-American hygienists prefer very slight air movement, in France, perhaps due to long-standing custom, the aim is to prevent any air movement at all, however slow, in the immediate vicinity of the individual.

The Committee has considered methods of measuring environmental conditions; the transmission and accumulation of heat by building materials; the different heating, cooling and ventilation systems (or space and air change) in their relation to various types of housing, that is both to homes and to public buildings of different

kinds. The standards applied in different countries for the floor space or cubic content of family dwellings vary to some extent on account of the differences of national customs and standards of living. On the whole the Committee assumes, however, that on hygienic grounds a living room used in the daytime or a sleeping room at night should each provide at least 530* cubic feet (15 cubic metres) per person; and if sleeping and living rooms are separate, a total of at least 883 cubic feet (25 cubic metres) per person for a total dwelling is essential.

The importance of air conditioning is emphasised, together with the dangers of exaggeration and standardisation in this field. The need for air conditioning, it is suggested, applies particularly to sub-tropical and tropical climates and the related problems are worthy of further study.

The Committee concludes its review of the different aspects of its subject with the remark that "the engineer has at his disposal a wide choice of systems of heating, cooling, ventilation and air conditioning. He must make a judicious selection, and adapt the operation of the systems in every case to actual economic and physiological needs; for it must always be borne in mind that the subject of all these measures is man, and their purpose to ensure his comfort, physical and mental fitness and health."

A programme of further studies is outlined by the Committee, which ends its remarks by emphasising the necessity for studying "the application of hygienic principles to the various methods of building construction, heating or ventilation favoured in various countries. Co-operation between economists, hygienists, engineers, physicists and architects is essential for a speedy and rational solution of these problems. Such co-operation can only be expected if there is mutual understanding of these human problems and therefore the incorporation of appropriate teaching in the curricula followed by students training for the professions concerned is a matter of the first importance."

The reader of the reports from these two League Committees will see at a glance the difference between them. The "Anti-Noise" report is essentially practical and full of possibilities for immediate action. Many of its recommendations indeed have been already tried out in several countries with success. The Report on Hygiene and Environmental Conditions is of academic interest but of no immediate practical importance.

* Cf. the 70 square feet minimum floor space per person under our Housing Act, 1936, which with the 8 feet minimum height demanded by the New Model Byelaws (Series IV) gives 560 cubic feet per person.

It is rather a well-balanced statement of our difficulties in this field of work than a programme of administrative measures, and as respects the matters it touches upon it will not, at this stage, help in formulating a *quality* housing policy. It is unfortunate that this should be so, for many vital problems in preventive medicine may depend for their solution upon an authoritative lead in the study of "hygiene and environmental conditions." The prevention of rheumatism (all forms) is an outstanding example.

The crying need is for data. Where is the scientist without data? But in the sphere of housing and health not only are the data few, but those few confused and contradictory. Yet, like those few confused and contradictory. Yet, like A. P. Herbert's shepherd in "La Belle Hélène" we feel instinctively that there "must be something more," that it must make a difference to our health, what kind of house we live in. In other words, only when fresh batches of "economists, hygienists, engineers, physicists and architects" graduated from curricula that have included special courses on environmental hygiene, have grappled with its problems in co-operation, shall we be able to come out with a programme (like that for example of anti-noise measures which we have already considered) that can be of real practical service in building "the new Jerusalem." Let us hope that when that moment arrives some of England's "green and pleasant land" will still remain.

Danisheskij and Gelman (1936) deploring the fact that "despite the long-established popular belief in a causal relationship between housing conditions and disease the scientific data are extremely poor," embarked upon an exhaustive experimental and clinico-statistical study of "rheumatism and the micro-climatic conditions of the dwelling." It is doubtful whether the thoroughness of their methods in private dwelling-houses could be reproduced outside a totalitarian state(!) but fortunately the learned authors have promised to continue their valuable researches. Their work is specially referred to because it is an example of the kind that we need in much greater quantity if we are to accumulate the necessary scientific data about the relationship between health and dwelling-houses. Much valuable work has been done on, and applied to, the environmental conditions of factories. But the methods and instruments of that work appear not to lend themselves to similar research into the conditions in dwelling-houses, and in any case whether or no that be the real reason, the fact remains that with the exception of the rheumatism research just quoted it has not been done on any scale to be of the slightest practical importance. Only when it has been done shall we be in a position to advise what is the ideal housing environment judged by standards not only of town-

planning and freedom from noise, but also of optimum conditions of thermal balance and ventilation. At the present time we lack the scientific data and we seem not to know how to set about collecting them. This conclusion is clearly implied in the League Committee's reasoning that . . . "a speedy and rational solution of these problems" (of environmental hygiene) "can only be expected if there is" . . . "the incorporation of appropriate teaching in the curricula followed by students training for the professions concerned."

The League's Committee on the Hygiene of Environmental Conditions need not be blamed for undue pessimism. No one who has studied their subject can come to any other conclusion. Only a few months ago, the reviewer, writing of the role of the medical officer of health as adviser on housing construction was forced to the admission that "however earnestly he applies himself to housing problems, he" (the M.O.H.) "may be gravely handicapped by the weakness of the foundations of knowledge acquired in his D.P.H. course."¹⁰

If the League's recommendations for strengthening the education of the medical officer of health (and of other public officials) in problems of environmental hygiene be put into effect it will be another instance in which "the wheel is come full circle." Pioneer medical officers of health were compelled, from the very magnitude of the problems in that sphere, to concentrate almost entirely upon environmental hygiene. Their successors, being heirs to their great achievements, have felt free to rebel against the "drain-pipe concept" and, with the assistance of 20th century legislation, to turn their attention more to the health of the individual. If the recommendations of the League's Housing Commission are put into effect they will have to go back to environmental hygiene—if not indeed to the abhorred drain-pipe! Let them not dally or they will find their places filled when they get there. For environmental hygiene is becoming fashionable, it is being taken up by the elite of clinical medicine, by those of whom it might be said by adaptation of the late Lord Moynihan's famous saying that they are hygienists doomed to the practice of clinical medicine.

But it is true only in the broadest sense that "the wheel is come full circle." Medical officers of health have been concerned with drains, sanitary appliances, water supply, ventilation, lighting, washing facilities, food storage, refusal disposal and overcrowding, but rarely with the details of housing construction except those which may be involved in the causation of dampness. On the effects of dampness in dwellings no authoritative medical opinion has yet evolved, if only for the reason as already indicated, that too little research has been

done upon it. Even the exhaustive practical investigations of Danishevskij and Gelman only relate to 100 houses and their recommendations are not fundamental enough to form the basis of a *quality housing policy*. This is not to despair nor to belittle the importance of the many interesting experiments that are being undertaken by technical experts both in research and in application to modern flats and other dwellings. Only, we must hold on to the League Committee's axiom that "*it must always be borne in mind that the subject of all these measures is man, and their purpose to ensure his comfort, physical and mental fitness and health.*" It has been said of Christianity that it isn't that it has been tried and found wanting, rather that it has never been tried. If we use the term in its fullest interpretation—and the League Committee has shown how full may be that interpretation—the same could be said of environmental hygiene.

Meanwhile, houses will have to be built, the *quantity* policy will have to be followed and, pending the evolution of scientific health and housing standards, we shall have to be content with empiricism. The new Ministry of Health Model Bye-Laws, Series IV, Buildings, are well devised to foster it, for although they give strong powers to local authorities to check jerry building they are framed with sufficient elasticity to allow scope for proper experiment in building and design.

The League Housing Commission has made a flying start. Its labours will be watched with sympathetic interest by all who desire for housing—*quality as well as quantity*.

REFERENCES.

- ¹Ministry of Health. "Housing, House Production, Slum Clearance, etc., England and Wales. Position at 31st March, 1937." H.M. Stationery Office.
- ²Danishevskij, G., and Gelman, I. (1936). "Le Rheumatisme et les Conditions Microclimatiques de L'Habitation." Moscow.
- ³Danishevskij, G., and Gelman, I. (1936). *Ibid.* Moscow.
- ⁴Wilson, J. G. (1936). *The Medical Officer*, 56, 17.
- ⁵The National House-Builders' Registration Council. (1937). "House Purchase Made Safe." London: 13, Russell Square, W.C.1.
- ⁶The National House-Builders' Registration Council. (1937). *Ibid.* London: 13, Russell Square, W.C.1.
- ⁷"Slum Clearance and Rehousing." (1934). London: P. S. King & Son, Ltd.
- ⁸Wilson, J. G. (1937). *Journal of State Medicine*, 45, 7.

THE Royal Sanitary Institute have arranged some lectures and demonstrations to be given by Dr. Thomas Orr (M.O.H., Ealing) on the inspection of milk pasteurising plants. The lectures will be given at the Institute on Thursday, September 30th, and visits will be paid to pasteurising plants on Friday, October 1st. The lectures and demonstrations will be open to Members and Associates of the Institute.

RECENT APPOINTMENTS IN THE PUBLIC HEALTH SERVICE

The following are some recent appointments in the public health departments of various local authorities.

The Editor will be grateful if members of the Society will notify him at once of any new appointments, giving details such as salary, date of appointment, etc. :—

Blackburn C.B., Darwen M.B., Blackburn R.D. : Cons. Obstetrician, Dr. Arthur Lloyd Potter. Salary, £1,000 p.a.

Bristol C.B. : A.M.O.H. & S.M.O., Dr. R. J. Irving Bell.

Cambridge M.B. : A.M.O.H. and A.S.M.O., Dr. R. A. Read (A.M.O., Bristol). Salary, £700, rising by increments of £50 to £800 p.a.

Cardiff C.B. : Assistant D.O. for M. & C.W. and Schools, Mr. P. G. Oliver, L.D.S. (D.O., Swansea C.B.).

Coventry C.B. : Deputy M.O.H., Dr. Alan Ashworth (R.M.O., City Isolation Hospital, Coventry). Salary, £750, rising to £850 by annual increments of £50.

Croydon C.B. : Deputy M.O.H. and Deputy S.M.O., Dr. D. D. Payne (A.M.O.H., Croydon).

Devon C.C. : A.M.O.H., Dr. H. A. Mackenzie Wintle (A.S.M.O., Notts C.C.).

Doncaster C.B. : A.M.O.H., Dr. Sarah C. B. Walker.

Dorset C.C. and Portland U.D. : A.C.M.O.H. M.O.H., Dr. J. D. Dear (Senior A.S.M.O. Southampton). Salary, £800 p.a.

Durham C.C. : Deputy M.O.H., Dr. Ia. McCracken (Divl. M.O., Glasgow City Health Department).

Lancashire C.C. : Chief Asst. M.O.H., Dr. J. Porter (A.M.O.H., Lancs). Salary, £1,200 p.a.

London C.C. : Med. Supt., Eastern Hospital, Dr. N. D. Begg (M.S., Southend Isolation Hospital).

— Med. Supt., River Hospitals, Dr. Maurice Mitman (M.S., Eastern Hospital, L.C.C.).

Luton M.B. : A.M.O.H. & A.S.M.O., Dr. Patrick Doody.

Manchester C.B. : M.O., M. & C.W., Dr. Helen G. M. Bennett (A.M.O.H. & A.S.M.O. Surrey C.C.).

Smethwick C.B. : Deputy M.O.H., Dr. A. Wilson Russell (Asst. M.O.H. and Senior R.M.O. Infectious Diseases Hospital, Portsmouth). Salary, £750, rising to £937 10s.

West Suffolk C.C. : C.M.O.H. & Chief S.M.O., Dr. Henry Roger (Senior A.C.M.O.H., Northants C.C. & M.O.H., Towcester R.D.). Salary £1,000 p.a.

The Medical Officers of Health of the Army

By Col. A. C. HAMMOND-SEARLE, M.C. (late R.A.M.C.), B.A., M.B. (CANTAB.), M.R.C.S., L.R.C.P., D.P.H.,
Commandant, Army School of Hygiene, Aldershot.

Since the creation of the Royal Army Medical Corps, the primary function of its officers, amongst their multifarious duties, has always been laid down as the "prevention of disease." The gradual evolution in the Army of a Hygiene Directorate controlling a large staff of officers specially trained in hygiene, public health and allied sciences has been a natural corollary, and has now been in existence for a number of years.

It will hardly require to be pointed out that the Hygiene Directorate exercises, as far as applicable, the functions of a Ministry of Health for the Army and, as I know from personal experience, works in the greatest harmony not only with the Ministry of Health itself, but also with the corresponding officers of the other services. Collaboration is mutual and frequent. We can, and do, all help each other.

It is not for me to explain to you the functions and activities of a Medical Officer of Health, whether in the Army or out of it, but it has struck me that you may be interested in some of the problems and activities which are special to the conditions under which we serve.

Now, further to my opening sentence :—It may be mentioned that there exists an Army Hygiene Advisory Committee, composed not only of those who hold the leading positions in the Hygiene Directorate, but co-opting the services of a number of civilian members, who are eminent teachers of the science in which we are particularly interested, and including, amongst others, such authorities as Professor Cathcart, Professor Jameson and Dr. Carnwath.

This Committee meets once a year—and to it are presented the results of our work and research, our plans and proposals for the betterment of the life of the soldier in every branch of its activities. At this meeting resolutions of present and future policy are debated and, if approved, passed on to the Army Council. It need hardly be said that such recommendations carry great weight, and have commonly been the source from which major improvements in Army life have originated.

At the present moment we may be excused some justifiable elation, that a fine "crop" of our recommendations of the past few years are about to be adopted.

* A paper read to the Southern Branch of the Society of Medical Officers of Health, at Aldershot, April 3rd, 1937.

Research

We have the Royal Army Medical College, Millbank, consisting of a Pathology and a Hygiene side where continuous research goes on—and this Army School of Hygiene where also we are continuously engaged in a variety of problems.

Our research work is at the moment mainly in connection with (1) the purification of water in the field and appliances for that purpose, (2) apparatus for field disinfection and disinfection, (3) disposal of sullage water, etc. In addition, the War Office utilises our services in the investigation of many smaller problems, the testing out of new or suggested appliances, etc. Apart from the training that goes on here, the Chemical Laboratory also functions as a Hygiene Laboratory for routine examination of water, sewage, etc., for the Aldershot Command.

The *raison d'être* of the Army School of Hygiene, apart from the above, is of course the training of the sanitary duty and water duty personnel of the Regular and Territorial Army, the training of young combatant officers in military hygiene, including some officers and men of the Royal Marines. In addition, refresher courses and/or demonstrations are given to non-commissioned officers for their promotion examinations, to Royal Army Medical Corps privates, to recruits and to many others. Then we are visited by the junior and senior officers Royal Army Medical Corps and Indian Medical Service from the Royal Army Medical College. The London School of Hygiene and Tropical Medicine visit us in strength twice yearly, and we are glad to know that it is looked upon as a very valuable day in their course. An indefinite number of other officers, Territorial Army adjutants, representatives of foreign armies, civilian doctors, occasionally a Medical Officer of Health, Colonial Service officers and ladies of the Red Cross Society and First Aid Nursing Yeomanry Corps request demonstrations.

We also have the Officers' Training Corps here for a fortnight and much enjoy having them, as they are all medical students from the universities. There is, you will observe, plenty of work and enthusiasm here.

The buildings here are temporary and nothing to be proud of, but the erection of new buildings in the Mytchett Lake area will be commenced very shortly, which should enhance our apparent, if not our real, value to the Army.

You may be interested to hear a little about some of the special problems which fall to the lot of the Army Medical Officer of Health or "Hygiene Specialists" as we are usually called.

Physical Training and Recruiting

The daily press has lately been giving publicity to some of our efforts to minimise the high refusal rate and wastage of the material presenting itself for enlistment. We have been giving our attention to this problem for some time at the War Office and at the Central London Recruiting Depot (which is the central administrative organisation for recruiting throughout the country), and last year a Committee was appointed to investigate the causes of rejections, to determine whether these are unavoidable, and to enquire into the possibilities of making more use of the material available.

You are of course aware of the recent experiment in taking in "sub-standard" recruits and our success in bringing a high percentage of them up to standard within the period of the experiment (three months). The question does not, however, end there, for obviously it is of great importance to follow the after history of these men and see whether further development along normal lines can be achieved or whether they will not progress further and prove a bad investment.

I shall not go into the question of those found to have minor disabilities or deformities—and the remedial measures that have been tried in this connection. Success should connote fewer initial rejections for these causes.

Of much greater interest, I think, is the recognition, so long delayed, that it is possible to divide men into categories and accept them for specific types of duty. It will be obvious that an infantry soldier, a clerk, and an M.T. driver can each be perfectly acceptable as such, though possessing minor disabilities which preclude interchange of such duties—with efficiency. Nor is such an interchange contemplated or practicable in normal circumstances—even in war.

On this basis units may now be grouped as follows:—

- (a) Horsed field units and infantry.
- (b) Mechanised field units.
- (c) Mechanical transport units.
- (d) Other lines of communication units.

This change should result in the possibility of accepting without detriment to the Service many whom it was formerly necessary to reject.

Physical Training

To our general function of "prevention of disease" the Hygiene Directorate has in recent years linked and stressed "the promotion and maintenance of mental and physical health."

The evil effects of wrong methods of physical training were recognised in the Army some years before the Great War and new methods, controlled by careful physiological investigations by specially trained physiologists of the Royal Army Medical Corps on the staff of the Army School of Physical Training, Aldershot, have been introduced in recent years, with the result that there is no longer wastage from D.A.H. and other disabilities resulting from faulty training. Instead, young soldiers are now created with mental and physical alertness and agility, and with a symmetrical development of muscular and organic function.

Budding instructors receive careful training not only from the combatant members of the P.T. training staff, but also by the physiologist, and the mental aspect of the P.T. training of recruits at depots is likewise supervised by the specially trained officers of the Hygiene Directorate.

The new physical training tables are the result of very careful research and are considered to be entirely satisfactory for the (above mentioned) purposes for which they are intended. Research at the Army School of Physical Training has been conducted by the successive hygiene specialists attached there: *inter alia* a long standing series of observations on the effect of full range breathing exercises on vital capacity has yielded excellent results. Some extraordinary high individual gains have been recorded, whilst there has year by year been a further increase in the average gain of platoons on these exercises, compared with the gain of platoons on the old exercises. In the *Health of the Army* for 1935 this average increase in the case of the former is quoted as no less than 416 c.cm. compared with an increase of 81 c.cm. on the old.

The Feeding of the Soldier

In spite of the small total sum which is allowed per man (about 10d. per day only) it is amazing what can be achieved. It must of course be emphasised that these sums are hardly comparable to civilian prices. The R.A.S.C. ration stands at 4.51d. only, with beef (frozen) at 3.52d. per lb., bread 1.30d. per lb., etc., whilst the commuted cash allowance, in respect of the items bacon, cheese, margarine and jam, is also a somewhat theoretical figure of 2.11d. per man per day—very much wholesale rates, with bacon 10d. per lb., cheese 7½d., etc.

This is of course recognised and when a man goes on leave he is granted more than double—*viz.* 1/11 per day—which will now be raised to over 2/- per day.

I invite your attention to these 10-day menus—chosen at random from those of this school. This

is only a small unit and the total dining strength is usually just under 100. In a large unit it should be possible to achieve better and more varied menus.

Efficient organisation and greater skill in utilising the available resources have been gradually developed due to the much greater interest now taken in the subject by all concerned—particularly officers in charge of messing.

Also, a former Sergeant-Major, later Quartermaster of this school, has been specially appointed by the War Office as Inspector of Army Catering. He has done an immense amount of travelling, both at home and to overseas military stations, and his special knowledge has enabled him to point out individual shortcomings in organisation or dietary, the correction of which connotes a definite advance in efficiency. His visits are very popular and full use is usually made of his recommendations.

The recent announcement of a larger money allowance for the feeding of each man comes at an opportune moment, and I may tell you that it must now be some 18 months ago that I took part in the initial stages of a very representative War Office committee to investigate the whole question of feeding of the soldier and his family at home and abroad.

I invite your attention to the recent addition of a supper element, bringing the total value of the ration up to over 15d. (maximum). Note also the additional cash allowance for milk for boys and that the money allowance in lieu of rations is increased to well over 2/-, as I stated previously.

The ramifications of the enquiry are far reaching and it is obvious that they are behind the recent recommendations on the subject.

In many overseas stations our hygiene specialists, working with the R.A.S.C., are faced with problems which are specific to the particular country. There is for instance:

- (1) The poor quality of the meat derived from undersized, underfed cattle, necessitating increases of scale and the addition to the dietary of fat from other sources.
- (2) Inability to obtain a sufficiency or a proper variety of fresh vegetables.
- (3) Difficulties in connection with the preparation of indigenous vegetables in a manner acceptable to the soldier. For this purpose we have engaged native cooks who have been attached to units as instructors in the matter.
- (4) The keeping quality of tinned foodstuffs under extreme tropical conditions. This has sometimes resulted in heavy condemnations of blown tins, etc., much argument as to whether such foodstuffs can be issued—when the contents are proved sterile (*vide* Dr. Walton, *Journal of the*

Royal Sanitary Institute, May, 1935) and the selection of other articles of tinned food, which have proved or can be guaranteed by the makers to be less susceptible to the effects of tropical conditions of temperature.

In India we possess, at Kasauli, a Military Food Laboratory—with a highly specialised staff, which exercises the following main functions:—

- (a) To assist Supply Officers in ensuring that the food and fodder supplies for the Army are up to specification.
- (b) To assist in controlling the output (grain, etc.) from Army mills.
- (c) To aid in the investigation of complaints of units regarding quality of food supplies.
- (d) To carry out experiments and investigations into the food supplies of the Army.

To this may be added the important function of ensuring that the Indian soldier gets what he expects—a caste pure diet. Adulteration of food in India is rife, and the laboratory ensures that the supplies are of the nature demanded. The decisions of the laboratory involve thousands of tons of foodstuffs—including such things as tinned milk, jams, cereals, bacon, biscuits, sugar, various oils, Ghee, bran, etc.

Milk Supply

To whatever extent some of the sources of milk in this country may arouse your dissatisfaction—they cannot be compared with the primitive and intensely dangerous supplies which we meet with in many overseas stations. You can guess the extent to which supervision of the premises of native vendors may result in eyewash improvement without much additional safety.

Imagine the condition (bacteriologically) of milk which has been carried in doubtful vessels at a jog trot on the heads of native coolies—in a tropical or semi-tropical temperature.

To combat this state of affairs—fundamentally—there has been some progress, in India at least. The Government has provided Government military dairies and farms. Here well-bred cattle are stocked and bred from fine (often English) bulls, and are properly byred and looked after. Milking is done in a cleanly manner and the milk transferred to adjacent reasonably modern establishments for pasteurisation, cooling, bottling, etc.

There has, of course, been the usual argument as to the necessity or inadvisability of pasteurisation—but, India is India, and personally, I should hesitate to consume an unpasteurised milk even from a military Government dairy, without ordering it to be boiled (as has been done for generations).

Mineral Water Factories are a constant source of danger, and vary from filthy huts, using as the

source of supply shallow wells dug in the age-long polluted soil of the bazaars (these are, of course, put out of bounds) to large establishments reasonably well run, in which the native proprietors really endeavour to carry out our recommendations.

Ice Factories are a closely allied problem, but in the last few years many big establishments with their own deep tube wells and satisfactory methods of ice manufacture have relieved us of some of the dangers of this essential commodity. In this connection a War Office committee has recently completed its investigations and has put forward its proposals, since adopted, for scales of issue of ice and ice chests for all military purposes (including hospitals, barracks and families) throughout our tropical military stations.

Anti-malarial Work constitutes one of the most interesting of our activities in India and other affected stations.

Except for occasional mosquito infestation problems such as occur at Hayling Island, Chatham, Sheerness, Aldershot, etc., from time to time, this subject is not as a rule one with which medical officers of health have to deal here in the United Kingdom, so my few remarks are merely of general interest—or so I hope.

In general terms, taking India as an example, executive medical officers are appointed as anti-malarial officers, for which purpose they receive a course of training at a teaching centre at Karnal.

They have under them, and it is their business to train, a number of British N.C.O.s and men from the units, plus a sufficiency of Indian coolie labour, for the purpose of carrying out the actual work that is within their scope. Constructional permanent drainage works and the like are carried out by the military engineering services, in close co-operation with them.

Of recent years a more continuous policy of co-ordinated work has been carried out owing to the above system of control, and in many stations considerable progress has been made by repeated allocation of funds to the same station until major works have been completed. Complete schemes of anti-malarial work have been prepared for all military stations and form the basis of the above.

Some of our hygiene officers have recently had the interesting experience of initiating anti-malarial work on a major scale—in co-operation with the local Royal Engineers and the local civil health authorities—in two stations in the Far East, where re-organisation of garrisons has necessitated the breaking of entirely new ground. As a result, the importation of the necessary coolie labour has *not* been accompanied by explosive epidemics of malaria, as is usually the case.

There are, of course, many other duties specific to our specialised activities such as :—

Embarkation Medical Officer's duties akin to and accessory to those of the Port Health Authorities.

Inspection of butcheries, bakeries, slaughter houses.

Supervision of plans for new construction and re-appropriations.

Water supplies.

Sewage works.

Child welfare, etc., etc.

Duties with which you are all familiar in that they are wholly or partly included in your own, but the time at my disposal unfortunately does not permit me to go into them in detail.

I trust that this short resumé of some of the activities of your brother Medical Officers of Health in the Army has shown you that there is "plenty doing," and that the welfare of the soldier receives our constant care and provides us with ample work and interest, as do your own activities on behalf of the civil population.

MINISTRY OF HEALTH PUBLICATIONS

The subjoined notes regarding recent Ministry of Health circulars, memoranda and reports are made available by courtesy of the Ministry. Readers are reminded that priced documents should be obtained not from the Ministry but from H.M. Stationery Office, Adastral House, Kingsway, W.C.2, who will open deposit accounts and receive subscriptions for the regular supply of publications of a specialised nature. Documents which are not priced in the following list are not available from the Stationery Office, and if any reader wishes for a copy of one of these, it is open to him to apply to the Ministry direct.

Circulars 1634 and 1634a (encloses S.R. & O. of 1937, No. 555). Price 1d. net. By post 1½d. *Housing Act, 1936*. Covering circulars to certain local authorities forwarding to them copies of the Housing Act, 1936 (operation of Overcrowding Provisions) Order (No. 2), 1937.

S.R. & O. of 1937, No. 555. Price 1d. net. By post, 1½d. *The Housing Act, 1936* (Operation of Overcrowding Provisions) Order (No. 2), 1937.

Form H256. Housing—Requests Clerks to local authorities to furnish a return of the progress made up to June 30th, 1937, under the Housing Act, 1930, with respect to Unhealthy Areas and Insanitary Houses.

Memo. H256c. Slum Clearance—Progress under Programmes. Informs Clerks to local authorities that no return (in form H256a) of the progress made up to June 30th, 1937, in their programmes under the Housing Act, 1930, will be called for, but requests that records may be kept for a return up to September 30th next.

P.H.M.S. 81. Price 9d. net. By post, 9½d. *Public Health and Medical Subjects No. 81*. Report of an Outbreak of Enteric Fever in Bournemouth, Poole and Christchurch, by W. Vernon Shaw, O.B.E., M.D.

Report. Price 4d. net. By post, 4½d. *Rehabilitation of Persons Injured*. Interim report of the Inter-Departmental Committee on the Rehabilitation of Persons injured by accidents.

Physical Education in Relation to the Duties of a School Medical Officer*

By H. MAINWARING HOLT, T.D., M.B., B.S., D.P.H.,

Medical Officer of Health and School Medical Officer, Borough of Keighley.

No apology need be made for bringing physical education within the purview of the School Medical Officer. A large majority of papers delivered by experts in this particular branch of school activity seldom refer to the very important relationship which the subject has in the administration of the School Medical Service. No programme of physical education, however well conceived, can possibly produce the results anticipated unless a very clear conception of the physical capacity of the child is first defined. The School Medical Service at present embraces routine medical inspection, the treatment of minor ailments, the ascertainment of various physical defects and the appropriate disposal of various other cases whose clinical circumstances demand it.

Estimation of Physical Capacity

Little, if any, attention is paid to what may be defined as the physical capacity of a child—i.e. the response of the child organism to the various forms of exercises to which it might be subjected in the course of physical instruction, whether such physical instruction takes the form of class instruction with or without apparatus, or organised games. The direction in which investigation should be conducted would take considerably more time than is at present possible in the course of routine medical inspection. It would be necessary to ascertain, for instance, the cardiac response to some definite and constant form of physical exertion. It is conceivable, for instance, that the cardiac response of a child walking or running along a given route—for example round the playground—might indicate a condition which would not induce the observer to prescribe physical exercises except in graduated form. I believe I am right in saying that very little has been done in what might appropriately be termed the kynetic physiological activity of the growing child: however this may be, a great deal still remains to be done. I am quite convinced that without a very careful medical examination conducted on the lines indicated a great deal of serious damage might be done in prescribing physical exercises, and that no form of physical education, however simple, should be undertaken without a definite knowledge of the child's capacity.

*A paper read to the Yorkshire Branch of the Society of Medical Officers of Health, Leeds, May 28th, 1937.

Children may show respiratory deficiency, possibly due to some obscure cause not readily ascertained as the result of a cursory routine medical inspection. Children who suffer from undefined anæmias come within this category. There are so very many physical discrepancies amongst children—discrepancies which do not find any definition in the average medical text-book and defy ready diagnosis—that the greatest clinical acumen is called for in defining a child's fitness or otherwise for a prescribed regime of physical education.

Diagnosis of Debility

The diagnosis of debility, although regarded amongst clinicians as meaningless, has in my view a very real meaning in preventive medicine and the time has come when the underlying causes of this condition need closer definition. Debility may be inherent, it may be the result of prolonged or insufficient nutrition, it may be the result of bad housing conditions with concurrent absence of fresh air and sunshine, it may be the result of illness—recent or distant, it may be the result of loss of sleep, it may be the result of pure inertia. All these possibilities call for a careful examination of the immediate and past medical history and only when some definite conclusion has been drawn is the Medical Officer in a position to decide the extent to which a child should be submitted to a programme of physical education.

Correlation of Physical Capacity with Forms of Exercise

The question of nutrition has been raised in Parliament and various opinions offered as to the desirability of developing the subject of physical education in schools before first undertaking a nutritional survey of the children. This opinion is one to which I very readily subscribe and I would be prepared to extend that survey beyond the nutritional factor. I would include a survey of the whole of the child's medical history and make some attempt to correlate the physical capacity of the child to the form of physical education to which it is to be subjected. To this end it will be necessary for the School Medical Officer to know the type of physical education prescribed by the organisers of physical education in the area in which he serves. He would do well to observe the response of children whilst carrying out exercises

in the school. A good deal can be learnt in this way and serious catastrophe avoided.

Physical education is no new subject. The interest which the Board of Education is now taking in this direction represents a phase in educational development. Physical education took a pre-eminent place in the training of the early Greeks and Romans. In those far-off days people knew very little and cared very much less about the physical capacity of the individual. Physical performance called for public applause. Physical inferiority was a matter for contempt and the weakest went to the wall. An entirely new conception has developed in the present age and attention is directed to giving the less physically endowed a chance of emulating those who are more fortunate. A good deal of criticism has been levelled at the Public Health Service in its humanitarian outlook, an outlook which gives a chance of survival to the lesser endowed. It may be said, and I believe it has been said rightly, that an enormous amount of time and public money is wasted in endeavouring to re-habilitate the wreckage of humanity: on the other hand we must recollect that some of the greatest and most distinguished men throughout history have had little to recommend them so far as physique was concerned.

The Purpose of Physical Education

The purpose of physical education is primarily to develop the best use of wind and limb, to stimulate the power of endurance and to engender the capacity to meet hardship and privation. There can be no useful purpose served in developing muscle for muscle's sake. In short, physical education is an essential feature for the development of character and I am inclined to believe that we are somewhat apprehensive as to the state of our national character, an apprehension which has found expression in the recent importance which the Government is attaching to the place which physical education will find in the school curriculum.

Importance of Circumstances and Surroundings

I believe that the ultimate result of physical education can only be reached providing every attention is given to the circumstances and surroundings under which it is practised. The type of teacher is probably the first essential but that the child taught should be of a sufficient capacity to take full advantage of the teaching provided is of equal importance. The factor which has concerned me very gravely is the essential of the physiological counterpart of exercise, namely, rest. Without adequate rest no child can possibly take full advantage of regulated physical activity and it

is the duty of those of us engaged in the School Medical Service to prescribe periods of rest commensurate with periods of activity and to balance these two elements according to the capacity of the child.

Another feature to which the Board of Education has recently drawn attention is the importance of suitable clothing in which to carry out physical exercises. There can be nothing more objectionable to a child, and nothing more discouraging to the teacher, than the conduct of a class of physical education with children unsuitably clad. The class of clothing necessary for children engaged in physical education is simple and inexpensive and there can be no excuse for avoiding this issue.

The Part of the School Medical Officer

All these features are an essential concern of the School Medical Service. My plea is that the School Medical Officer should take a deeper and more closely defined interest in this very important problem. He is trained in knowledge and experience which enable him to assess the therapeutic response of physical exertion and the therapeutic value of physical exercise. Let him particularly guard against making physical education a fetish. There are individuals who are totally unfitted for any particular form of physical education, there are others who cannot have too much. Within these limits a whole conglomeration of human material requires classification; it would be utterly unscientific to herd children together regardless of medical opinion and cram them with somebody or other's system of physical training. Physical training starts in the Infant School and goes on as long as you care to endure it; it has its dangers as well as its advantages. Let us be certain therefore that it is scientifically adjusted to individual needs.

WE learn with regret as we go to press of the death on August 25th of Dr. D. C. Kirkhope, who only recently retired from the post of medical officer of health to the Borough of Tottenham.

An obituary notice will appear in our next issue.

DR. WILLIAM M. CUMMING, whose recent death at the early age of 39 we record with great regret, was until last year medical superintendent of Bradford City Sanitation at Grassington, Yorks. He was formerly A.M.O. at Grove Park Hospital (L.C.C.) and Assistant M.S. of Fife and Kinross Sanatorium. At the time of his death he was lecturer in bacteriology at University College, Dundee (where he was working on problems of pulmonary disease of bovine origin).

AN INVESTIGATION into CONGENITAL HEART DISEASE WITH ESPECIAL REFERENCE TO ITS RELATIONSHIP TO RHEUMATISM IN THE PARENT

By T. ISLWYN EVANS, M.A., M.B., D.P.H.,
Medical Officer of Health, Llantrisant and Llantwit-
Vardre R.D.

I undertook the following investigation while I was an Assistant Medical Officer of Health for the City of Cardiff.

There were two reasons which determined my investigation into congenital heart disease, viz.:—the prevalence of rheumatism in the Cardiff area, and the splendid opportunity of securing a comparatively large number of congenital heart disease cases; though it must be remembered that it took some time (almost two years) to collect as many as 30 genuine cases.

The object of the investigation was, in the first case, an enquiry into the history of rheumatism in either parent, but with particular reference to the mother, and more especially during her pregnancy with the affected child. Furthermore, as a matter of interest, a history of rheumatism in the brothers or sisters of the affected children was also enquired into at the same time.

The cases were referred by various medical officers to a special congenital heart disease clinic. Most of the children were no longer babies in arms, but they varied in ages from babies a few months old to children of eleven years of age. The mothers were present in all cases.

A high percentage (roughly about 40 per cent.) of the total number of cases referred to the special clinic turned out not to be pure congenital heart disease. It may be said, now, that it was extremely difficult to tell in some cases, whether they were rheumatic or congenital heart disease.

I would like to point out a symptom, which, to the best of my knowledge, has not previously been given in text-books or papers on the subject, and which occurs with such frequency as to be almost diagnostic of congenital heart disease, viz.:—the "energy" exhibited by the child. The mother often volunteered the information that the child was "very energetic" or "full of life," much more so than her other normal children (of course the little patient got easily tired). But compare this with the listlessness and tiredness of the rheumatic child. "He doesn't want to do anything lately" is frequently a parent's dictum of a rheumatic child.

More for the sake of interest than for any practical purpose in my investigation, I attempted to classify my cases according to Perry's classification, but I am afraid I could not find the signs fitting exactly to each class as set out by Prof. Perry. Some cases, I failed to classify at all, no doubt owing to my inexperience. (For Perry's classification, see overleaf.)

The following are my results together with certain facts elicited:—

1. Total number of cases investigated...	53
2. Congenital heart disease cases	30
3. Rejected cases as:—(a) definite rheumatic...	3
(b) doubtful C.H.D.	20

The doubtful cases referred to were:—

- (1) Those with hamic murmurs.
- (2) Those where there was definite evidence of superadded rheumatic affection, which might have been the cause in whole or in part of the lesions found.

4. Illness of mother during pregnancy:—	Cases.	Total.
(1) Rheumatic fever	...	1
(2) Rheumatism	...	1
(3) Vomiting of pregnancy + an accident	...	1
(4) Influenza	...	1
5. Maternal Disease before Pregnancy:—		
(1) Rheumatism	...	1
(2) Pains in the legs	...	1
(3) Scarlet fever	...	2
(4) Pregnancy kidney	...	1
6. Paternal Disease long before Birth of Child:—		
(1) Rheumatism	...	2
(2) Scarlet fever	...	1
(3) Heart trouble in family	...	1
7. History of congenital heart disease in brothers or sisters of affected children or "in the family."		3 cases.
8. Classification of the lesions:—		

I found it extremely difficult to keep to the classification as set out by Dr. Perry in his able monograph on the subject. The lesions, as evidenced by the clinical findings, were not sufficiently "individual" to classify. Many appeared to be double lesions, while in other cases it was very difficult to state definitely what the lesion was. I therefore propose to give a rough classification of my own, though well knowing it is not the one usually accepted. I also attach the relative terms of energy exhibited by each case or group of cases.

(a) Where the pulmonary systolic murmur predominated or was the only lesion present—these may be called "pulmonary stenosis" lesions.

	Energy.	Cases.
Pulmonary systolic murmur pre-dominated	+	7
Pulmonary systolic murmur pre-dominated	—	2
Pulmonary systolic murmur alone	+	2
" " " "	—	1

(b) Where the mitral systolic or tricuspid systolic murmurs predominated or were the only lesion. These may be called "Patent Interventricular Septum" lesions.

	Energy.	Cases.
Mitral systolic murmur pre-dominated	+	4
Mitral systolic murmur pre-dominated	—	3
Mitral systolic murmur only	+	1
Tricuspid systolic murmur pre-dominated	+	4
Tricuspid systolic murmur only	+	1

(c) Mitral systolic and diastolic murmurs of equal intensity: Patent ductus arteriorus.

- (1) Energetic ... 2 cases.

(d) Aortic systolic murmur predominated: sub-aortic stenosis:

- (1) Energetic ... 1 case.
 - (2) Not energetic 1 "
- In the above classification, full consideration has been given to the conduction of the murmurs, whether, *e.g.*, they are heard in one or both "backs". Furthermore, two cases placed in group (a) also showed "humming-top" murmurs, as such might also be classified in group (c).

- 9. (a) No showing marked symptoms: dyspnoea, cyanosis or heart-attacks, with or without "energy."
- (1) With "energy" ... 8
- (2) Without "energy" ... 4
- (b) No. of energetic cases with undue symptoms without ... 13
- 10. Total "number" showing thrills ... 7
- 11. Relations of intensity of murmurs to severity of symptoms.
- (a) Soft murmurs showing severe symptoms 2
- Soft murmurs not showing severe symptoms ... 10
- (b) Loud murmurs showing severe symptoms 10
- Loud murmurs not showing severe symptoms ... 8
- 12. Amount of Schooling Lost.
- (a) Patients with marked or fairly marked symptoms.

	No.
(1) Under 1 month per annum ...	2
(2) " 2 months " ...	0
(3) " 3 " " ...	0
(4) " 4 " " ...	3
(5) No schooling lost at all ...	5
(6) Never attended school though of school age	2
(7) Babies ...	1
(b) Patients with no marked symptoms.	
(1) Under 1 month per annum ...	0
(2) " 2 months " ...	0
(3) " 3 " " ...	0
(4) Over 3 " " (when in infants' school)	1
(5) No schooling lost at all ...	16

Conclusions.

As a result of the foregoing, the following observations may safely be made:—

- 1. That congenital heart disease lesions are not "cut and dried," to nearly the same extent as are rheumatic affections of the heart. They are, moreover extremely varied and complicated in character, and are very difficult to classify satisfactorily.
- 2. There is no relationship between rheumatism in the mother, before or during pregnancy, and congenital heart disease in the child.
- Nor, as far as ascertainable, is there any relationship between rheumatism in the father and congenital heart disease in the child.
- 3. That a rather remarkable "symptom," *viz.*: abnormal or even excessive energy was shown by a large percentage of these cases.
- 4. In those cases which were re-examined after an interval of a year or more, there appeared a tendency

for the severity of the symptoms to decrease, and the character of the lesions to alter. But in this, the number of cases re-examined was too small to be of much value.

- 5. The children did not show other congenital defects.
- 6. That schooling, that is the educational side of life, need not be lost, except by the most extreme and helpless cases.

I am indebted to my late Medical Officer of Health for the facilities to carry out this investigation; to my late Deputy Medical Officer for his original suggestions and help; to the other Medical Officers for referring cases to my special clinic, and lastly to the Chief Clerk of the School Medical Department for the clerical help he gave me.

Prof. Perry's Classification of Congenital Heart Disease Murmurs.

Group 1.—This is composed of those cases in whom the common physical sign is a systolic murmur, varying in intensity, but maximal at the inner end of the third and fourth left intercostal spaces. In some cases the murmur is audible all over the præcordia but is never heard in the back. There may be also a central systolic thrill which is sometimes accentuated when the patient is examined in the crawling position, as described by Vasquez. It seems probable that the underlying anatomical defect in these cases is a patency of the interventricular septum.

Group 2.—The signs characterising the cases forming this group differ from the preceding only in that the murmur is conducted through to the left side of the back. These are the classical findings in patency of the interventricular septum or "maladie de Roger." Apparently the defect in this group differs from that in Group 1 either in the situation or size of the opening in the interventricular septum, with the result that the bruit is conducted through to the back as described.

Group 3.—The feature peculiar to this group is a systolic murmur, usually associated with a thrill, maximal at the pulmonary area, but heard also above and to the left of this and in the left back, and in many cases all over the præcordia. Most of these cases also exhibit an accentuation of the second sound at the pulmonary area. These signs, with the exception of the accentuation of the pulmonary second sound, correspond closely with those usually found in that combination of defects known as the "tetralogy of Fallot" (*i.e.*, pulmonary stenosis with dextro-position of the aorta and patency of the interventricular septum). However, most observers have recorded a diminution rather than an accentuation of the pulmonary second sound in this condition.

Group 4.—The physical signs of the cases forming this group differ from those found in Group 3 in that the murmur is not audible in the back, although otherwise substantially the same. Again, but for the accentuation of the pulmonary second sound these signs agree closely with those usually regarded as indicative of a pulmonary stenosis.

Group 5.—The sign presented by the children in this group is a loud general systolic murmur, maximal at the pulmonary area, where it becomes continuous with a lower pitched diastolic murmur producing a continuous "machinery" or "humming top" hum. The systolic

part of the bruit is audible in the left back and the pulmonary second sound is accentuated. None of these cases showed "Gerhardt's dullness." These signs are fairly typical of a patent ductus arteriosus.

Group 6.—The cases in this group present a soft general systolic murmur which becomes much more marked at the aortic area and is conducted up into the neck along the carotids, and into both sides of the back. In most of the cases, also, it was audible over the axillary artery. The apex beat in these children is rather shock-like on palpation and the first sound at the apex is accentuated. This combination of signs is strongly suggestive of a sub-aortic stenosis.

REFERENCE.
Perry, C. Bruce (1931). Congenital Anomalies of the Heart in Elementary School Children. *Arch. Dis. Childhood*, 6, No. 35.

RECENT OR IMPENDING RETIREMENTS.

It seems opportune to mention at this time some recent or impending retirements. It is inevitable that prominent public health workers should after their due term have to make way for successors, but we feel that a word of farewell and good wishes should be extended to them.

Among those who will no longer be actively engaged in public health are Dr. G. A. Auden, for many years the distinguished school medical officer for Birmingham; Dr. J. Middleton Martin, who has been largely responsible for the development of the public health work in Gloucestershire and one of the leaders amongst county medical officers of health; and another distinguished school medical officer, Dr. A. E. Kidd, of Dundee. Dr. A. J. Laird is laying down the reins at Cambridge, and Dr. A. M. N. Pringle will shortly be retiring from Ipswich; both of these officers have given yeoman service for some 30 years to their respective towns. Dr. W. E. Burton, who has retired from the position of M.O.H. to the Chester and Tarvin rural districts, is an old member of the Society and past-President of the North-Western Branch. Lastly, we must bid farewell to Dr. Mary E. Howie, who recently handed on to her successor the work of the maternity and child welfare department of County Durham. Dr. Howie was a keen member of the Society and did much for child welfare in Durham and for the assistant medical officers who worked with her.

MEMBERS will have seen with pleasure the announcement of the wedding on July 3rd last of Dr. Irene Elizabeth Chandler (A.M.O.H., Finsbury) to her M.O.H., Dr. N. D. Dunscombe. We extend hearty congratulations on this public health alliance.

DR. JAMES FENTON will be introduced to the Presidential chair of the Society at the Ordinary Meeting to be held on Friday, October 29th, when he will deliver his Presidential Address.

The Annual Dinner of the Society will be held at the Piccadilly Hotel on Friday, November 19th.

The Society: Notices and Reports

ANNUAL SUBSCRIPTIONS.

It will be of great assistance to the central office in preparing for the annual audit if members who have not yet paid their subscriptions for the current session will do so immediately. Final reminder notices will be issued shortly.

ROLL OF MEMBERS, 1937-38.

Members are asked to notify the Executive Secretary of corrections to be made in their entries in the Roll of Members not later than September 10th.

COUNTY BOROUGH MEDICAL OFFICERS OF HEALTH GROUP.

President: Dr. J. J. Buchan (M.O.H., Bradford).
Hon. Secretary: Dr. Gordon Lilico, 1, Derwent Street, Derby.

The Annual Meeting of the Group was held at the Medical Institute, Birmingham, on Thursday, July 15th, 1937. The President (Dr. J. J. Buchan) was in the chair and there were also present Drs. Cyril Banks, R. B. Berry, J. A. Charles, J. A. M. Clark, J. F. Galloway, N. Gebbie, J. M. Gibson, A. J. B. Griffin, J. Johnstone Jervis, J. A. Kerr, Gordon Lilico, J. W. Lobban, E. K. Macdonald, H. P. Newsholme, R. H. Parry, T. A. Seekings, F. A. Sharpe, V. F. Soothill, V. T. Thierens, W. S. Walton, J. G. Wilson, and J. Yule.

The following business was transacted:—
1. Election of Officers for the year 1937-38:—
President: Dr. R. Veitch Clark.
Vice-President: Dr. Cyril Banks.
Executive Committee: Dr. A. Massey, Dr. R. H. Parry, and Dr. H. C. Maurice Williams.
Honorary Secretary: Dr. Gordon Lilico.

(2) Scottish Members.—The Honorary Secretary was instructed to ascertain which of the Scottish local authorities held a status similar to that of the County Boroughs and to invite the Medical Officers to become members of the Group.

(3) Tyneside Report.—The attention of the Group was drawn by Dr. Buchan to the report and the repercussions it might have on future County Borough government.

RESOLVED.—That a Committee consisting of Drs. R. Veitch Clark, J. J. Buchan, J. A. Charles, J. Johnstone Jervis and H. P. Newsholme be set up to consider the report and that a meeting be arranged for this purpose in October.

(4) Fees Paid to Consulting Obstetricians.—This matter was raised by Dr. R. B. Berry but discussion showed that the schemes in force in the various towns varied considerably and so also did the system of payment.

(5) Boy Entrants, Royal Air Force.—A member asked for information as to what action was being taken by other Medical Officers who were being asked by their Education Authorities to examine boys as laid down in A.M. Pamphlet 54, 5th Edition, 1937.

The opinion of the meeting was that it came within the province of the School Medical Officers.

(6) *Recruitment of Nurses*.—Dr. Gibson brought forward the difficulties with which he was confronted in obtaining nursing staff for the municipal hospitals.

This subject was debated at length and it was decided to ask Dr. J. Johnstone Jervis to present a report.

(7) *Annual Reports*.—Dr. Macdonald asked if certain statistics could be extracted from Medical Officers' Reports and that these be circulated.

The Honorary Secretary undertook to attempt to obtain this information.

(8) *Other matters discussed were* :—

(a) Reconstituted milk (Dr. J. A. Kerr).

(b) Provision of houses for midwives (Dr. J. A. Kerr).

(c) Charge for infectious disease cases (Dr. J. Yule).

(9) The vote of thanks to the retiring President was proposed by Dr. Parry and carried with acclamation.

(10) Arrangements regarding the date and place of the next meeting have been left in the hands of the Executive Committee.

COUNTY DISTRICT GROUP.

President: Dr. A. T. W. Powell (M.O.H. Walthamstow).

Hon. Secretary: Dr. E. W. Caryl Thomas (Harrow).

The annual meeting of the Group was held at Birmingham on Friday, July 16th, 1937. The President was in the chair, and 21 members attended.

The following Officers were elected for 1937-38 :—

President: Dr. A. F. Adamson.

Vice-President: Dr. P. G. Horsburgh.

Hon. Secretary: Dr. E. W. Caryl Thomas.

Representative on Council: Dr. E. W. Caryl Thomas.

Executive Committee: Drs. G. F. Buchan, W. F. Corfield, G. H. Dupont, C. E. E. Herington, A. W. Johns, A. T. W. Powell, J. F. Macdonald, E. H. T. Nash and K. E. Tapper.

The following were elected as Hon. Secretaries of the Sub-Groups :—*East Midland*: Dr. Barker; *Midland*: Dr. Horsburgh; *Northern*: Dr. McGonigle; *North-Western*: Dr. Marsden; *Welsh*: Dr. Pritchard; *Yorkshire*: Dr. J. Mair; *West of England, Eastern*: Refer to Branches.

Accounts amounting to £2 19s. 10d. were submitted and approved for payment.

The question of the eligibility of members of the Groups and the steps taken to recruit them was discussed. The suggestion that all eligible members should be circularised was referred to the Executive Committee for their consideration.

The President opened a discussion on Diphtheria Immunisation with special reference to A.P.T. He submitted statistics showing the extreme variability in the efficiency of the one-shot method and indicated his intention in future to use only the double dose method.

He also touched on the question of the points in diagnosis of all cases of diphtheria occurring in persons who had been immunised, submitting that a Schick test was necessary, as was a virulence test for any K.I.B. found in the swab with preferably an estimation to be made of the amount of circulating antitoxin, and that separate nose and throat swabs should be examined for other organisms, especially the haemolytic streptococcus.

Several members who entered into the discussion criticised the efficacy of the ordinary Schick test and Dr. D. J. Thomas related his experiences with the four-fold test.

MATERNITY AND CHILD WELFARE GROUP.

President: Dr. Agnes Nicoll (A.M.O.H., Willesden M.B.).

Hon. Secretary: 1936-37: Dr. Muriel Radford.

1937-8: Dr. E. Virginia Saunders-Jacobs, (A.M.O.H., Woolwich).

PROVINCIAL MEETING AT CARDIFF AND IN THE RHONDDA

VALLEY, JULY 1ST, 2ND AND 3RD, 1937.

The provincial meeting of the M. & C.W. Group was held at Cardiff and in the Rhondda Valley, and proved to be packed with interest and well rewarded those who were so fortunate as to be present. The President, Dr. Agnes Nicoll, presided and 28 members attended.

The meetings opened on Thursday morning in the beautiful Cardiff City Hall, where the Group was received by the Lord Mayor of Cardiff (Alderman H. Hiles, M.B.E., J.P.) and were then addressed by J. Greenwood Wilson, Esq., M.D., F.R.C.P., D.P.H., Medical Officer of Health, Cardiff, Lecturer in Preventive Medicine, Welsh National School of Medicine, on the "Cardiff Maternity and Child Welfare Services."

Dr. Wilson began his talk on the health services of Cardiff by an account of the history of their development. He said that although it was not until 1872 that provision was made by Act of Parliament for the appointment of Medical Officers of Health in all parts of the country, many of the more progressive towns had begun to appoint them on their own initiative much earlier. Thus the first to be appointed was Dr. Duncan, who was made Medical Officer of Health of Liverpool in 1847. The honour of second place fell to the City of London which, in 1848 appointed Dr. John Simon whose influence was now recognised to have had a predominating effect upon the development of health services in Great Britain. In 1853, only six years after the appointment of Dr. Simon to the City of London, Cardiff had appointed its first Medical Officer of Health in the person of Dr. H. J. Paine. Dr. Paine's first Annual Report gave some idea of the immense difficulties that he had had to face. The death rate in 1853 was 26.83 per thousand, the infant mortality rate 258 per thousand, and the population was 18,000. (These figures, said Dr. Wilson, made interesting comparison with the corresponding ones for the year 1935 which were a death rate of 12.3 per thousand, an infant mortality rate of 59 per thousand and a population of 221,000). In 1853 there were 38 deaths from typhus fever, five deaths from cholera and 42 from small-pox.

In 1888, writing his last Annual Report, Dr. Paine computed that the sanitary improvements carried out during his term of office had resulted in a remarkable reduction in the death rate corresponding to the saving of over 15,000 lives and according to the estimate of Dr. Farr, the famous statistician, a saving in money to the community of £3,483,000. By this time the death rate had been reduced from 26.83 per thousand population to 21.8 per thousand population, and the infant mortality rate from 258 per thousand to 172 per thousand births. The population of Cardiff was now 104,580. Dr. John Simon, who had now left the City of London to become Medical Officer to the Privy Council, had reported to that body in praise of Dr. Paine's work.

Dr. Paine had been succeeded by Dr. Walford, who retired in 1921, 33 years after his appointment. By this time the water supplies of Cardiff were almost up to their present standard of excellence, streets were well paved and spaciouly planned (even in "down-town" districts) and housing conditions were much improved, although there still remained and did to this day much overcrowding. The death rate had been reduced to 11.3 per thousand and the infant mortality rate to 84 per thousand births. It could indeed be said at this time that the battle for environmental hygiene had been all but won. There had remained the need to start a new campaign for personal hygiene. In the time of Dr. Picken (1922-33) who followed Dr. Walford, child welfare centres were increased from five to ten, ante-natal clinics from two to three and school clinics from two to seven. A comprehensive orthopaedic scheme for crippled children was organised and an open-air school was opened. In 1933 the transfer of acute sick from the poor law hospital at City Lodge to the newly appropriated public health hospital at Llandough had made it possible to inaugurate or increase at City Lodge, services of the greatest value to the community. The new accident and fracture service using both Llandough Hospital and City Lodge (where the Fracture Clinic itself was established) was the first of its kind to be organised under municipal control in the United Kingdom. In the same building as the new Fracture Clinic was the new central Orthopaedic Clinic which had greatly strengthened the already sound orthopaedic service. City Lodge had also an Asthma Clinic—the first municipal Asthma Clinic to be established. The accommodation for maternity cases at City Lodge had been greatly increased, especially in the direction of providing more beds for ante-natal supervision. The number of confinements taking place at City Lodge had increased from 99 in 1929 to 270 in 1935 and in 1936 had exceeded 400. The outlines of the Cardiff Maternity and Child Welfare Scheme as at present constituted were as follows :—

Provision of Home Helps.

Provision of dental treatment for children under five and expectant mothers.

Arrangements for admission of confinement cases to the Maternity Unit of Cardiff Royal Infirmary and to the Maternity Wards of City Lodge Hospital by recommendations from the ante-natal clinics.

A central consultative ante-natal clinic (by co-operation with the authorities of the Cardiff Royal Infirmary and the Welsh National School of Medicine)—post-natal work is also done at this clinic.

Establishment of a central ante- and post-natal clinic at City Lodge in connection with its maternity wards.

Free milk scheme for necessitous mothers and babies. (From January 1st, 1936, this scheme was extended so that it now includes mothers from the time of diagnosis of pregnancy to the time of weaning, even if this be as late as nine months after the confinement, and babies from the time of weaning through infancy to the time when they go to school when they may qualify for free milk under the Education Committee's Scheme).

Orthopaedic scheme for the treatment of pre-school cripples.

A venereal diseases treatment centre for mothers and children as an integral part of the maternity and child welfare scheme.

A scheme for specialist consultations in cases of puerperal fever and puerperal pyrexia and for their isolation and treatment at the Isolation Hospital.

Arrangements for the treatment at the Isolation Hospital of selected cases of measles in young children with the object of preventing measles-pneumonia.

Provision of artificial light treatment for children under five and expectant mothers.

Provision of X-ray apparatus for X-ray diagnosis.

A vision clinic for children under five.

A throat and nose clinic for children under five.

Staff Changes.—After the War, in 1920, there had been but one lady doctor dealing with maternity and child welfare and eight health visitors. In 1936 there were seven doctors and four dentists engaged in varying degrees in maternity and child welfare work and twelve health visitors working under a supervisor. There was also one additional health visitor who specialised on work in connection with infectious diseases, e.g., propaganda for diphtheria immunization amongst the parents of pre-school children. An extra dentist had just been appointed to work at a new clinic.

Future Developments.—Dr. Wilson concluded by speaking of different developments which he hoped to see established in Cardiff in the near future. These were :—

(1) Up-to-date clinics in two populous areas where at present the clinic services had to be carried out in hired halls. The new buildings would be on pavilion style, would cater for school medical service as well as maternity and child welfare work and, in addition, a very special feature but under the same roof, although shut off from the other part and having a separate entrance, would be complete public assistance facilities, including relieving offices with district medical officers' surgeries and dispensaries. These new clinic buildings, would complete a chain of five suburban and two central clinics in Cardiff.

(2) A nursery school scheme had passed the City Council and that was awaiting approval of the Board of Education.

(3) It was proposed to build a puerperal pyrexia isolation block in the grounds of the City Isolation Hospital to accommodate twelve patients. The plan was for six single cubicle wards and two three-bed wards.

A discussion followed on "Why are the Results of Ante- and Post-natal Work Disappointing?" The discussion was opened by Sir Ewen J. Maclean, M.D., F.R.C.P., P.C.O.G., J.P., Emeritus Professor of Obstetrics and Gynaecology, Welsh National School of Medicine, and Gilbert I. Stachan, Esq., M.D., F.R.C.P., F.R.C.S., F.C.O.G., Professor of Obstetrics and Gynaecology, Welsh National School of Medicine.

The members of the Group were then entertained to an excellent luncheon at the invitation of the Lord Mayor and City Council.

The afternoon was spent at the City Lodge Hospital where a paper was read on "Asthma in Young Children and Its Treatment as Carried Out at Cardiff Municipal Institutions," by A. Mills Kennedy, Esq., M.D., F.R.C.P., Professor of Medicine and Director of Medical Unit, Welsh National School of Medicine, followed by D. A. Williams, Esq., B.Sc., M.B., B.Ch., Deputy Medical Superintendent, Llandough Hospital.

A lecture demonstration on "Orthopædic Cases" was then delivered by A. O. Parker, Esq., M.D., C.M., M.C.P.S. (Manitoba), Lecturer in Orthopædic Surgery, Welsh National School of Medicine, and was followed by a visit to the fracture clinic.

Friday, July 2nd was spent in the Rhondda Valley, commencing at Trealew where D. J. Thomas, Esq., M.B., B.Sc., D.P.H., Medical Officer of Health, Rhondda Urban District, talked on the "Rhondda Maternity and Child Welfare Services." There were now three clinics and two others were under course of construction. It was hoped that before the end of the year the five clinics would be in use. Twenty-two sessions a week were now being held, including infant, ante-natal, and birth-control clinics, and special consultations were arranged at the ante-natal clinic with a Cardiff specialist once a month. During the year 1936, 2,495 expectant and nursing mothers and 7,302 children under five years attended the centres. Milk was given very extensively, and since 1935 additional vitamin-containing proprietary foods had been given to expectant mothers, with good results. These were a gift in the first place, and the foods were now being distributed with the idea of investigating their value as additional nourishment. There was much unemployment during the year 1936 and consequently £25,790 was spent on free milk with the result that the infant mortality rate was the lowest on record, being 58 per thousand as against 110 per thousand in 1921, and 222 per thousand in 1901, and the maternal mortality rate during the present year had so far been the lowest on record.

Dr. Gwladys Davies, of Porth, dealt with the benefit of the maternity and child welfare services from the clinical point of view. Extra food was usually given during the last three months of pregnancy and from the first three weeks after the confinement or earlier. Not many scientific observations had so far been made, but the mothers testified to a sense of well-being after taking the foods, and some control work was now being done to find out whether vitamin B has any effect on toxæmia of pregnancy; it has a good effect on constipation.

Visits were then paid to:—The Crompar Pit-head Baths at the Park Colliery, where the lockers for clean clothes and the shower baths for 1,200 men were viewed; the Creordy "Unemployed Club"—this was open to all unemployed men on payment of 2d. weekly.

At luncheon at the Porth Hotel the visitors were officially welcomed by Councillor William Rees, (Chairman of the Rhondda Health Committee).

Afterwards a nursery school was visited. A Cellar Tenement Building and an ordinary Miner's House were next inspected, and the Maesyrhaf Social Welfare and Educational Centre for Adults, where weaving and carpentry were taught among other subjects.

Next came a visit to a Play Centre for School Children, where there was a resident staff who visited the social centres and lectured and taught craft work.

Lastly, a visit was paid to the Rhondda Colliers' Rescue Station.

On Friday evening a Group Dinner was greatly enjoyed at the Park Hotel, Cardiff, and was attended by 28 members and guests. The President, Dr. Agnes Nicoll, was in the chair, and others present were:—

The Mayor and Mayoress of Cardiff (Sir Herbert

and Lady Hiles), Dr. Greenwood Wilson, John Rowland, Esq., C.B., C.B.E., M.V.O., Chairman Welsh Board of Health, Dr. Thomas Wade, Welsh Board of Health, Sir Ewan Maclean, Professor Gilbert Strachan, Dr. A. G. Watkins, Drs. Marjorie Back, Mary Bignold, Stella Churchill, Irene Hastilow, Katherine Hirst, Eileen Herbert, Maule Horne, Elsie Humpherson, Catherine Morris Jones, Elizabeth Madeley, Nora March, Margaret Mackillop, Muriel Radford, Irene Roberts, McKim Roberts, Dorothy Taylor, Agnes Young and guests.

A toast to "Our Guests" was proposed by Dr. Stella Churchill and responded to by the Lord Mayor of Cardiff (Alderman Herbert Hiles, M.B.E., J.P.) and by John Rowland, Esq., C.B., C.B.E., M.V.O. (Chairman of the Welsh Board of Health).

The toast to "The Maternity and Child Welfare Group" was proposed by Alderman John Donovan, C.B.E., J.P. (Chairman of the Cardiff Health Committee) and seconded by Dr. J. Greenwood Wilson, and responded to by Dr. Agnes Young.

Finally, "The President" was proposed by Dr. Marjorie Back, and responded to by Dr. Nicoll.

An attractive interlude was created by the presentation of a charming bouquet of flowers to the retiring Honorary Secretary, Dr. Muriel Radford, as a token of gratitude and affection from the Group in appreciation of her nursing services during the past three years.

On Saturday morning, July 3rd, following the Annual Business Meeting at the Public Health Clinic, Glossop Terrace, Dr. Agnes Nicoll read her Presidential address. This took the form of an account of an extensive and valuable clinical research she had undertaken into the medical histories of 488 mothers and infants who had been continuously under her supervision during pregnancy and the first year of life between the years 1926 and 1936.

Dr. Maule Horne expressed the thanks and appreciation of the Group to Dr. Nicoll for her interesting address and important piece of research, and for the meticulous thoroughness of the work.

The meeting was then addressed by Helena J. Webster, B.Sc., M.B., Ch.B., D.P.H., Assistant Medical Officer of Health and Inspector of Midwives, Cardiff, on "Venereal Diseases in Women and Children." It was followed by a visit to the V.D. clinic where methods of treatment of venereal disease and a series of cases of congenital syphilitic children were demonstrated.

On Saturday afternoon a visit was paid to the magnificent Llandough Municipal Hospital, whose situation, design and modern fittings aroused universal admiration.

The party were conducted round the hospital by A. G. Watkins, Esq., M.D., M.R.C.P., Physician in Children's Diseases, Cardiff Royal Infirmary, and Llandough Hospital; Lecturer in Children's Diseases, Welsh National School of Medicine; and by the Matron of the hospital. Dr. Watkins demonstrated a number of cases in the children's ward.

A delightful tea, presided over by the matron, brought to an end one of the most enjoyable and instructive series of lectures and meetings the Group has had the privilege of attending, and there were general expressions of gratitude to all those who had contributed to its success.