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PUBLIC HEALTH

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THE SOCIETY OF MEDICAL OFFICERS OF HEALTH.

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Editorial. 69273

The Health of the Nation.

IT is not easy to find "tongues in trees, books in the running brooks, sermons in stones"; and it certainly must be more difficult to make a charming and fascinating story of what purports to be "an audit of a certain kind of book-keeping—the accounts of humanity." But Sir George Newman, with the pen of a graceful writer, succeeds; so that, important as it is, interesting as it must be, for it concerns every individual, the State of the Public Health can be surveyed with pleasure and ease most welcome to the

and practical interest. The past year has been notable for the increasing attention given to problems of maternal welfare among professional and lay bodies alike; it is evident that public opinion will insist on every effort being made to reduce the unyielding rate of maternal mortality and morbidity, and the reports of the committees working on this subject will receive very earnest consideration. The training in midwifery of medical students, facilities for post-graduate study in obstetric medicine, and the training of midwives are factors which will figure largely in the schemes to abolish many of the dangers of maternity. But, in addition, it is important to emphasise that to provide facilities is not enough; many

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women are not making use of what services there are, and it is for the local authorities to see that the provision made is effectively co-ordinated.

Smallpox is another subject which has received much public attention; a mild disease as a rule at present, it is apt to be considered of little importance, although it causes a great amount of industrial loss, social inconvenience and perhaps misapprehension abroad. But it is well to remember that this mild stage may be merely part of a biological cycle; and if the wolf comes again out of the sheep's clothing, it will fare badly with the areas that neglect the proven methods of efficient early diagnosis, prompt isolation, disinfection and vaccination. Diseases do change their type and classical examples are found; in 1800-5 Creighton records that scarlet fever was very malignant after which for twenty-five years it was of a mild type. The Dublin physicians claimed that this was due to some special therapeutic measures; but the return of the severe anginal disease in the fourth decade of the century quickly shattered their hasty claims.

The Local Government Act is the most important event in the recent history of the public health services, and it contains far-reaching powers and duties affecting the unification and consolidation of health services, and a wider application of the principles of preventive medicine to the whole of the community. With the alteration of the poor law, the unfortunate prejudices in the minds of the sick poor ought soon to be removed; for no longer should they feel the stigma nor should the iron enter their soul.

The year 1928 was an exceptionally healthy period and such national health goes to prolong human life. But it is of doubtful value unless the longer life is the better life, more effective, with increased energy and a greater degree of output and enjoyment. And for this we are thrown back on the importance of physiology and health. The knowledge of the physiological capacity of man must increase as our foundation, and the nature of disease must be studied with thoroughness and detail; for Nature is worthy of much attention. And it is opportune to be reminded that the art of living is no exception to Emerson's claim that—

"In the vaunted works of Art
The master-stroke is Nature's part."

The Executive Secretary.

THE regret that will be felt by the entire Fellowship of the Society at the announcement of the intention of Mr. Elliston to resign his appointment as Executive Secretary as from September 30th, 1930, will be entirely unfeigned. The years of his association with the Society have seen a remarkable growth in its strength, power and prestige. The service as a whole has established itself definitely and firmly as a contributor to the well-being and the prosperity of the nation, and membership of the service has come to carry with it more of dignity and something even of tangible recognition. For that these things have happened there can be no doubt but Mr. Elliston is largely responsible. Long before he accepted the position of Executive Secretary he had begun to devote himself to health work and to health officers. Long before the bulk of these officers had recognised the real importance of their work and themselves and the influence they and their Society could exercise, he had seen these things, had preached and pressed them, was perfervid for them. His acceptance of the position of Executive Secretary was one of the best things that ever happened to the Society. No one more appropriate; no one who knew more about the work, the needs and aims and the methods of securing these aims could possibly have been found. From the moment he began the task he devoted himself to its accomplishment. A man with other interests, he has laboured as if the Society and the service were his only interest. And never has there been one thought of self in any single thing he has done. Doubtless it is because all through this has so obviously been the case that Elliston has gained so completely the trust, esteem and affection of every member. There is not one who has not spoken affectionately of him some time or other; there are few who have not come at some time or other to him for help and advice, and none of these has gone empty away. There remains nearly a year yet before severance comes, and already regret is felt. That regret will grow as the end of the year approaches. For comfort, however, there is this: that Elliston will still continue to work for the causes and the people that he has made his life. His belief will not falter and his efforts will though he may be to some extent materially associated as a member, no less closely bound

Infant Mortality.

THE unsatisfactory state of the infant mortality—beyond question still unsatisfactory, that is to say, in respect of neo-natal deaths—coming under the *præsidium* of the Health Committee of the League of Nations in 1926, an agreed basis for international enquiry was found by a body of experts specially appointed to represent certain countries interested, and, as a result, enquiries were entered into in this country, as in others, for a period of twelve months from a date in 1927. The agreed scope of the enquiry was to include an investigation of all infant deaths occurring in two rural and two urban districts in each country, one of each with a high and one with a low infant death-rate. The result of these enquiries in England is now published by the Ministry of Health in a Report from the pen of Dame Janet Campbell.*

The chosen areas in England were Staffordshire and Oxfordshire, Sunderland and Croydon respectively, and the form of the enquiries followed the lines of a questionnaire supplied by the Ministry of Health. The work was done locally, largely by health visitors in the service of the municipal authority, and pains were taken to include information derivable from all pertinent sources, including the private medical attendant and the staffs of hospitals in certain cases. The full brunt of the enquiry was directed at deaths in the first days of life and at stillbirths. Owing to the conditions under which the enquiry was conducted, such corroborative and enlightening information as might have been derived from autopsy was necessarily only rarely at the disposal of the investigators.

The general physiognomy of the districts chosen, as regards climate, employment, population, housing and so on, will be appreciable to health officers. Staffordshire is known to be in part highly industrialised, though elsewhere largely agricultural; the employment of women in certain districts is common. Oxfordshire remains more an agricultural county, with low wages and a low standard of nutrition aggravated by the scarcity of marketable food-stuffs, including milk, that are commonly sent

* INFANT MORTALITY. International Inquiry of the Health Organisation of the League of Nations—English Section. By Dame Janet Campbell, D.B.E., M.D., M.S. With Statistical Notes by Peter L. McKinlay, M.D. Ministry of Health Reports on Public Health and Medical Subjects, No. 55. H.M. Stationery Office, 1929. pp. 118. Price, 1s. net.

to town. Sunderland is predominantly working-class with a high rate of unemployment since the War, but now diminishing. Croydon is coming to be more one of the Greater London dormitories than a small town supporting its own small industries.

The enquiries suffered from certain initial difficulties. The first analysis of the figures supplied, which was directed towards elucidating the rate of mortality according to the order of birth or place of child in family, was saved only by a factitious computation of corresponding conditions here on the basis of data available from the United States, since no record of place in family is made in this country in the registering of births. Rate-distribution of differently sized families varies in different communities, but the occurrence of large or small families bears an indubitable relation to the birth-rate, and from the birth-rate the extent to which communities can be compared as to the probability of children occurring at a certain frequency rate of order of birth can be deduced. The higher the fertility rate the lower automatically becomes the proportion of small and the higher the proportion of large families. By an involved calculation based on these facts the figures supplied for the deaths of children in the different districts mentioned, grouped according to certain stated death causes, were analysed as to the total mortality rate in different orders of birth and the relative mortality rate for different causes of death in each birth order.

The second objective of the investigators was the discovery of the relationship that might exist between the child's nutrition at birth and the social status and housing conditions of the family, these being taken as generally indicative of the ante-natal environment. The state of nutrition of the child was measured by the history of the weight at birth supplied on enquiry in the home, and in a footnote to the Report (p. 39) acknowledgment is made of the fact that the substitution of the terms may be open to criticism. But even "in fat babies, their greater weight, indicating better nutrition, is correct from the physiological point of view, in that they have a large supply of available energy in the form of fat, although clinically such infants may be unhealthy."

Certain points unfortunately occur here before the figures can be considered. Are there any data less reliable as a whole than data regarding weight? Were the birth-weight

figures supplied verified as being the result of weighing the baby in any of the cases, since there is nothing in the questionnaire to indicate that other methods of computation exist? Were any of them the opinions of granny or nurse proffered in response to anxious questioning in such circumstances as no scales being available? Were they the results of weighing at birth and without clothes, and of weighing with a type of scales that tends to retain a measure of responsibility? In what direction would the weight stand as evidence in those babies which, not fat, are yet heavy at birth with the oedema of congenital syphilis or certain specific malnutritions or heavy merely from the load of hydrocephalus, of which several cases are quoted in the series? Oedema of the infant does not have to be weight as a factor profoundly influencing weight. Having regard, therefore, to the extent to which error may occur even in careful weighing by competent operators under the conditions of a welfare centre, and to the varying domestic circumstances under which most of these calculations must have been attempted and the conditions of equipment and interest and lack of equipment and intelligence which are likely to have prevailed, it is impossible to avoid some surprise that figures so derived should have been proffered without further ado as a basis for comparison of sound nutrition in infants of varying districts and circumstances and even of different countries. Such use as is made of them must be of the most trivial and the most guarded since any appearance—and weight, even when measured, amounts to no more—without other factors and characters to stabilise it, may prove treacherous as a basis for comparison. Even as between Croydon and Oxfordshire, the residential and the agricultural communities, the influence of error in cases where the weight has been guessed at and not measured will tend to lie heavily in that area in which the houses the babies are born into are less likely to be supplied with reliable scales and educated attendants.

Further sections of the Report deal with the mortality rates in relation to housing and economic status and the age of the mother. The results cannot be discussed in detail, but it is permissible to suggest that the methods by which some of them have been obtained and the material which was accepted as suitable for laborious and careful study and for the

exhibition of conditions in this country to commentators and collaborators abroad are open to criticism. A second survey later could well be devoted to discussion of the conclusions that have been adopted, and particularly to the comment that Dame Janet has to offer on, for example, the internal conduct of certain ante-natal clinics and the quality of the work that she has decided is done there as a result of the data supplied in these returns, admittedly at the best, second-hand.

* * * * *

Obituary.

BY the death of Dr. Frederick Foord Caiger, which took place suddenly on September 5th while he was on holiday in Scotland, the public health service loses an outstanding figure among those who have devoted life-long study to the treatment and prevention of infectious diseases. For many years Superintendent of the Metropolitan Asylums Board's South-Western Hospital at Stockwell, he was subsequently appointed Chief Medical Officer of the Infectious Hospitals Service of the Board, and in this capacity rendered most valuable services to that body.

Dr. Caiger was a student at St. Thomas's Hospital, and graduated M.B. and B.S. at London University in 1883, obtaining honours in medicine and obstetric medicine and a gold medal for surgery. In 1886 he took the degree M.D., Lond., becoming M.R.C.P. in 1891, and F.R.C.P. in 1900. The Diploma in Public Health he took at Cambridge in 1888. Dr. Caiger was Emeritus Physician at St. Thomas's Hospital, and had been Examiner in Fever Nursing and Epidemiology at London University, and Clinical Teacher in Specific Fevers to the Royal Army Medical Corps. He contributed articles on infectious diseases to Allbutt's "System of Medicine," Quain's "Dictionary of Medicine," and the "Encyclopædia of Medicine," and edited the Infectious Hospitals Section of the Metropolitan Asylums Board's Reports from 1922 to 1925. He was a Fellow of the Royal Society of Medicine and of the Society of Medical Officers of Health.

Dr. Caiger, who was sixty-seven years of age, resided at Kensington, and the funeral took place at Brompton Cemetery.

Birth Control.

By THE REV. E. GRIFFITH-JONES, B.A., D.D., Principal, Yorkshire United College (Theological), Bradford; C. KILLICK MILIARD, M.D., C.M., D.Sc., Medical Officer of Health, Leicester; STELLA CHURCHILL, M.R.C.S., L.R.C.P., D.P.H., Medical Officer, West Hackney Welfare Clinic; and HELENA WRIGHT, M.B., B.S., M.R.C.S., L.R.C.P.

No doubt it was in the mind of the President, when he chose the contributors to the symposium, that in the matter of birth control it is essential that the health officer should hear and know the views of many individuals. He is to be congratulated on his selection, and those who contributed on the clarity and moderation with which they gave their views.

DR. GRIFFITH-JONES.

THEORETICALLY I hold that man is on this planet primarily and biologically, first to live his individual life out to its fullest possible extent; and, secondly, to continue and, if possible, improve his race by begetting healthy offspring. For these two functions he has been endowed with a stock of well co-ordinated and imperious instincts. The first group are those self-conserving instincts which impel him to seek and find his food, to meet and master the many hostile influences of his environment, to maintain himself against enemies—animal and human, to conquer disease, and to satisfy his craving for well-being in a thousand ways.

The second group of instincts are related to the problem of human survival as the family group—those referring to sex, maternity and paternity, which have reference to the production, care and training of offspring. This group is organically one and should be considered together if right views of any of them are to be formed. It is only quite recently that the sex-instinct has been segregated and handled by psychologists and others as though it were autonomous and distinct, and existed, as it were, in its own right. It is here, as I hold, that the new psychologists go demonstrably and fatally wrong. Nature has not endowed men and women with sex propensities for their own sakes at all, nor for mere mutual pleasure and satisfaction. That is quite incidental to the biological meaning of sex, which is purely a means to an end. That end is the production of offspring. It is a part of that great vital order of Nature which ensured that the wonderful organisms she has produced in the millions of generations during which the drama of life has been developed on earth, should be brought to their con-

summation in the coming of Man, and should possibly be carried on further to an unknown goal. For this end she has produced sex, which by the union of male and female has passed on to coming generations an ever-enriching endowment of heredity. But for sex there would have been no qualitative evolution, no advance or improvement of species, no upward movement from amoeba to man; and in order to secure the continuance of this upward movement she has made the sex-instinct so imperious that no race of bisexual creatures can normally avoid the process of impregnation and conception which continues the species from generation to generation. This end she fulfils in a myriad of diverse, cunning and sure ways, which are of fascinating interest, but which I need not particularise. In the case of man she has followed the plan of impregnation by the male, and of long gestation by the female, followed by an instinctive care for the young which is normally as strong as the sex-instinct itself, otherwise we should not be here to confer on the question this afternoon.

Now, it is a pregnant fact that the human infant is the most helpless of all newly-born creatures. For many years we are entirely dependent on parental care for our survival, which is ensured by the awakening of that parental instinct which usually functions freely and gladly till we are fully able to take care of ourselves. And this parental instinct does not function only for the sake of the survival of offspring. It is of the utmost value for the parents also; for through its functioning, men and women are forced to graduate in the school of the upper virtues, and to learn to exercise the sacrificial duties of parenthood. Thus, the family group of instincts is twice blessed; they secure the survival and training

of the child, and they awaken the ethical qualities of the parents. And if we are told on the highest authority that it is "more blessed to give than to receive," children do more for their parents than parents do for them.

It is from this high point of view that I would invite you to approach the great question—*Is the practice of birth control legitimate for married people?* Setting aside for the moment such aspects as are economic and secondary, and which I shall leave others to deal with, I venture to answer—"Yes, in so far as the future welfare of the race (parents and children being equally considered) is concerned, and for no other reason."

If, therefore, normal, healthy married people get married without intending to have children, in order to enjoy the satisfaction of sex as their only end in uniting in marriage, I hold that they are refusing to fulfil the full biological function for which sex exists; they are doing an unnatural and reprehensible thing; they are refusing to fulfil their own higher natures; and they will inevitably cripple their own ethical development. Sex is for marriage, and marriage is for the production of families; and it is in the interest of parents as well as children that the full functioning of the family instincts should be accepted as a duty and a privilege.

Having so far safeguarded my position, I feel free to discuss the more positive aspects of birth control without embarrassment. And I will venture to do so with special reference to your own function as medical officers of health, to whom the physical well-being of the nation has been delivered as a sacred trust.

I begin with a reference to the biological problem. It is a well-known fact that all sexual creatures are capable of producing offspring in geometrical ratio from generation to generation. This is a provision made necessary by the fact that infant life in all species is always precarious, is surrounded by many hostile conditions of environment and by innumerable predatory enemies lying in wait to devour them. In order to meet this situation the fecundity of each species has been regulated in nice balance with its average longevity, and with its normal chances of survival. Where the length of life is normally brief, and parental care is lacking, we find enormous fertility; where parental care is present, and in proportion to its efficiency, there is much less fecundity. The human species as a whole has survived in virtue of

sufficient though limited fecundity, survival being ensured by parental care and increased mastery of the environmental conditions, till the race has spread all over the world. There have been times of shrinkage through lack of food, or anti-climatic conditions, or desultory wars; there have been times of advance through favouring conditions, especially in times of prosperous civilisations; but till recently there has been no prospect of ever overtaking the means of subsistence on the planet.

Modern civilisation has greatly increased the chances of infantile survival. Until comparatively recently, speaking biologically, man was under the same law of "natural selection" as other creatures, and there was the same slow evolution towards better and more efficient organic well-being, which has at last lifted us above the other primates and given us that sovereignty of the planet which we enjoy in ever-increasing measure. Civilised life has, however, seriously interfered with that process in some directions. Because it presses less harshly than formerly on the less favoured types, it has not exercised such selective winnowing of these types as to eliminate them; indeed, side by side with the vigorous and progressional types, it has artificially kept these other types alive. Hitherto, periodic wars, epidemics of every grade of virulence, and other hostile agencies have done much to keep the population within the historic period more or less in balance; but since the spread of civilisation over so large a part of the earth's surface, population has increased by bounds and brought the question of possible overpopulation, within a measurable distance of time, to an acute stage. Various forecasts have been made as to how long it will be before the number of human beings on the earth, if they multiply as at present, will be greater than the capacity of the earth to sustain them.

You, ladies and gentleman, are largely responsible for this state of things. The science of public health has done more than all other causes combined to defeat the action of the law of natural selection in its effect on human survival. This has been brought about by better sanitation, by education of modern peoples in the laws of good health, by providing good housing, adequate ventilation, healthy foods, more light and air in our streets, and especially by mastering the microbes and bacilli responsible for devastating plagues, epidemics and other scourges of humanity. In this way you have

very largely eliminated the more outstanding diseases which in former times acted as natural checks on population. And now, in quite recent years, you have turned your benign attention not only to the conditions of survival and health of the adult population, but to the causes of infant mortality, and are engaged in rescuing the little ones, irrespective of their "vital value," from premature death in countless numbers. The care of expectant mothers, the wonderful provision for newly-born infants in our public clinics, and the instruction of mothers in the better care and feeding of their children during early infancy—these and other provisions for the survival of the coming race to adult and, therefore, procreative status are your pre-occupation and care. The results have been wonderful and widespread and splendid, and you deserve the fullest recognition from your fellow-citizens for the provision you are making for bringing up a healthy and virile people in the next and succeeding generations. There are millions of young people alive to-day who, but for you, would have succumbed at birth or soon afterwards, and every year you are improving your methods and obtaining more efficient means of preserving and extending the life of the common people.

Now, from the humanitarian point of view this has been an unspeakable boon, and so far we have taken for granted that it has been a boon in every other sense also. We have been acting on the great principle that human life, once initiated, is a sacred thing, to be preserved and trained and developed by every possible scientific means. But we are here this afternoon as biologists as well as humanitarians, and it is needful for a synthetic view of this complex question to give attention also to the biological effects of public health.

Dr. Archdall Reid a good many years ago published a startling book entitled "The Present Evolution of Man," which disquieted me greatly at the time. His thesis was this:—That the periodic epidemics which till recent times had swept across Europe, while devastating in their effects on the actual population at the time, were highly beneficent in their selective influence on the race. In other words, they killed off the weaklings of every land and left the constitutionally strong as survivors to continue the race. It is on record that after the "Black Death" epidemic, which reduced the population of Europe by one-third, the health of the surviving communities

was so good that for thirty years there was little illness throughout the continent, and doctors had a lean and hungry time. A similar improvement followed the Great Plague of 1665 in this country. Now, since the rise of preventive medicine, which has been chiefly responsible for the survival of generations of sub-normal infants and young people who in earlier times would have perished from various forms of diseases before arriving at marriageable age and so would have had no chance of propagating their kind, we have given such individuals a chance of perpetuating their weakly constitutions in ever-increasing numbers. There is thus a real peril of initiating the process called "reversed" selection and of progressively lowering the vitality of the race as a whole. Humanitarianism unqualified and unchecked by counter influences, it would appear, is thus not an unmixed boon to the race; and, unless some means be found to safeguard the situation by selective breeding, we are not helping on our race to further physical evolution and betterment.

Now add to this disquieting fact the results of birth control in this and other leading civilised countries. How has it acted? So far, *very badly from the racial and eugenic points of view.* And this for a very simple reason. It has been practised from an entirely private and personal point of view. The restriction of families has been practised not by those who are least able to produce and maintain healthy, progressive offspring. In the vast majority of cases it has been the exact contrary. It is those people in England, America and the British Dominions as a whole, best qualified by good heredity, by possessing normal and healthy constitutions and more or less adequate means, who have been more and more prone to limit the number of their children. The cultured, educated, respectable, highly endowed classes are tending to restrict their parental possibilities far more than the lowest elements in the population. With few exceptions these biologically excellent types of people have either no children at all, or at most two or three.

Allow me to present you with a personal experience. During the past twenty-two years of my life I have been the head of one of our Nonconformist Theological Colleges in the North. My Sundays have been spent in preaching in churches of my own denomination all over the country. Those I have preached

to comprise a section of the people characterised by a splendid physique, sound heredity, excellent moral habits and high ideals of conduct. In previous generations these people were splendidly prodigal in children—healthy and well nurtured, and brought up in the fear of God. In my earlier life I have ministered to the parents of such people and my churches have been full of fine children. Since the beginning of my wandering ministry I have witnessed a startling change. It has always been customary to include a children's address in each morning service. In the earlier years there were plenty of children there to listen. Slowly, surely, these children have grown up, but *others have not taken their place*; and now it is often not worth attempting a children's address at all, there being no children, or very few indeed, present; and such children as are there hardly ever belong to the habitual members of the congregation, but are the offspring of the working classes drawn from the morning Sunday schools. And what is true of all Free Churches is almost, if not quite, as true of the Church of England. The only church which has always set its face against the artificial restriction of families in this and other lands is the Roman Catholic Church, and a priest of that church recently told me that he looks forward to the time when that church, without making a single convert from Protestantism, will have more adherents in Protestant England than all the other churches combined; and England will become predominantly a Catholic country. Is it any wonder that some of us are beginning to feel exercised and alarmed (from our own point of view) at the prospect before us?

The same is true of the best racial strains outside our churches. While the improvident, the vicious, the constitutionally sub-normal, are breeding normally, and sometimes abnormally, the types which provide the sinew and marrow, the vital, the highly endowed elements of our splendid breed are deliberately refusing to produce their share of the coming race.

Is it, therefore, not time for those who are proud of our past history as a people, and are anxious that our Empire shall continue to hold its place in the world, to sound a note of alarm? Is it not time that new eugenic ideas should be preached and encouraged in the community? And ought not you, who belong to this Society, to take your share in rousing the nation to a consideration of the

racial problem that confronts us? The British nation is a highly selected biological type, as their past history and their present tremendously influential position in the world proclaim with no doubtful emphasis. The future of our Empire largely depends on whether we can maintain our numbers and maintain our eugenic quality among the races of the world. But we shall not do this for very long if birth control, as at present practised, develops much further. Quality tells in a nation, and numbers tell, and the future of the world is with the nation and the race which have both to their credit.

The problem of population cannot be solved by any easy method. The problem should be faced from a larger and a more high-minded point of view than has hitherto been done. If birth control is to be a recognised policy for the future, it should cease to be a merely personal question, depending on the selfish interests of individual men and women, and be faced from a high, communal, qualitative, eugenic standpoint, having immensely important bearings on the future of mankind. You, ladies and gentlemen, are in a favoured position as regards this question. It is for you to realise not only your immediate duty, by providing a healthy world for the coming race, but to encourage the production of the right type of race to inhabit it, to take a leading hand in cultivating noble and even self-sacrificing ideals among the people as to the duties and privileges of parenthood, and so to produce a race of supermen and women in the future. Otherwise the Great Race to which we belong, which has been the fruit of all the favouring evolutionary processes of the past, and which can never be reproduced once it becomes extinct, will within a measurable period pass away and Britain be "one with Nineveh and Tyre."

DR. KILLICK MILLARD.

Dr. Killick Millard said he wished that all opponents of birth control would state their case as reasonably as Dr. Griffith Jones had done. He entirely agreed with him as to the great value of children. Childless marriages were much to be deplored and it was certainly a mistake to limit the family to one child, both for the sake of the child and because it was proverbially unwise to put all your eggs into one basket. The death of an only child was often an irreparable tragedy. Personally,

he would never advise young couples, except under quite exceptional circumstances, to practise birth control until they had made sure of some children. His chief interest in birth control was on behalf of the poor mother overburdened with too large a family, and he quoted instances that had come under his own observation, including one woman who had had eighteen children, all single births. Excessive maternity often entailed great hardship and he regarded it as an evil to be prevented, if possible.

DR. STELLA CHURCHILL.

At the outset I should like to utter a word of protest against the expression "birth control," because if there is one matter in our human physiology which can be only slightly controlled, it is that of birth. I should prefer to call it "family limitation," because this expresses the ideal of most persons who resort to the numerous methods which are recommended at the present time. A comparison of these methods is not part of my share in the question under debate, but those who have to give advice to their patients could not do better than consult that excellent little manual on the question by Michael Fielding—"Parenthood: Accident or Design"—which deals with the problem without bias or emotion.

The deliberate limitation of family can be considered from various points of view, such as the medical, the lay, the racial, the individual, the communal, etc., but it would appear that the *international* aspect has not yet received the consideration it deserves. While many countries are having a lower birth-rate, other countries, such as Italy and Ireland which are still under the influence of the Roman Catholic Church, have an increasing birth-rate. This aspect of the question deserves rather serious consideration because it means that in a century or so the world may be dominated by the views of the largest section of the community, and we need to consider whether we wish this particular set of views to prevail. Recent legislation has prohibited the importation into Ireland of any book dealing with this subject, and makes the publication of even medical literature open to grave restrictions, while the public press can be heavily punished for discussion of methods of birth control. It is known that the Irish are a vital and rapidly increasing

race. An example of their activity has been shown recently in the case of Scotland, where Irish labour was employed at an electricity works owing to the greater vigour and cheapness of the workmen.

When we consider the problem from a *national* point of view, it is apparent that families are limited in what are called the upper and middle classes, and in the ranks of the superior artisans, while, speaking generally, the largest families are found among the very poor, mentally defective, and the inhabitants of the overcrowded slum areas. Here again religion may have something to do with the size of the family, Jews and Roman Catholics being by their religion forbidden to resort to the practice of birth control. Inducements for the professional classes to have families of greater size might be found in a system of free state education such as obtains in many continental countries and in America, and in a great reduction of income tax for those with incomes under £1,000 per annum.

The statistical evidence with regard to the actual practice in the use of contraceptives is still vague and inconclusive and, as pointed out by Pell in "The Law of Births and Deaths" (1921), the decline in the birth-rate may be due to natural causes working independently of artificial means. His work cannot be accepted wholeheartedly because he seems to be full of the bias which he regrets in the various birth-rate commissions which have sat in Australia, France and England to investigate the problem of the falling birth-rate. As he points out, a large percentage of the members of the birth-rate commissions were themselves childless. He attributes the lessened fertility of the well-to-do to such factors as good food and nervous energy.

In support of these conclusions he quotes from observations on the Bills of Mortality published by Dr. Short in 1750, as follows: "He asserts over and over again, and throughout his whole work, that poor food and hard labour are conducive to prolificness, and consequently that the 'poorest and most laborious part of mankind'—to use his own words—are the fruitfulest." He even carries this idea so far as to conclude that the most laborious and toilsome months of the year are the most fruitful of conceptions, and attributes the great fruitfulness of the Israelites in Egypt as a secondary cause to their bondage and affliction. He explains the inferior fecundity

of town breeders as compared with those of the country as arising, among other things, from the more plentiful eating and drinking and the greater idleness which prevail in populous towns, observing that the most voluptuous, idle, effeminate and luxurious are the barrenest; and he delivers what I believe to be an incontrovertible axiom—that though 'idleness may be a friend to venery, it is not so to prolificness.' " (The Law of Population. Vol. II, page 578.)

If this be so it is an explanation of the indisputable fact that the birth-rate is higher among the people who are less well-off, and it is true that there are many persons known to us in the professional classes who do not succeed in having children, much as they would like to do so.

It is a well-recognised fact that woman's attitude to life has been much changed since the days when her scope was limited almost entirely to personal relationships; side by side with this development has come an increasing frankness and publicity as regards the attitude of women to marriage. Indeed, it is open to doubt whether too much discussion may not mar the delicacy of this relationship, and men and women might do worse than listen to the advice of the poet:—

"Where the apple reddens never pry,
Lest we lose our Eden, Eve and I."

We are faced, however, with volumes of literature, much of it deplorable in taste, whatever effect it may have on morality. The net result has been for women to view their marital relationships in a rather new light. Anything that will free the women's mind from anxiety is of value, but of all the methods of birth control that are advocated there is none more opposed to instinct than that known as the "safe period." As Michael Fielding observes: "The restriction of sexual relations to the periods when there is no spontaneous uprising of sexual feeling; when there is no deep emotion mutually generated that needs gratification, means, to put it quite plainly, that the husband merely uses his wife to achieve his own physical satisfaction, without any possible regard to what she may be needing or feeling. It means that a brilliant solution is found for all our sexual difficulties by permitting men and women to have sexual intercourse when they do not want it, and forbidding it on pain of pregnancy when they do."

There is no doubt that the fear of frequent

and repeated childbearing has a pernicious influence on the mother's health and temper, and this again has wide variations according to the strength and type of woman concerned. It is now recognised by most medical practitioners that the optimum interval between the births of children is two years, and this enables the woman to nurse the child for nine months, rest for six months, and then to begin the reproductive cycle over again.

We must also take into consideration the probable effect on the child's own character of being an accident or the reverse. A large number of people believe that the psychology of the wanted child is built up on a more healthy basis than that of the unwanted offspring whose advent is looked forward to with dread, apart from any physical attempts to terminate the pregnancy, and, moreover, the physical health of the spaced child is usually better than in the families where the children follow each other very rapidly. Thus the benefits of birth control are physical and mental, touching both parents and the child.

Turning to the disadvantages of birth control, one can hardly over-emphasize the dangers and difficulties of the only child. Such a child is usually a solitary being in this world, and inevitably the mother's attitude becomes over-anxious and too much fixed on one individual. The writer remembers a "toddlers' clinic," in which, out of 24 children, 16 were "only" ones, and the average age of the children was 3½. It is obviously a pity to have children at wide intervals, when each becomes an only child.

The mother of the only child may be a nervous over-strained individual concentrating entirely on her one offspring, and naturally anxious as to its health and progress. Very frequently she has no other interests than her home and family so that she does not use her freedom in any social or creative work. Furthermore, there is some evidence in favour of the view that a premature termination of the maternal function may lead to a growth of fibroids.

The ideal family for a healthy home has been variously estimated from four upwards, limits only being imposed by the economic and physical condition of the parents. As regards the giving of birth control advice, this can most effectively be done from an ante-natal or post-natal clinic, and the writer has always believed that the spacing of the family was as much a part of her medical duty as the

prevention of constipation or the treatment of varicose veins. It is unfortunate that, owing to some ill-advised persons, attempts have been made to do this work at the infant welfare centres, which are totally unsuitable from the point of view of equipment. Considerable opposition has been aroused by a proceeding which might otherwise have been unnoticed, and the unfortunate mother is left to obtain her information from the least creditable sources.

The relation of the question of criminal abortion to birth control deserves more serious consideration than it has hitherto received, but evidence is not always possible to obtain as to the frequency with which women, particularly of the poorer classes, resort to this method of terminating an unwanted pregnancy. Evidence is difficult to obtain as to the number of intentional abortions procured by the women themselves, but it is a curious psychological fact that many prefer this method to using any birth control devices. Even if birth control were considered an evil itself, it is assuredly less than that of inducing abortion, and in the considered opinion of many thoughtful persons to-day, birth control offers a solution to economic problems which it is right for the community to employ.

The relation between the growth of birth control methods and the reported diminution in the prevalence of criminal abortion is of interest to all who are concerned with the prevailing morbidity among women.

At a recent discussion held by the Maternity and Child Welfare Group of the Society of Medical Officers of Health and the Medico-Legal Society in London, it was repeatedly stated that violent physical methods were not employed so frequently, but that no figures were available as to the extent to which abortion was procured by the married and the unmarried alike.

The women members of the audience were probably impressed by the apparent indifference of many speakers to the desperate straits to which women were reduced in order to avoid the burden of pregnancy. There are reasons for this supposed immorality of thought among women. The more intelligent members of the community desire a small family, and a definite interval between each child, and resent the crippling effect of many and frequent pregnancies. Very much the same sort of thing is true of the poorer section of the community, where it is very difficult

for birth control methods to be hygienically carried out.

In conclusion, one might say that the essentials for happy motherhood are as follows, granted that the right mate has been selected at the beginning:—

1.—That the child shall be desired very ardently by both parents.

2.—That the mother's health shall not make pregnancy a burden, nor shall her fears be unduly aroused by over-zealous individuals on the subject of childbirth.

3.—That the economic situation shall relieve her of anxiety as to the means by which her child shall be reared.

4.—That the planning of a family rather adds to than detracts from the joy with which the children are expected.

Is it too much to believe that, granted these conditions, the world would be peopled with human beings whose complexes and inhibitions might be less unhappy than they are at present?

DR. HELENA WRIGHT.

Dr. Helena Wright described a practical piece of work that is being done at the North Kensington Women's Welfare Centre, 12, Telford Road, Ladbroke Grove. The Centre is maintained privately by a group of people who believe in contraception; who know that the public mean to have such knowledge, and who wish to supply the poorer classes with the best possible advice.

The following routine is carried out for each patient; specially trained secretaries take the family and marital history, and record the reason for attending the clinic and the means hitherto relied upon for family limitation. The patient then sees the doctor, who is always a woman, and preferably a gynaecologist; she takes a careful history of general health, performs a full pelvic examination, including the routine use of a vaginal speculum, and decides which contraceptive appliance is most suitable. A midwife then carefully explains the method to the patient and teaches her how to apply it herself. When the patient fully understands the method, she is sent home to practise it for a week, and is warned not to run the risk of conception during that time. She comes for a second visit at the end of a week, fits the cap herself, and is given opportunity for any further explanation wanted. If necessary, she is re-taught. If she seems fully to have mastered the method, she is asked to report to the clinic every six months for periodic

pelvic examinations, new appliances when necessary, and any advice she may want.

Detailed records are kept, and in this way valuable data are being accumulated. It is hoped that, before long, by this means, answers will be given to many of the crucial questions concerned in the question of contraception.

The general method used is a double one—a rubber cap and a chemical spermicide. Either the Dutch, the pro-race, or the Dumas cap is advised, and it is found that each has its special indications, for which neither of the others is suitable. A long, healthy cervix which the patient can easily reach with her fingers, is best fitted with the pro-race; the Dutch cap is suitable when the vaginal outlet has not lost tone, and the cervix is out of reach of the patient's fingers; the Dumas is used for a very short, healthy cervix when the vaginal outlet is too lax for a Dutch cap to be retained. The spermicide found most satisfactory at present is the Parke Davis 2 grain hypodermic tablet of quinine and urea hydrochloride. It is odourless and non-greasy, and is placed between the cap and the cervix. The great advantage of this preparation is that when so used, it is not necessary to employ vaginal douching. This is an improvement much appreciated by the patients.

In judging results, facility and comfort in use are considered, as well as technical efficiency. In estimating successes, no result is termed "good," unless it is positively known to be so by direct and continued communication with the patient. Over 1,660 patients have so far attended the clinic since it opened at the end of 1924. Among the first 50 patients we have records of 37; of these 29 show good results, that is, evidence that the method has been in continuous use with comfort and success for more than a year by women previously fertile; 8 are recorded as failures. The remaining patients are not counted because for some reason or other they have lost touch with the clinic and have failed to report. The reasons for the 8 failures are as follows: neglect to use the pessary, 4; pelvic difficulties, neglect to syringe properly, nervousness, habitual constipation, 1 each. The average wage among these families was £2-£3 per week.

The latest development in method was begun 14 months ago, and among the first 100 women so fitted we have records of 67, and of these 59 show good results for more than 6 months, and 8 are failures, one only for

no discoverable cause, and the other 7 from direct and acknowledged mistakes in using the method.

The lesson learned from these results is that the difficulties are human, not technical, and we are therefore trying improvements which will simplify the methods.

No woman who subsequently wanted a baby had failed to have one on ceasing to use the contraceptive.

An invitation was extended to all members of the profession to write to or visit the clinic.

DISCUSSION.

MRS. C. B. S. HODSON, Education Secretary, The Eugenics Society, said that she had recently had the opportunity of seeing the work of birth control clinics in the United States. Though the law in different States varied, there were considerable restrictions on contraceptive work in all States, and these made family limitation a matter always of therapeutic concern: that is, no healthy women could receive instruction legally. The consequence was that the healthy practice now growing up in England of using contraceptive measures to space children, and so ensure a family of, maybe, four or six (where economic circumstances allow), without either undue maternal ill-health or miscarriages and still-births was, in the States, almost non-existent, and the opinion had been expressed by competent sociologists that a considerable amount of American divorce was due to the difficulty that even educated women had in obtaining sound contraceptive information. For the sick mother, or for cases of bad heredity, in most States, resort to contraception was growing rapidly amongst the medical profession. In one rural area of California, a very interesting service had been introduced by the medical officer responsible for the county. He was establishing at convenient rural centres, general clinics where he put the county public health services at the disposal of local practitioners. The facilities available included a tuberculosis clinic, a venereal diseases clinic and, finally, a contraceptive clinic. Co-operation between the public health service and the private practitioner in that way was worthy of note, and might in the future be productive of excellent results.

DR. GRIFFITH-JONES, in a brief reply, said that he wished to make it clear that he was not an opponent of birth control, but was anxious that the control should be directed in a new way—for eugenic purposes and the production of the right type of people.

Ut Ita Dicam.

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

Holiday, Vacation or Leave?

There is something ineffably beastly about holidays. The coming back particularly is beastly, but they can be annoying, too, in their beginning, and so also in their course. The very word "holiday" is annoying. It fails to describe the occurrence so completely. It suggests that one is going to be and do something that one is not and does not. To my mind it is time that the word was dropped, and that we followed the Services and talked of "leave" or adopted the very much better word "vacation," which is used by practically every nation under the sun. So far as I know, we are almost the only people who do talk about holidays, and a large proportion of us do not enjoy properly what they are supposed to give, largely because the word is wrong. Talk about taking a "vacation" or a spot of "leave" and at once you have a suggestion as to what the business is about. You are to be free; you have left work behind; your hours are to be vacant, as they should be on such occasions, and so also is your mind. "Holiday" suggests nothing of these things, and because it does not suggest them it is bad and should be dropped. As a matter of fact, however, even if it was dropped would there be any lessening of the beastlinesses and annoyances that come with the end of the period? Myself I doubt it. One might enter upon the period more joyfully, anticipating freedom, but for a certainty no less than if one were merely taking a holiday, there would appear during the course a sense that it was not all it was cracked up to be and the end would find just the same reasons for discontent. The trouble is, of course, that one's holiday or leave or vacation is one's own holiday or leave or vacation. The whole of one's world does not share it. On the contrary they stop at home and think out the beastlinesses that are to afflict you at the end of the vacation. Most of those left behind appear, indeed, to work harder than usual during your absence, producing reports and books that you have to read, or schemes that you have to study and put into operation, or complications and problems that you have to tackle on a mind that is or should be still in a state of comparative vacancy. Personally, I believe these things are done

maliciously, and a law should be passed providing immunity from annoyance for the vacation-maker on his return for a period equal in length to at least that of the vacation. The term "annoyance" would, of course, require definition, but certainly those things I have mentioned should be made to fall within it, and so should such a thing as a brother officer springing it upon me that he has reached the age of retirement.

Snell of Coventry.

This is what Dr. Snell of Coventry has done. Looking just as he has looked during all the years I have known him, he has gone on working at Coventry, working on the Council of the Society and on this and that body, and has shown not the slightest sign that those of us who have worked at his side must be thinking of seeing him fall out. Never thinking of such an event we have watched him working at the public health in Coventry and have admired his mastery of the business and copied his ideas; we have listened to the soundness of his views in council and committee, chuckled at his humour, and enjoyed his quiet chuckles. And all the time we were watching and listening and benefiting from his advice, he was, as we were not, counting off the days to his retirement and fixing it so that its impending should shock me on my return from a vacation. I find it difficult to forgive Dr. Snell for this; impossible to forgive him for having a retirement at all. Frankly, I have never known anybody who looked less like a retiring officer. He looks as I have always known him; he is on top of his work and looks as if he might stay there for ever. The thoroughness he has always displayed he keeps on displaying, and he is as ready to take up work without protest, and to carry it out as a skilled craftsman would, as he ever has been and has done. It is distinctly a shock to find that retirement is so near that a successor is advertised for. It is saddening that presently Snell of Coventry will cease to be a practising medical officer of health. Into his retirement from that sphere Dr. Snell will take a multitude of regrets and good wishes from colleagues who have recognised in him one who has always worked in such a way as to

bring distinction to the service. He is held in high esteem in Coventry, and he has earned it by the soundness of the work he has done. He is esteemed highly of his fellows also, both on account of his work and for what he has done for the service as a body. It is an advantage that though he gives up his official post he is to continue to aid in the conduct of the business of the Society and various bodies with which he is associated through the Society or otherwise. We do not lose him completely, therefore, although he is retiring, and because of this I have an inclination to forgive him for timing his departure to coincide almost with the end of my vacation.

Sir Robert Bolam and Dr. Brackenbury.

Meetings of the Council presumably must be held some time about the end of the vacation period, but I could wish that they coincided with the end of someone else's rather than mine. The meeting of Friday, September 20th, is fully reported elsewhere, and it will be noted that it was well attended and that business of importance was transacted. The announcement of the intention of Mr. Elliston to resign the appointment of Executive Secretary in September next was not one that gave any of the members any pleasure at all. The tribute paid by the Treasurer (Dr. G. F. Buchan), in the course of his references to the work done in relation to the securing of the revised scale of salaries, to Sir Robert Bolam and Dr. Brackenbury for the part they played at the conferences with representatives of local authorities, did give pleasure if one may judge from the manner in which it was received. For my own part I should like to say that every word of praise uttered by the Treasurer was fully deserved by Sir Robert and Dr. Brackenbury. At the conferences I was continually impressed by the mastery displayed not only of the details of the claims by the former but by his ability as a negotiator. It was a real pleasure and an education to watch him, and to me at least he appeared to dominate entirely the whole proceedings and to excel in readiness and in resource any present at the negotiations either on one side or the other. Dr. Brackenbury, though his opportunities were few, took full advantage of such as offered and always when he spoke, because of his obvious sincerity, carried great weight. I was glad, therefore, that special appreciation was expressed of the efforts of Sir Robert Bolam and Dr. Brackenbury and to note the readiness

with which it was agreed that it should be specifically recorded. Much of the time of the meeting was devoted to the election of members to the Council and of members to represent the Council on various bodies. Apropos of such appointments, I am regularly surprised at the willingness of members to accept the duties they involve, practically all of which mean not only expenditure of time but also expense. It is inevitable, presumably, that the Society should be represented on various kindred bodies, but it certainly seems unfair that the cost of the representation should fall upon the individual.

Absenteeism and Branch Meetings.

A matter raised at the meeting which begins to take on the appearance of a hardy annual came up apropos a mention in the report of the Council of the necessity for effort on the part of senior members to secure the enrolment of the several hundred assistant medical officers who are outside the Society. This drew the comment that of assistants within the Society, numbers complained that they could never attend meetings of their Branches because leave and facilities for doing so were not afforded by their chiefs. When this point was made last year it was decided to circularise all medical officers of health urging that facilities should be granted to juniors. This was done, but apparently in some quarters, at any rate, since the complaint was repeated, without avail, and attempt was again made to blame the seniors and to secure a re-issue of the circular. This was not accepted with the readiness displayed on the previous occasion, a number of speakers enquiring if the chief officers were quite so bad as was suggested and if some of the blame might not be placed upon the juniors themselves who displayed less of longing to attend the meetings than might not unreasonably be expected. Frankly, my own inclination is to accept with some hesitation the allegation that absence is invariably due to difficulties made by the chief. My own acquaintance with medical officers of health, I suppose, is as wide as any, and frankly, I cannot imagine that there are many or any so tyrannically disposed that they would refuse leave reasonably asked for to attend branch meetings. The bulk of them recognise how definitely it is in the interests of the younger members to take opportunities of associating with their fellows and seeing and sharing in the work of the Society. Many of them, indeed, see this more clearly than do apparently

numbers of the juniors, and I have heard several stories of facilities granted and of leave taken on meeting days but not employed in attending meetings. Actually at the Council it was told that some chiefs not only gave the leave but saw to it that there was attendance! It is a curious situation. Regularly at the Council the talk is of what the Society can do for the juniors, with references to grumbles from the juniors. That the Society is interested in those who are in the assistant ranks at the moment cannot be doubted. Everything possible that the Society can do as a body to secure better conditions for the juniors is being done, and yet these very people for whom benefits are sought are those who show themselves least active and interested in the affairs and work of the Society and its Branches. I do not want to preach, and least of all do I want to talk about the days when I was young and how eagerly I looked forward to meetings and so forth and so on. I do want, however, to appeal to any chief

who may have denied facilities or raised difficulties when an assistant has asked leave to attend a meeting to do so no more. Indeed, I ask him to make a point of indicating to the assistant in case, as is not unlikely, he may not have noticed it himself, that there is a meeting on such and such a day and urging his attendance; and to juniors I appeal that they should make a point of noting the dates of meetings, securing leave, putting in an appearance, and taking part in the business and discussions. The assistants of to-day are the chiefs of to-morrow, and the Society must and will go on, and its conduct in time become their responsibility. The Society has secured most of what the juniors have; it can secure more and more if they will make it. The way to make it is by being not only in it but of it; not by staying out of it, and certainly not by keeping away from meetings and having the blame for non-attendance put upon the chief.

P.

Refrigeration in Relation to Meat.

By T. MORAN, Ph.D. (Cantab. and Liv.), B.Sc., A.I.C., Low Temperature Station for Research in Biochemistry and Biophysics (University of Cambridge and Department of Scientific and Industrial Research); and B. T. AITKEN, Managing Director, International Cold Storage and Ice Co., Ltd., Southampton Docks; Member of the British Association of Refrigeration.

These two papers, which were submitted at a meeting of the Metropolitan Branch on April 12th, 1929, deal in a practical manner with a number of points in regard to food refrigeration. As the subject is one upon which medical officers of health are increasingly being required to offer advice, the information given in the papers should prove useful.

DR. MORAN.

THE main purpose of refrigeration when applied to dead foodstuffs is to slow down the processes of breakdown and decay which normally occur post-mortem, the extent of refrigeration applied depending upon the margin of time which elapses between the preparation of the foodstuff and its retail sale and consumption. Taking meat as our example of a foodstuff, the changes which take place after death and during further storage include (1) the rigor mortis change; (2) that due to the action of the tissue enzymes and usually referred to as autolysis; (3) growth on the meat of moulds and bacteria; (4) chemical changes in the fat brought about by atmospheric oxidation; and finally (5) pig-

ment changes more usually at the surface of the meat and due to the oxidation to methæmoglobin of the hæmoglobin in the muscle.

I do not propose to analyse each of these changes in detail. The first—the condition of rigor mortis—is the one least understood and certainly its mechanism is still completely obscure. With a healthy animal, however, two changes invariably occur, namely, an evolution of heat and the production of lactic acid. In the ox this heat evolution is of the order of 5 calories per gram of muscle, whilst the lactic acid maximum is approximately 0.9 per cent. The rate of lactic acid production depends upon the temperature; at 37° C. the maximum is reached in about 10 hours, at 21° C. in about 24 hours. Both changes are

complete within 24 to 48 hours of slaughter, and by that time the meat is "set." If home-killed it is now considered ready for retail sale, but if intended for export it is either chilled or frozen.

In the chilled state there are two outstanding difficulties, namely, the prevention of mould and bacterial growth and the gradual appearance of an unpleasant or rancid flavour in the fat. The first of these can be overcome by suitable attention to the humidity of the air surrounding the meat. If the surface of the meat is dry I have found that mould growth is inappreciable even after 70 days' storage, and I see no reason why that time should not be extended. The question of fat change is, however, much more difficult to control. Apparently the unpleasant flavour in stale or rancid fat is due to the presence of traces of aldehydes and ketones of lower molecular weight produced from the complex acids in the fat by the agency of the tissue enzymes, moulds and bacteria and ordinary atmospheric oxidation. No systematic investigation has yet been made to elucidate the relative importance of each of these three factors, so that not only is there very little known as to the chemical mechanism of fat rancidity, but also it is at present difficult to suggest how it might be minimised or in any way controlled. In my opinion, this is the real problem in the carriage of chilled meat and is the only obstacle—if there be one—to the transport of chilled beef from such far-distant countries as Australia and New Zealand. The control of humidity is essentially an engineering problem—a very difficult one—but one which I think the engineer can solve. In the South American trade it has been solved in an empirical fashion, but only at the expense of partially freezing the meat. Strictly speaking, chilled beef as we know it is wrongly described, for the bulk is carried at about 28° to 29·5° F. instead of at or above its freezing point of about 30·2° F. This slight freezing, however, liberates a certain amount of heat, the heat of fusion, which admits of the cooling units being maintained at a slightly lower temperature, just sufficient to keep the humidity below the danger level.

With frozen meat the problem is much simpler. Mould growth ceases below about -6° C. whilst bacteria, if not actually killed by prolonged storage, are practically inactive. Fat changes also—at least in the case of beef and mutton—are practically negligible. The

ideal temperature of storage has not been worked out in detail but apparently a temperature of 14° F. or below is sufficient to keep meat in a perfectly wholesome state for a year or more, the only change of significance being that the meat after long storage loses its "bloom," which change, however, does not affect the value of the meat as a food. Freezing, therefore, is the ideal method of preservation but, unfortunately, in the freezing process the muscular tissue of most animals undergoes structural change; the water previously held in loose chemical union with the muscle proteins separates as ice *outside* the muscle fibres and is not reabsorbed on thawing. A considerable amount of research work has been carried out on this problem, both in this country and elsewhere, and so far the only conclusion of practical value is that the more rapid the rate of freezing the less is the damage to the tissues. This principle is being made use of in the freezing of fish in low temperature brine, but does not admit of application to such large masses as quarters of beef. Should a method of freezing or thawing be discovered which would reduce or repair the physical disorganisation of tissues when they are frozen it would undoubtedly revolutionise the meat trade and completely upset the present distribution of the meat supplies of the world. There are, of course, differences between tissues in their reaction to freezing. Beef freezes very badly, but mutton and lamb, whilst still giving "drip," are not damaged to the same extent as beef. The reason for this appears to be that the water in the meat is held differently in the two cases, so that for the same freezing rate the ice separation outside the fibres is greater with beef than with mutton. With mutton a larger proportion of the water freezes inside the fibres and does not, therefore, appear as "drip" when the meat is thawed.

Refrigeration as described so far has, as its basis, the prevention of wastage. Recently, however, we have been carrying out experiments regarding the application of refrigeration from a new angle, namely, the improvement of quality. It is on this aspect of refrigeration that I am particularly anxious to obtain the views of the public health service.

With the advent of the modern municipal or co-operative abattoir in place of the private slaughter-house, comes the question of its design, scope, and equipment, and the treatment of the meat from its slaughter to its transference to the retail shop. First, is it desirable

to have a routine procedure for the cooling and setting of the meat? In the United States and in the South American chilled beef trades the practice is to run the meat immediately after dressing into a cold room at about 30° to 32° F. The temperature rises at first when the hot carcasses are introduced but readjusts itself within about 10 hours, and in practice it is found that the temperature of, say, a side of beef is reduced to 42° in 48 hours. The object of this rapid cooling is to reduce bacterial action and fat change in the meat and also in part to avoid "bone taint."

Butchers in this country are, on the whole, opposed to this practice, and even in the hottest day of summer prefer to cool the meat at ordinary temperatures during the first 24 hours. They give as their objections to cooling the meat in artificially controlled temperatures—(1) that the meat does not set properly; (2) the surface of the meat is not dried, so that the appearance or bloom of the meat is not so good. The first objection is definitely unsound. Provided the meat is not frozen the ordinary changes of rigor must go on but at a reduced rate. The second also does not hold if suitable attention is paid to the working and design of the refrigeration. The attitude of the butcher towards a standard procedure for the cooling of meat, particularly beef, is largely traditional and does not appear to be supported by facts. The further treatment of the meat is also important. Should it also be standardised? The practice of the leading butchers and hotels in this country is to hang their best joints for a few days in order to improve their palatability. Is it desirable in the large modern abattoir to have facilities for the hanging of meat in specially constructed refrigerated rooms maintained at a definite temperature? During the last two years we have carried out a number of experiments in an attempt to answer this question. I might add that the problem was first put to us by the Sheffield Corporation in connection with their own municipal abattoir.

First, as regards the palatability—a problem we investigated with the help of the Household Arts Department, King's College for Women, and also with the staff of Messrs. J. Lyons & Co., Ltd.—the results were quite definite. The palatability is improved by hanging the meat for a few days after slaughter. The improvement in palatability consists of a marked increase in tenderness, with slight improvements in the juiciness and texture of

the meat. There was no change in the flavour. Further, the improvement was, if anything, more marked with the so-called coarser joints than with the prime joints. This in itself is the argument for conditioning meat, not as joints, but as whole sides or quarters, and quite definitely the most satisfactory place to store the meat in such a form is at the abattoir, the process of conditioning being made a routine procedure in the preparation of the meat for its retail sale.

As a result of our experiments, a full account of which is now being published, we put forward the suggestion that if meat is to be conditioned at a municipal abattoir its treatment should consist of the following: (a) cooling of the dressed carcass for one or two days at a temperature of 30° to 32° F.; (b) the further storage of the meat as sides or quarters at a temperature of 36° to 38° F. for 10 to 12 days; (c) before its removal to the shops, storage of the meat for 24 hours at ordinary temperatures or, if that be too high, at some controlled temperature within the range 40° to 45° F.

Parallel with these experiments on palatability we have carried out experiments on the chemical, bacteriological and physical changes in the meat. The significant chemical change is, of course, the production of lactic acid. This reaches its maximum of about 0·9 per cent. in one to two days and then remains constant. It is our opinion that it is this lactic acid which is responsible for the tenderness change, its action being to soften the collagen of the connective tissue in the muscle, thereby facilitating its conversion into gelatin on cooking. The increase in juiciness of the meat is probably due to the gradual liberation of water from the muscle protein gel in a manner analogous to synæresis in an ordinary gelatin gel. The change in palatability is, therefore, largely of a physical nature, the chemical changes in the muscle—as distinct from the lactic acid production—even after 17 days' storage being insignificant.

The increase in the bacterial content of the muscle after 17 days' storage is negligible; thus, in one experiment with a particularly fine steer, the bacterial content of the flesh—taken at a point in the centre of the *silver-side* or *semimembranosus* muscle—averaged 190 per gram of muscle. After 17 days it was found to average 237, a difference in the range of experimental error. Incidentally, the actual counts are negligible.

In short, therefore, the scientific evidence in favour of conditioning appears to be quite convincing. Furthermore, we are of the opinion that conditioning would be a good thing from the public health standpoint. This, however, you will realise would be difficult to put to direct experiment. Ruling out experiments with small animals as being of doubtful value, it would necessitate having a number of people as subjects who would conform rigidly to a prescribed and measured diet and to collect and analyse their faeces and urine. Experiments on similar lines were carried out during the war to test the digestibility of the various war breads. It would not, however, in times of peace be so easy to obtain volunteers for this type of experiment. Moreover, it is our opinion that such experiments are not really necessary. The fact that, over the period of storage advocated, chemical and bacterial action in the meat is quite negligible, indicates that the food or calorific value of conditioned meat is the same as that of freshly-killed meat. On the other hand, the fact that its palatability is improved would suggest that its digestibility is improved in equal measure, so that on the whole the nutritive value of the meat—regarding nutritive value as a function both of food or energy value and digestibility—should actually be increased.

MR. AITKEN.

These few words of mine relate to the practical side of refrigeration as applied mainly to the keeping of meat and produce.

According to reports which have appeared recently in various trade papers, there seems to be an opinion that we are approaching a time when there will be a world shortage of meat.

There is also a strong opinion that the embargo at present imposed by the United States of America on the importation of meat from South America will be lifted. Should this be so then the United States will be a serious competitor of this country for the chilled beef which at present forms a large part of our beef supplies. This would undoubtedly cause a shortage of chilled beef, and we should have to look to home-killed meat supplemented by frozen beef from the Colonies, of which Australia would be the principal exporter. Unfortunately, frozen beef from Australia cannot be compared with chilled beef from South America for tenderness and flavour, and it is

here that the system of ripening as put forward by Dr. Moran would be of considerable value.

Several attempts have been made to carry beef from Australia and New Zealand in a chilled state, but so far without success, and in every case the beef has been partly frozen. I was on a steamer 25 years ago in which a trial shipment of chilled beef was carried from New Zealand. The beef carried well up to about 35 days, but then the temperature had to be reduced so that on arrival the beef, in fact, was not "chilled" as we understand it as applied to South American beef. Scientists are endeavouring to find a perfect system of meat freezing. Hard freezing, especially in meat of more tender tissues, as in beef, impairs the eating qualities, and it has been stated by Dr. Ezer Griffiths that internal pressures are set up in meat freezing which may amount to 200 lbs. per square inch, and this pressure causes rupture of the meat tissues. By rapid freezing with low temperature brine it has been proved that there is not the same damage to the tissue as with slow freezing, but so far this system has only been applied to fish and small articles of food. One process is the Birdseye system, in which the product to be frozen is fed on to the receiving end of the lower of two metal belts, which grip the article and carry it into an insulated tunnel and, while travelling, low temperature brine is sprayed on to the upper side of the top and the lower side of the bottom belt. If some such system could be applied to freeze beef in quarters rapidly, then the quality of frozen beef would be greatly improved.

Few people realise the great part refrigeration plays in the supply of food and the great variety of articles which may be stored in a public cold store at one time, many requiring different treatment by way of temperature and, in some cases, the control of relative humidity. In the store with which I am connected, there are to-day fifty-one different classes of food, etc., including beef, frozen and chilled, calves, mutton and lamb, pork, and the offal of each; venison, smoked fish, fresh fish, butter, cheese, milk, cream, bacon, poultry, game, apples, pears, plums, peaches, oranges, grapefruit, grapes, hops, seeds, trees, rhubarb roots, etc.

The relative humidity must be controlled with cheese and eggs, and this question is now receiving attention in New Zealand in reference to the storage and sea carriage of cheese, and I have been told that the money value in shrinkage of their cheese amounts to approxi-

mately £180,000 per annum, due to lack of control of the proper relative humidity.

The humidity of egg chambers must be carefully controlled, because if too damp the eggs will be tainted, while on the other hand, if too dry, the eggs will evaporate and lose weight.

Fruit requires careful treatment as to temperature, and the same variety of fruit from different sources requires a different temperature, *i.e.*, apples from British Columbia are stored $3\frac{1}{2}^{\circ}$ lower than those from New Zealand, and pears from New Zealand 3° lower than those from South Africa.

Included in the list I have just given are one or two items of special interest. The trees mentioned are various kinds of flowering trees which normally would be in bloom in April. This is the third or fourth year these same trees have been placed in cold storage at Christmas, and they are taken out so as to be in full bloom for the flower shows in the summer. A trial has just begun with clover seeds and beans. One season there may be a glut, and all cannot be sold; if they are kept until the next season in ordinary storage they will lose colour, and possibly a fair percentage will fail to germinate, but by being kept at a temperature of 28° to 30° F. this is avoided.

To my mind the application of refrigeration is always full of interest because new uses or more up-to-date methods are continually coming forward.

One of my most interesting jobs was the carriage to New Zealand of 1,000,000 salmon eggs. These were packed on shallow trays fitted into boxes, and fed with fresh water, the temperature being maintained at just over 32° F. Upon being hatched out in New Zealand the loss on the shipment was only $2\frac{1}{2}$ per cent.

A friend of mine took also to New Zealand several consignments of queen bees, which were, by the control of temperature, kept asleep on the voyage, and after becoming acclimatised were taken in a motor car, and one released about every fifty miles. This, I think, had something to do with the improvement of clover.

Have you ever tried to imagine what the food supplies would be like in this country without the aid of refrigeration? What would our butcher, fruit and provision shops look like? Every year, due to refrigeration, nearly 50 per cent. of our meat is imported, together

with over 250,000 tons of butter, 150,000 tons of cheese, nearly £17,000,000 value in eggs, and large quantities of bacon and other pig products, and fruit.

Having regard to the condition in which this enormous quantity of foodstuffs is placed on our markets, most of which has travelled long distances in the country of origin before being killed and prepared, frozen or chilled, loaded into steamers, unloaded and placed in cold storage on this side, and then distributed through wholesalers and retailers, and so on to the home, I feel you will agree that nothing but praise is due to all concerned, but mainly to those pioneers in refrigeration who have made this possible.

WE record with great regret the death of Dr. E. P. Manby, a Medical Officer of the Ministry of Health, and Examiner in Public Health at the Universities of Liverpool, London and Leeds. Dr. Manby was formerly Assistant Medical Officer of Health, City of Liverpool, and Resident Medical Officer of the Fountain Fever Hospital, Metropolitan Asylums Board.

THE work of the Royal National Orthopaedic Hospital is too well-known to call for special mention in this journal, but attention may be directed to the post-graduate course in orthopaedics which commences at the Hospital on November 18th, details of which appear in the advertisement columns of this number. The course, it will be noted, is of a particularly comprehensive nature, and will commend itself to those who desire to keep abreast of the work and developments in this branch of surgery.

Correction.—Dr. James A. Kerr, Assistant Medical Officer of Health, City of Chester, writes to point out that in his paper on "Puerperal Fever," published in the July, 1929, issue of PUBLIC HEALTH, he misquoted (at foot of page 335) Dr. Leonard Colebrook's Report to the Medical Research Council (Special Report Series, No. 119). Dr. Colebrook is stated to have said that he advocates the routine administration of 3 gram of metarsenobillon intravenously at intervals of five days, whereas, in fact, he recommends the intramuscular and subcutaneous routes, and the intervals between the doses vary from six hours to five days.

The Society.

Reports, Proceedings and Announcements.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, September 20th, 1929. The President (Dr. J. Howard-Jones) was in the chair and there were present Professors Bostock Hill, Kenwood, Kerr and Jameson, Drs. G. F. Buchan, Picken, Fenton, Naylor Barlow, Porter, Wilshaw, Mussen, E. Ward, Snell, Stirk, Puddicombe, Tapper, Gibbons Ward, Wood, Joseph, Pearce, Eustace Hill, Milligan, Jolly, Muir, Linton, Evans, Brackenbury and Lt.-Col. G. S. Parkinson.

The minutes of the last meeting having been approved and signed, messages of apology for absence were received from Sir Humphry Rolleston, Drs. Stella Churchill, J. J. Buchan, R. A. Lyster, W. Paterson, J. Cates, Veitch Clark, A. E. Baker, A. K. Chalmers and Lt.-Cols. A. J. H. Russell and F. E. Fremantle, M.P.

Maternity Services.—The Ministry of Health forwarded for the information of the Society the report of the Departmental Committee on the Training and Employment of Midwives. From the British Medical Association was received the Association's Memorandum outlining a National Maternity Service Scheme for England and Wales. It was agreed to refer these documents to the branches and groups of the Society asking for any observations and recommendations they may wish to submit before the December meeting of Council.

The Council and Branches.—In a letter referring to the desire of branches to establish closer contact with the work of the Council Dr. A. K. Chalmers urged that there should be some sort of "time-table" for the consideration of subjects, so that branches could consider matters in the interval between the meetings of Council. To encourage this sort of co-operation, Dr. Chalmers suggested that the Council should more often invite the Branches to discuss subjects on which it was desirable to ascertain the corporate opinion of the Society. As an example, he suggested that the Council should invite the Branches to give early consideration to the serious problem represented by the shortage of hospital accommodation and the almost complete absence of

industrial colonies for the residence and employment of mental defectives. He suggested that the Branches should be asked to forward spot maps indicating the ratio of beds (existing and required) to population in each administrative area. In the course of the discussion of this proposal the view was expressed that the information sought by Dr. Chalmers would soon be available as a result of surveys under the Local Government Act, and it was therefore decided to take no action in this particular matter at present.

Transferred Medical Services under the L.G. Act.—A member of Council reported the circulation of a document in reference to the responsibility for transferred medical services under the L.G. Act which appeared to be in disagreement with the view expressed in the letter dated June 25th, 1929, addressed by the Ministry of Health to the Society. It was agreed to make further enquiries regarding the authenticity of the circular.

Candidates for B.M.A. Elections.—Arising out of a representation of the North-Western Branch, it was resolved: "That the Branches of the Society be invited each year to submit the names of suitable candidates for nomination as representatives of Public Health Service Members of the B.M.A. at the Association's Annual Representative Meeting, at least one month before the Council of the Society selects the candidates to be supported."

Society M.O.H. Council Elections.—A representation of the North-Western Branch, amended in accordance with suggestions of the Metropolitan Branch, was submitted as follows:—

"That members of Council elected under Article 19 (a), (b) and (d) should be Fellows of the Society who hold public health service appointments or who are actually engaged in public health work."

After some discussion it was agreed that the proposal should await consideration until such time as the Society's Articles of Association again come up for revision.

Election to Council.—The following were elected members of Council for the Session 1929-30, under Article 19 (d) of the Society's Articles of Association, viz.:—Prof. W. W. Jameson, Dr. R. M. F. Picken, Prof. H. R. Kenwood, Dr. Eustace Hill, Dr. T. W. Naylor Barlow, Dr. H. J. Milligan and Dr. A. A. Mussen.

Prof. Sir Humphry Rolleston and Lt.-Col. F. E. Fremantle, M.P., were re-elected under Article 19 (f).

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

B.M.A.: Public Health Committee: Dr. T. W. Naylor Barlow, Dr. R. M. F. Picken.

B.M.A.: Insurance Act Committee: Dr. J. Fenton.

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

Annual Conference, National Association for the Prevention of Tuberculosis: Prof. H. Kerr, Dr. W. H. Dickinson.

Royal Sanitary Institute and Sanitary Inspectors' Examination Joint Board: Dr. E. H. Snell.

Central Council for Health Education: Profs. Kenwood, Bostock Hill and Jameson, Drs. G. F. Buchan, Fenton, Porter, Daley, Kaye, Snell, F. H. Thomson, Nankivell, E. Ward, Gibbons Ward and Wood.

Procedure of Council.—The Special Committee *re* Procedure of Council reported as follows:—

A meeting of the above Committee was held at the Sedbury Park Hotel, Chepstow, on Friday, June 28th, 1929.

The President (Dr. J. Howard-Jones) took the chair, and there were present: Dr. R. M. F. Picken, Dr. E. H. Snell and Dr. James Fenton.

After consideration of suggestions received from the Branches and members of Council, it was decided to recommend that for the Session 1929-30 the following Committees be appointed:—

(a) The Salaries Committee.

(b) The Committee for negotiations with the B.M.A.

(c) The Local Government Act Committee.

It was further agreed that the Council should consider the advisability of electing other members of Council to the Committee of Officers of the Society, such enlarged Committee to meet when necessary to consider urgent matters in the intervals between meetings of Council.

The Executive Secretary. Mr. G. S. Elliston, notified the Committee that owing to the increasing business of the Society, and pressure of his other work, he is proposing to resign his appointment as Executive Secretary as from September 30th, 1930. In view of this retirement it was agreed to recommend:

"That Mr. G. L. C. Elliston, B.A. (Oxon), be appointed Assistant Secretary (unpaid) to the Society for the year ending September 30th, 1930."

As assistant editor of "The Medical Officer," Mr. G. L. C. Elliston is known to many members of the Society and is already familiar with the interests of the Public Health Service.

Your Committee recommend that decisions should be reached on September 20th in reference to the

Committees for 1929-30 to be appointed at the October meeting of the Council.

The above report having been adopted it was resolved:—

(a) That a General Purposes Committee, to include the Officers of the Society with six elected members, be constituted for a trial period of six months.

(b) That the said General Purposes Committee should at once consider how to facilitate the business of the Council, and the steps to be taken in view of the pending resignation of the Executive Secretary.

Report of Council.—The following report was adopted for submission at the Annual General Meeting of the Society:—

REPORT OF THE COUNCIL—SESSION 1928-29.

Your Council report—

1.—that one hundred and seventeen candidates have been elected as Fellows or Associates of the Society during the Session 1928-29. During the same period fifty-five resignations were accepted from members who are retiring from active work, or leaving the Public Health Service for other branches of medical practice.

2.—that the Society has to mourn the loss by death of Dr. Herbert Jones (President, 1914-15) whose exceptional services had been recognised by his election as an Honorary Fellow, and of Dr. H. E. Armstrong (President, 1889-1891) who had also been elected an Honorary Fellow. Other members whose deaths were recorded during the session were Drs. W. J. A. Adye (Bradford-on-Avon), H. R. Beale (Retford), R. de la Poer Beresford (Oswestry), S. J. Clegg, O.B.E. (Durban), W. R. A. Coates (Haslingden), W. Doyle (Colne), J. C. Heaven, T. E. Holmes (Notts.), W. R. Judd (Audenshaw), A. M. Masters (Co. Durham), L. J. Milne (Mirfield), C. E. Paget (Northants), J. Logan Stewart (Lancs.), Elsie Thomson (East Ham), Livsey Tong (Bolton) and R. S. Trotter (N.S.W.). One of the senior Fellows of the Society who also passed away during the Session was Dr. James Wilkie Smith of Ryton, a past-president of the Northern Branch, and held in the highest honour by his public health colleagues.

3.—that allowing for these losses the membership of the Society shows a net increase of 44 as compared with 14 and 48 respectively in the two preceding Sessions.

4.—that the total membership still falls short of 2,000, and some special effort is

necessary on the part of senior members to secure the enrolment of several hundred assistant medical officers who are outside the Society.

5.—that Dr. J. Howard-Jones delivered his presidential address on "The Rôle of the General Practitioner, and of the Specialist, in Preventive Medicine," at the annual meeting of the Society on October 19th, 1928. For the ordinary meetings of the Session the President arranged the following series of discussions:—

"Notification and Control of Venereal Diseases." A. K. Chalmers, M.D., C.M., F.R.F.P.S., D.P.H., late M.O.H., Glasgow; Robert A. Lyster, M.D., B.Sc., D.P.H., M.O.H., Hampshire County Council; William Robertson, M.D., D.P.H., F.R.C.P. (Ed.), M.O.H., Edinburgh.

"Mental Hygiene." Ralph H. Crowley, M.D., M.R.C.P., M.R.C.S., Medical Branch, Board of Education; Edward Mapother, M.D., B.S., F.R.C.P., F.R.C.S., Medical Superintendent, Maudsley Hospital; Letitia Fairfield, C.B.E., M.D., Ch.B., D.P.H., Div. Med. Officer, Public Health Dept., L.C.C.

"Inspection and Registration of Nursing Homes." J. J. Buchan, M.D., Ch.B., D.P.H., Medical Officer of Health, Bradford; A. Middleton Hewat, M.D., Ch.B., D.P.H., Senior Medical Officer, L.C.C.; Miss M. M. Winstanley, Matron of a London Nursing Home.

"Control of Small Pox." G. F. Buchan, M.D., M.R.C.P., D.P.H., Member of the Departmental Committee on Vaccination; A. F. Cameron, M.A., M.D., D.P.H., Medical Superintendent, River Hospital Service, Metropolitan Asylums Board.

"Birth Control." Dr. Griffith Jones, D.D., Principal, Yorkshire United College (Theological); C. Killick Millard, M.D., C.M., D.Sc., Medical Officer of Health, Leicester; Stella Churchill, M.R.C.S., L.R.C.P., D.P.H., Medical Officer, West Hackney Welfare Clinic.

"The Medical Aspects of the Local Government Act, 1929." E. Colston Williams, M.D., F.R.C.S. (Ed.), D.P.H.; R. M. F. Picken, M.B., B.Sc., D.P.H., Medical Officer of Health, City of Cardiff.

The last-named discussion was held at the annual provincial meeting at Sedbury Park, Chepstow. The thanks of the Society are due to the President for the very enjoyable programme arranged for this occasion, and to Lord Treowen who, on the completion of the meeting, entertained the members at a garden party at Llanover Park.

6.—that ten meetings of the Council were held during the session, and committees of the Council met on fifteen occasions. The proceedings of the Council have been duly recorded in PUBLIC HEALTH, for the information of members.

7.—that they have had official communications with the Ministry of Health, the Board of Education, the Ministry of Agriculture and

Fisheries, the Home Office, the Board of Inland Revenue, the War Office, the Admiralty, the Air Ministry, and other Government Departments on numerous matters affecting public health administration and officials.

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

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

10.—that by request of the Ministry of Health the Society has continued to arrange facilities for foreign medical officers sent to this country by the Health Section of the League of Nations. No group interchange has been held in Great Britain during the past year, but introductions have been arranged for individual visitors. A member of the Society, Dr. R. H. Wilshaw, on the nomination of the Council was elected by the Ministry

of Health as a participant in an interchange held in Denmark and Holland during June and July.

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

12.—that the Committee on the Remuneration of Medical Officers of Local Authorities has continued to watch the operation of the Scale of Salaries, and to advise members in reference to the terms of their appointments, tenure, office and travelling expenses, and superannuation. After preliminary meetings with the British Medical Association, representatives of the Society were invited by the B.M.A. to take part in a series of conferences with the representatives of Local Authorities. The conferences were held at the Ministry of Health under the chairmanship of Lord Askwith and eventually all parties agreed to commend to their respective bodies the revised Scale of Salaries which was published in PUBLIC HEALTH, September, 1929. Your Council recognise that the Scale is not likely to be regarded as doing full justice to the Public Health Service, but they are satisfied that no better terms could be obtained in present circumstances. They feel that the cordial thanks of the Society are due to Sir Robert Bolam and Dr. H. B. Brackenbury, for the able manner in which they submitted and pressed the claims of the Public Health Service, and to Dr. G. F. Buchan who, during the recent negotiations, as throughout the past ten years, has continued his able and untiring efforts to obtain better conditions of service for his colleagues.

13.—that the annual exchange of Officers and the re-election of the Council involves the retirement of Dr. J. Cates, Dr. Stella Churchill, Dr. R. Veitch Clark, Dr. W. A. Muir and Dr. F. H. Thomson.

We recommend that the thanks of the Society should be accorded to these representatives for their services as members of the Council.

14.—that the grateful thanks of the Society are due to Dr. John Howard-Jones for his services as President of the Society during the past Session. By his regular attendance at meetings and by the wisdom of his counsel in all the affairs of the Society Dr. Howard-

Jones has more than justified his election to the highest position in the gift of his colleagues.

15.—that the Council again desires to put on record its high appreciation of the valuable services rendered to the Society by the Executive Secretary, Mr. G. S. Elliston. His untiring zeal, courtesy, statesmanship, tact and high ideals have been a great asset to the Society.

The B.M.A. and the Scale of Salaries.—In accordance with paragraph 12 of the Council's report, it was moved, seconded, and carried unanimously "That the cordial thanks of the Society be conveyed to Sir Robert Bolam and Dr. H. B. Brackenbury, who as spokesmen for the British Medical Association, so ably submitted and pressed the claims of the Public Health Service in the recent negotiations with the representatives of Local Authorities under the chairmanship of Lord Askwith."

Attendance at Branch Meetings.—On the proposal of Dr. Ernest Ward it was agreed that an early notice should appear in PUBLIC HEALTH urging the attendance of assistant medical officers at meetings of the Society. It was recalled that last autumn an appeal was circulated to medical officers of health asking them to arrange for the necessary leave of absence for assistant colleagues. That appeal had not everywhere produced the desired effect, although cases were reported where the absence of assistant medical officers was not due to any official duties which made their attendance impossible.

The Council then adjourned.

The name of Dr. E. H. Snell was inadvertently omitted from the list of those present at the Council Meeting at Sheffield on July 17th, reported in PUBLIC HEALTH, September, 1929, p. 418.

BRANCH AND GROUP ELECTIONS:

Session 1929-30.

METROPOLITAN BRANCH.

President ...	Dr. J. B. Howell.
Vice-Presidents ...	Dr. F. E. Scrase.
	Dr. G. Quin Lennane, M.C.
Hon. Treasurer ...	Dr. F. L. Keith.
Hon. Secretary ...	Dr. James Fenton.
Representatives on Council of Society	Dr. James Fenton. Dr. E. G. Annis.

SCOTTISH BRANCH.

President ... Dr. T. Adam.
 Vice-Presidents ... Prof. Matthew Hay.
 Dr. A. K. Chalmers.
 Hon. Secretary
 and Treasurer ... Dr. G. V. T. McMichael.
 Representative on
 Council of Society Dr. A. K. Chalmers.

MIDLAND BRANCH.

President ... Dr. W. D. Carruthers.
 President-Elect ... Dr. P. S. Blaker.
 Vice-Presidents ... Prof. Bostock Hill.
 Sir John Robertson,
 C.M.G., O.B.E., LL.D.
 Dr. E. H. Snell.
 Dr. W. L. M. Goldie,
 O.B.E.
 Hon. Auditor ... Dr. W. M. Clendinnen.
 Hon. Treasurer ... Dr. E. H. Snell.
 Hon. Secretary ... Dr. R. H. H. Jolly.
 Branch Correspondent ... Dr. G. N. Anderson.
 Representatives on
 Council of Society Dr. R. H. H. Jolly.
 Dr. H. Gibbons Ward.

NORTHERN BRANCH.

President ... Dr. G. C. M. M'Gonigle.
 Vice-President ... Dr. Charles Franks, J.P.
 Hon. Secretary
 and Treasurer ... Prof. Harold Kerr, O.B.E.
 Representative on
 Council of Society Prof. Harold Kerr, O.B.E.

NORTH-WESTERN BRANCH.

President ... Dr. F. A. Sharpe.
 Hon. Treasurer ... Dr. H. H. I. Hitchon.
 Hon. Secretary ... Dr. G. W. N. Joseph.
 Representatives on
 Council of Society Dr. F. A. Sharpe.
 Dr. F. T. H. Wood,
 O.B.E.
 Dr. G. W. N. Joseph.

WEST OF ENGLAND BRANCH.

President ... Dr. E. Ward.
 Vice-President ... Dr. A. H. Wilson.
 Hon. Secretary ... Dr. P. H. Stirk.
 Hon. Treasurer ... Dr. J. F. Blackett.
 Representative on
 Council of Society Dr. P. H. Stirk.

SOUTHERN BRANCH.

President ... Dr. H. Gordon Smith.
 Hon. Treasurer ... Dr. H. L. Cronk.
 Hon. Secretary ... Dr. H. D. Kelf.
 Representative on
 Council of Society Dr. R. H. Wilshaw.

WELSH BRANCH.

President ... Dr. R. M. F. Picken.
 Hon. Secretary
 and Representative
 on Council of
 Society ... Dr. D. Jenkin Thomas.

HOME COUNTIES BRANCH.

President ... Dr. E. H. T. Nash.
 Hon. Treasurer ... Dr. A. E. Porter.
 Hon. Secretary ... Dr. A. A. Turner, M.C.
 Representatives on
 Council of Society Dr. F. T. C. Linton.
 Dr. E. H. T. Nash.
 Dr. A. A. Turner, M.C.

YORKSHIRE BRANCH.

President ... Prof. J. Johnstone Jarvis.
 Vice-Presidents ... Dr. J. Mair.
 Dr. Cyril Banks.
 Hon. Secretary
 and Treasurer ... Dr. G. H. Pearce.
 Representatives on
 Council of Society Dr. G. H. Pearce.
 Prof. J. Johnstone Jarvis.

EASTERN BRANCH.

President ... Dr. A. N. Stevens.
 Hon. Secretary
 and Treasurer ... Dr. A. M. N. Pringle.
 Hon. Auditor ... Dr. C. L. Leggat, O.B.E.
 Representative on
 Council of Society Dr. A. M. N. Pringle.

MALAYAN BRANCH.

President ... Dr. W. Dawson, D.S.O.
 Vice-Presidents ... Dr. P. S. Hunter.
 Sir Malcolm Watson.
 Hon. Secretary
 and Treasurer ... Dr. R. W. C. Kelly.
 Members of Council The Hon. Dr. A. L.
 Hoops.
 Dr. W. J. Muir.

Representative on
 Council of Society Prof. A. Bostock Hill.

SOUTH INDIAN BRANCH.

President ... Lt.-Col. A. J. H. Russell,
 C.B.E., I.M.S.
 Hon. Secretary
 and Treasurer ... Capt. A. M. V. Hester-
 low, I.M.S.
 Representative on
 Council of Society Lt.-Col. A. J. H. Russell,
 C.B.E., I.M.S.

TUBERCULOSIS GROUP.

President ... Dr. F. J. C. Blackmore.
 Hon. Secretary ... Dr. Ernest Ward.
 Representative on
 Council of Society Dr. Ward.

SCHOOL MEDICAL SERVICE GROUP.

President ... Dr. W. J. M. Slowan,
 O.B.E.
 Hon. Secretary
 and Treasurer ... Dr. Louisa C. Adam.
 Representative on
 Council of Society Dr. T. P. Puddicombe,
 D.S.O.

MATERNITY AND CHILD WELFARE GROUP.

President ... Dr. J. A. Stephen.
 Vice-Presidents ... Dr. Ethel Cassie.
 Dr. Stella Churchill
 Dr. T. Yule Finlay.
 Hon. Treasurer ... Dr. Stella Churchill,
 L.C.C.

Representative on
 Council of Society Dr. Margaret Emslie.
 Hon. Advisory
 Secretary ... Dr. Margaret Emslie.
 Hon. Secretary ... Dr. Grace Calver.

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

President ... Wing-Cdr. Andrew
 Grant, M.B.E.
 Hon. Secretary ... Lt.-Col. G. S. Parkinson,
 D.S.O.

Representative on
 Council of Society Lt.-Col. G. S. Parkinson

FEVER HOSPITAL MEDICAL SERVICE GROUP.

President ... Dr. D. Sage Sutherland.
 Editor ... Dr. F. M. Turner.
 Hon. Secretary ... Dr. J. C. Blake.
 Representative on
 Council of Society Dr. A. F. Cameron.

COUNTY DISTRICT GROUP.

Chairman ... Dr. A. B. McMaster.
 Vice-Chairman ... Dr. W. F. Corfield
 Hon. Secretary and
 Representative on
 Council of Society Dr. K. E. Tapper, O.B.E.

DENTAL OFFICERS' GROUP.

President ... Dr. J. Sim Wallace.
 Vice-President ... F. Breese, Esq., L.D.S.
 Hon. Treasurer ... G. Thomson, Esq., L.D.S.
 Representative on
 Council of Society A. E. Baker, Esq.,
 M.R.C.S.
 Hon. Secretary ... W. L. Breese, Esq.,
 L.D.S.

THE SOUTHERN BRANCH.

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

The annual meeting of this Branch was held at Southampton, on July 5th, 1929, the President occupying the chair. Eight members were present. Apologies for absence were received from the Hon. Secretary, and from Drs. Wilshaw and Stirling.

The Acting Secretary (Dr. A. E. Druitt) reported the receipt of a communication from the North-Western Branch, conveying a resolution passed in reference to nominations for representatives at the Annual Representative Meeting of the British Medical Association.

Hearty votes of thanks were accorded to Dr. Lauder, Dr. Lyster, Dr. Gordon Smith and Dr. Connolly for their kindness in arranging the use of rooms for Branch meetings and the provision of teas during the past session.

Officers for the session 1929-30 were elected as follows:—

President: Dr. H. Gordon Smith.
 Representative on Council of Society: Dr. R. H. Wilshaw.

Hon. Treasurer: Dr. H. L. Cronk.
 Hon. Secretary: Dr. H. D. Kelf.

Executive Committee: Dr. Bruce Young,
 Dr. W. J. Hart, and Dr. Lockhart Livingston.

Mr. J. S. Roberts showed two upper premolar teeth, one of which had the normal single root, while its fellow of the opposite side had a bifurcated root. The latter, it was mentioned, was very liable to be fractured during extraction, leaving the broken-off portion retained and often unsuspected at the time of extraction, but giving rise to trouble later.

The President, after some discussion on the need for adequate publicity in connection with health work, kindly offered to arrange for the publication of regular short articles in the local newspapers of Southampton and Bournemouth, and it was agreed unanimously that Dr. Moxey should give this special effort a trial.

Dr. Dora Bunting, Assistant Medical Officer of Health (Maternity and Child Welfare), Southampton, read an extremely interesting paper on "Ante-Natal and Infant Welfare Work." A discussion followed in which everyone present took part, and at the conclusion a cordial expression of thanks was accorded to Dr. Bunting for her contribution, which

will appear in an abridged form in this journal in due course.

THE SCOTTISH BRANCH.

President: Dr. Thomas Adam, County Medical Officer of Health, Stirling.

Hon. Secretary: Dr. G. V. T. McMichael, Medical Officer of Health, Paisley.

A meeting of the Council of this Branch was held in the Sanitary Chambers, Glasgow, on September 7th, 1929, the President occupying the chair. Ten members were present. Apologies for absence were intimated from Drs. Hamilton, McWhan, and A. K. Chalmers.

The Hon. Secretary reported that Dr. J. Parlane Kinloch, Chief Medical Officer of the Department of Health, had agreed to attend a meeting of the Branch on September 21st, and to advise members regarding the Local Government (Scotland) Act, more especially regarding the preparation of Administrative Schemes under Section 14 of the Act.

Dr. A. K. Chalmers reported that, in connection with the remit to him to consider the question of the present procedure of the Central Council, he had forwarded two recommendations to the Executive Secretary: (1) that there should be a time-table for both Central and Branch Councils to expedite remits from the Central Council to Branches; (2) that the Central Council should more frequently, of their own initiative, remit questions to branches for considered opinions on questions of policy and procedure, or even for the purpose of pooling information for subsequent action. Dr. Chalmers was cordially thanked for the consideration he had given to the remit.

The Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations (Scotland), 1929, which come into force on October 1st, 1929, were considered at some length. Discussion was chiefly concerned with the alternative forms of assistance which medical practitioners may request from the local authority. As regards the consultant service, the general feeling was that, where possible, the consultants at present attached to the local maternity or fever hospital should be employed at a fee round about £3 3s. per case, the consultant's duties to include, where necessary, the taking of cervical or intra-uterine swabs and sending a brief report to the medical officer of health. The question of the provision of trained nurses in the

patients' homes gave rise to considerable discussion. It was generally agreed that patients who required the services of a trained nurse would be much better in hospital, and that the provision of such nursing assistance should be discouraged except in exceptional cases; patients who required one or two daily visits from a nurse could be dealt with by the district nurses.

Various points in connection with the Local Government (Scotland) Act were discussed. Dr. Macgregor gave a most interesting résumé of what he proposed to recommend regarding the transfer of the medical services of the education authority, the most important point being that the public health committee should be responsible for the appointment and for the work of all medical and nursing members of the transferred services, and for the management of all medical institutions, clinics, etc. It was reported that explanatory circulars dealing with the preparation of Administrative Schemes would shortly be issued by the Scottish Office, and the Hon. Secretary was instructed to call a special meeting of the Council as soon as possible after the issue of the circulars.

THE NORTHERN BRANCH.

President: Dr. J. Bannerman, M.O.H., Weardale R.D.

Hon. Secretary: Prof. Harold Kerr, O.B.E., M.O.H., Newcastle-upon-Tyne.

On September 6th, 1929, by invitation of Dr. I. G. Modlin, Mayor of Sunderland, and Chairman of the Health Committee, a meeting of this Branch was held at Grindon Hall Sanatorium, Sunderland.

Members present included the President, Drs. G. C. M'Gonigle, D. Allan, J. A. Charles, W. H. Dickinson, A. S. Hebblethwaite, Margaret Herbst, Madge Hopper, James Hudson, H. Kerr, R. MacLeod, E. Porteus, Alice Stenhouse, Anne Simpson and A. F. G. Spinks. Apologies for absence were received from Drs. Dingle, Goodwin, J. W. Gray, Hurrell, Lane, Lilico and McIntyre.

The visitors were welcomed by Dr. Modlin, and by Dr. A. S. Hebblethwaite, Medical Officer of Health, Sunderland, and were conducted round the institution. This was, until May, 1922, the private residence of one of the great North-East Coast shipbuilders, and both the house itself and the grounds are of quite unusual beauty. Sunderland at the time was

faced with the necessity for building an extension to the nurses' home at the borough sanatorium at a cost of at least £15,000. Grindon Hall, however, was acquired by auction for £14,000, and by the expenditure of an additional £3,000 was equipped as a children's sanatorium with twenty-three beds. Recently there has been added a new and artistically designed pavilion in brick to accommodate twenty women. The pavilion cost £5,000, and its furnishing about £650.

Facilities for all modern treatment are provided, including artificial sunlight, remedial exercises, celluloid splint making, and in the charming grounds are tennis courts, bowling greens, golf putting greens, and a small lake. The flower beds were lavishly stocked with a magnificent show of bloom, and the gardens, orchard, green-houses and conservatories showed evidence of care such as is rarely, if ever, found in an institution.

Tea was provided by Dr. Modlin, in the course of which the President, seconded by the Vice-President (Dr. G. C. M'Gonigle), expressed the gratification of the members at the privilege accorded them of meeting in so beautiful and interesting a place, and there was none present who did not envy Sunderland its sanatorium.

The Hon. Secretary reported the receipt of a letter of thanks for the sympathy of the Branch with the widow of the late Dr. A. M. Masters, District Tuberculosis Officer, Durham County Council, and also an intimation from the North of England Branch of the British Medical Association that Dr. James Hudson had been re-appointed as the General Practitioner Representative to serve on the Council of the Northern Branch of the Society of Medical Officers of Health. This statement was received with warm applause.

THE MATERNITY AND CHILD WELFARE GROUP.

President: Prof. A. Louise McIlroy, D.B.E., Professor of Obstetrics and Gynaecology, University of London.

Hon. Secretary: Dr. Margaret Emslie, 18, Weymouth Street, Portland Place, W.1.

The annual business meeting of this Group was held at the house of the Society on July 3rd, 1929.

A large number of members were present, the President occupying the chair. Apologies for absence were received from Dr. Greenwood and Dr. Scott-Dickson.

The Annual Report, containing details of the activities of the Group during the past session (reports of which have already appeared in the journal), was presented and adopted.

Honorary Officers for the session 1929-30 were elected as follows:—

President of Group: Dr. J. A. Stephen.

Vice-Presidents: Dr. Ethel Cassie, Dr. Finlay (Dr. Stella Churchill still continuing in office).

Group Representative: Dr. Margaret Emslie.

Hon. Secretary: Dr. Grace Calver.

Hon. Advisory Secretary: Dr. Margaret Emslie.

Group Committee: Drs. M. E. Alden, R. A. Askins, N. R. Beattie, V. Bennett, M. F. Bignold, A. J. Calman, W. J. Cox, M. Scott-Dickson, H. M. Gall, Gilchrist, R. Gillett, Chodak Gregory, L. S. Greig, A. G. Hamilton, M. E. Howie, R. Hudson, Hughes, Joseph, B. M. Kidd, D. Leys, Prof. Dame A. Louise McIlroy, Drs. M. H. Mackillop, G. M'Gonigle, J. M. Morton, E. H. T. Nash, A. H. Nicoll, M. A. Reid, C. Sims, H. Gordon Smith, J. E. Spence, A. F. G. Spinks, H. Standring, Stocks, B. Sutherland, Ruby Thomson and H. K. Waller.

A small Executive Committee falls to be elected at the beginning of the Winter Session.

It was decided to write to the Council of the Society to ask if it would approach medical officers of health in large provincial areas with large numbers of assistants, and invite them to give increased facilities to their assistants to attend sub-group and general meetings of the Group.

A vote of condolence with Dr. Ruby Thomson was recorded.

The annual meeting of the Group was held on July 4th, 1929, at the house of the Society, Dr. J. A. Stephen occupying the chair.

Dame Louise McIlroy, President of the Group for the session 1928-29, delivered her Presidential Address on "The Problem of Abortion." Dame Louise dealt with the various forms of abortion—spontaneous, therapeutic, and criminal, and mentioned the great increase in abortion, especially amongst married women. In regard to therapeutic abortion, she stressed the fact that, with the

increase of knowledge in medicine, such abortions were becoming less and less necessary, and even in heart cases pregnancy could be allowed to reach term. Dealing with the question of drugs and their sale, Dame Louise put forward the recommendations that all abortions should be notified; advertisements in papers should be prohibited; that the Pharmaceutical Society should be approached to suppress the sale of such drugs; that instruments, etc., should be sold only to qualified medical practitioners; and that the position of the unmarried mother should be put on a better basis.

An interesting discussion followed, and at the conclusion Professor Dame Louise McIlroy proposed that the group should approach the Medico-Legal Society with a view to the formation of a combined sub-committee to investigate the subject of abortion.

On Thursday evening, July 4th, 1929, a dinner of the Group in honour of Prof. Louise McIlroy, D.B.E., and Miss Halford, O.B.E., was held at the Florence Restaurant, W.I. Lord Riddell was in the chair, and over eighty members and guests were present.

Dr. J. A. Stephen proposed the health of the President (Dame Louise McIlroy), to which she replied in an interesting and witty speech.

The toast of the guests was given by Dr. Cassie, and responded to by Miss Halford; that of "The Group," by Dr. Eardley Holland, Dr. Emslie replying. Dr. Nash proposed the toast of the Chairman, to which Lord Riddell most amusingly replied.

On July 1st, 5th and 6th, 1929, a most interesting and instructive post-graduate course, organised by the Group in conjunction with the Fellowship of Medicine and Post-Graduate Medical Association, was held for members of the Group and other medical delegates attending the Fifth English-Speaking Conference on Maternity and Child Welfare.

At Queen Charlotte's Hospital lectures on obstetrics were delivered by Mr. Trevor Davies, who also gave an ante-natal demonstration; by Mr. Alec Bourne on "The Recognition of Illness in Labour"; by Mr. L. C. Rivett on "The Midwives' Place in the Maternity Service," and by Mr. Leonard Phillips on "The Prevention of Puerperal Fever." Dr. J. S. Fairbairn gave an interesting paper at the British Medical

Association House on "Pitfalls of Pregnancy."

At the Tavistock Clinic for Functional Nervous Cases, Dr. Hamilton-Pearson demonstrated cases of "difficult children," and gave a paper on fits, masturbation, and cases of mongolism and cretinism.

Miss Simmons gave a demonstration of Binet-Simon Testing in young children.

At the Infants' Hospital, Vincent Square, Dr. Eric Pritchard gave a special demonstration of cases illustrative of infant feeding, making special mention of cases of pyloric stenosis and pyloric spasm.

At the London Lock Hospital there was also a special demonstration, and Dr. R. C. Jewesbury, in the Children's Ward at St. Thomas's Hospital, gave an interesting demonstration of cases both in the ward and attending the out-patients' department.

THE TUBERCULOSIS GROUP.

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

A meeting of the Group Committee was held at the house of the Society on September 20th, 1929, the President occupying the chair. There were also present: Drs. Blackmore, Heffernan, Lorraine, Trayer, Mayberry, Macfie, Crossley, Cameron Renwick, and E. Ward.

(1) The Hon. Secretary announced that the correspondence with Dr. Camac Wilkinson and Dr. Tippet had been brought before the Joint Tuberculosis Council and referred by them to their Research Committee, of which Dr. Roodhouse Gloyne is the convener. A further letter to Mr. Elliston from Dr. Tippet, advocating the boiling of milk, was considered. It was thought that the Ministry of Health was fully alive to the necessity of tuberculous-free milk and that a special memorandum addressed to them on this subject was unnecessary.

(2) Form IV of Memo. 37/T and Circular 138, which had been referred to the Joint Tuberculosis Council, had been passed by them to their Memo. Committee who would report in due course.

(3) The West of England Sub-Group had appointed Dr. Macfie as representative in place of Dr. Swan. Dr. Vallow welcomed Dr. Macfie, who was present for the first time.

(4) The Council representative reported:—

(a) That the salaries negotiations had concluded after six meetings with representatives of local authorities, and the Annual Representative Meeting of the British Medical Association had approved the new scale which had been agreed upon. The scale had appeared in PUBLIC HEALTH and was known to most members of the committee. The wording of the note referring to district tuberculosis officers had been slightly altered from that submitted to this committee, but the alteration was not a material one. A difficulty with the scale as applied to sanatorium superintendents of institutions with 50 to 100 beds had arisen, and had been finally left for early discussion by the Arbitration Committee.

(b) That security of tenure continued to engage the attention of the Society.

(c) Activities of the Central Council for Health Education and Central Council for the Care of Cripples were narrated. *Better Health* had reached a circulation of over 250,000 monthly.

(5) Dr. Blackmore was nominated President of the Group for the session 1929-30; Drs. Crossley and Elliott, Vice-Presidents; and Dr. Ernest Ward, Hon. Secretary and Council Representative. A hearty vote of thanks was passed to Drs. Vallow and E. Ward for their past services.

(6) Various complaining letters from departmental officers which had appeared in the *British Medical Journal* were discussed, and it was decided to take no action at present.

(7) A discussion followed on "The Utilisation of Sanatoria." It was mentioned that the higher grades of graduated labour were being less employed to-day, and that in a large sanatorium where 50 to 60 patients were on work five or six years ago, there are now only 20. The Hon. Secretary was asked to obtain information of the type of patient taken and the staffing at various sanatoria.

(8) "The Value of Contact Examination" was next discussed, and the Hon. Secretary was asked to prepare a memorandum on the subject to facilitate discussion at the next Committee meeting.

(9) The question of "The Employment of Tuberculous Doctors and Nurses" was next considered. With the adoption of superannuation schemes difficulties had arisen. Dr. Trayer promised to prepare a memorandum on the employment of tuberculous doctors and nurses in sanatoria, and Dr. Vallow undertook a similar task regarding those employed by local authorities.

(10) November 15th, 1929, at 10.30 a.m., was fixed as the date and time of the next Committee meeting, to be followed at 12 o'clock by the annual general meeting, for which Dr. Ernest Ward was asked to prepare a *résumé* of the past work of the Group.

THE COUNTY DISTRICT GROUP.

Chairman: Dr. A. B. McMaster, M.O.H., Dover.
Hon. Secretary: Dr. K. E. Tapper, O.B.E., M.O.H., Bromley, Kent.

The annual meeting of this Group was held at the Town Hall, Sheffield, on July 17th, 1929, when twenty-five members attended.

The following officers were elected for the session 1929-30:—

Chairman: Dr. A. B. McMaster.
Vice-chairman: Dr. W. F. Corfield.
Hon. Secretary and Group Representative: Dr. K. E. Tapper, O.B.E.
Executive Committee: Drs. C. S. Brebner, G. H. Dupont, F. C. Linton, J. F. Macdonald, T. Orr, E. A. Wilkes.

The activities of the Group were then discussed. The meeting considered that as the Group had a membership of 137 members, and as the Local Government Act had come into operation and so enhanced the importance of the County District Group, the Group representation on the Council should receive the early attention of the Council of the Society.

Owing to the difficulties of attendance of members at meetings of the Group held in London, it was decided that sub-groups should be formed in each of the Branches, and the following offered their services as representatives of the County District Group in each of the following Branches of the Society:—

Yorkshire: Dr. Bertram Hill.
Midland: Dr. A. F. Adamson.
North-Western: Dr. J. W. Tallent.
West of England: Dr. J. Allen.

The meeting gave its attention to certain provisions of the Local Government Act, especially to the necessity of early application to the Ministry, under Section 62, for the supervision of midwives. Members were reminded that the functions of the board of guardians in relation to infant life protection were to be administered by maternity and child welfare authorities as functions under the Maternity and Child Welfare Acts.

The Local Government Act is to be further considered at the next meeting of the Group.

The Literature of Preventive Medicine.

A TEXT BOOK OF PULMONARY TUBERCULOSIS FOR STUDENTS. By R. C. WINGFIELD, B.A., M.B. (Oxon.), F.R.C.P., late Physician, Tuberculosis Department, St. Thomas's Hospital; Medical Superintendent, Brompton Hospital Sanatorium, Frimley. London: Constable & Co., Ltd., 1929. pp. 401. Price 3ls. 6d. net.

In view of the insufficient opportunities now afforded for the study of tuberculosis at many of the medical schools the author aims to provide a comprehensive statement of the modern views on the *ætiology*, diagnosis, symptomatology and treatment of tuberculosis which will be helpful to practitioners as well as students. Most readers will agree that he has succeeded admirably.

Perhaps the most interesting chapters are those on epidemiology. Dr. Wingfield regards tuberculosis as an epidemic disease dangerous to infants, children, and primitive races, but *pulmonary tuberculosis* as a blood-borne recrudescence of earlier disease conveyed to the lungs from a previous focus. The fall in our tuberculosis mortality is considered to be the result of a more or less complete urbanisation of the population, and is compared with the American mortality where similar conditions prevail, and contrasted with the level curve of France where urbanisation is proceeding, and the increasing death-rate of Japan where urbanisation is just commencing. There is an almost specious simplicity about the conception and the author states it with a most persuasive fair-mindedness. The resemblance of the tuberculosis epidemic curve, however, to that of a mouse epidemic which the author reproduces is not suggestively close, and one would have preferred the other curves to have been brought a little more up-to-date; the shorter the length of these lines the more treacherous they become as a basis for conclusions.

Dr. Wingfield rightly regards Brownlee's types as epidemiological rather than clinical but does not envisage the possibility of a differing resistance at different ages apart from the immunity conferred by a previous infection. A patient's vulnerability seems greatest in early life, adolescence and about the menopausal age.

When discussing *ætiology* the author perhaps lays too much stress on the poor living conditions of the working classes; yet towards

the end of the book he states that the treatment of the rich is not nearly so successful as that of the working class—a conclusion which would not find many supporters among those used to dealing with tuberculosis. The susceptibility of workers in any form of silica dust is emphasised, but nothing is said of other susceptible trades such as printing and shoe-making.

The morbid anatomy survey is excellent, but curious readers may be disappointed not to find a more exact account of where the lesion begins, where the bacillus first proliferates. Pathologists have said that it is usually the surface of bronchiole or alveolus which reacts and subsequently the subepithelial layer, and if so an air-borne infection would be more likely than one *via* the bloodstream; but the author does not deny the possibility of air-borne infection, even in adults.

Coming to the clinical study of the disease it is very welcome to read that the author prefers a mouth to a rectal temperature; and it is a commonsense classification of symptoms into (1) those due to the lung lesion, and (2) those due to toxæmia. The same broad outlook prevails in the account of night sweats, which are not so easily explicable as other writers have declared; and the quantitative classification of hæmoptysis commends itself by its simplicity. Some would doubt the reliability of exercise tests in the differentiation of tachycardias and the constant occurrence of secondary infection in open lesions, but these are subjects where differences of opinion must be expected. All experts would agree with the importance of emphysema as a cause of dyspnoea, and the chapter on physical signs is to be commended. It is certainly correct that a rapid survey of signs gives the examiner the truest picture of the condition present, but it is very doubtful if post-tussic crepitations can usually be considered a sign of healing, and no mention is made of those puzzling cases of pleural friction quite without pain. Surely the author errs in regarding a history of ischio-rectal abscess as pathognomonic of tuberculosis: the frequency of both conditions makes coincidence likely, but anyone with experience of private practice could disagree with the author here.

The conception of a bacteriolytic and an antitoxic resistance appeals to the imagination, but the mechanism of immunity and

acquired resistance is a field which needs much further exploration.

In classification several standard methods are described, but the most practical appears to be that which is found in Memo. 37/T: cases are divided into sputum negative and sputum positive, the latter being subdivided into (1) slight, (3) very advanced, and (2) all other cases.

Although the grades of work at Frimley are not universally adopted, the severest labour being considered unsuitable for tuberculous patients, it is very valuable, for reference among other reasons, to find a complete account of sanatorium routine and methods, and the account of artificial pneumo-thorax treatment is both wise and temperate.

One of the last chapters gives a well-balanced conspectus of tuberculin treatment and the book ends with a useful compendium of simple laboratory technique.

In conclusion, it need only be repeated that the author has succeeded in his task and produced one of the most helpful and readable books on this much-written subject that has yet appeared.

BACTERIOLOGY AND SANITARY SCIENCE FOR STUDENTS IN PHARMACY, CHEMISTRY AND ALLIED SCIENCES. By LOUIS GERSHENFELD, Professor of Bacteriology and Hygiene in the Philadelphia College of Pharmacy and Science. Philadelphia: Lea and Febiger, 1929. pp. 432, illustrated. Price \$4.00 net.

This is an excellent summary of information covering a wide range, and should be very useful for the class of reader for whom it is intended.

Part I deals with Bacteriology and includes a chapter on Useful Bacteria. An abstract of the Bergey classification is given, but the names used in the text do not always correspond; thus, Friedlander's *Bacillus* appears as *Klebsiella* in the table and *Encapsulatus* in the text, and *Clostridium butyricum*, mentioned in the table, appears on pp. 197 and 204 under two completely different names.

Part II deals with Animal Parasitology and Insect Pests; Part III with Immunology, and Part IV with Sanitary Science.

The book is readable and interesting and the information is correct. It is noted that in dealing with ventilation no mention is made of Professor Leonard Hill's Kata thermometer.

THE NURSE'S PRONOUNCING DICTIONARY. London: Faber and Faber, Ltd., 1929. pp. 246, illustrated. Price 3s. 6d. net.

In the latest edition (the twelfth) it is claimed that a complete revision has been carried out and every effort has been made to bring this dictionary of medical and nursing terms up to date, and to increase its usefulness to nurses. The size of the volume has not been increased appreciably; certainly it remains extraordinarily convenient for carriage in the pocket and for handling. An inseparable companion of the nurse in the past, in this more up-to-date form it is likely to be found of greater use than ever and to be more and more appreciated.

CANCER. A Practical Résumé of the Subject for General Practitioners. By G. JEANNENEY, Professor in the Faculty of Medicine; Surgeon attached to the Cancer Centre of Bordeaux and the South West Region of France, etc. Translated by JOHN GIBSON, M.C., M.A., M.D., Physician, Victoria Hospital, Burnley, and JOHN H. WATSON, M.B., B.S., F.R.C.S., Surgeon, Victoria Hospital, Burnley. London: H. K. Lewis and Co., Ltd., 1929. pp. 186, illustrated. Price 7s. 6d. net.

It is the belief of Professor Jeanneney, the author of this book, shared by the translators, Drs. Gibson and Watson, as well as by everybody concerned with preventive medical work, that in the fight against cancer and cancer mortality there is nothing more important than early diagnosis, because earlier diagnosis means early treatment and an increased chance of cure. With practitioners of preventive medicine, Professor Jeanneney and Drs. Gibson and Watson believe that where the greatest opportunity offers for the making of early diagnosis is in the realm of the general medical practitioner. It was with the object of providing information that would assist his colleagues in practice in France that Professor Jeanneney wrote this book and devoted the main bulk of it to the early manifestations of cancer. Because they believed that there was need for such knowledge amongst practitioners here and that preventive medicine would benefit if it were made available, Drs. Gibson and Watson turned the French edition into English. The actual work of translation has been extremely well done, and though there

are some divergences between the French and English methods of teaching in regard to particular matters, they are not so marked as to make the book appear too unlike an English handbook on the subject.

It is eminently readable and definitely practicable, and may be recommended as likely to be useful not only to medical practitioners, for whom it is intended, but to all concerned in dealing with the problem of cancer.

CONCERNING OURSELVES. A Book of Sexual Instruction for Girls. By A. W. BARNES. London: John Bale, Sons & Danielsson, Ltd., 1929. pp. 40. Price 1s. net.

Written in simple language, this small though excellent publication expresses in a straightforward way facts regarding the development and possibilities of life. That Miss Maude Royden, herself a successful writer on these matters, should have written the introduction is sufficient commendation to urge that so friendly and direct a talk should be a gift to all young girls.

In the Annual Reports.

RACIAL INTEGRITY.—Virginia has, by the Racial Integrity Act, definitely assumed the lead in preserving the purity of both the white and black races, not only in our own State but in the country as a whole, and has, though as yet in a feeble way, committed itself to this the most important undertaking that can engage our attention. Retreat, or even weakness and failure of the State to uphold the hands of those who see the real situation in all of its approaching horror, and who are willing to endure for the sake of an ideal, will mean failure to make use of an existing opportunity and the service of those not yet discouraged, even though many believe the situation hopeless. In a recent hearing of a case before a circuit judge, in which children, shown by records to be descended from a white woman by a negro man, were excluded from the white schools, no decision was rendered at the time owing to uncertainty as to jurisdiction. The opinion, however, was expressed that while the present Racial Integrity Law forbids a marriage between a white person and one with a small amount of negro blood, it is not similarly clear as to the question of school attendance. In order to have a clear definition of a coloured person as well as of a white one, it is imperative that the legislature enact the amendment rejected by the State Senate in 1928, or one equally positive. If near-white children are allowed to attend white schools, sympathy is aroused, attachments are formed, public sentiment is weakened, and ultimate marriage either in their home counties or elsewhere naturally follows. This is a question in which there can be no compromise. The other States are looking to Virginia for guidance. Shall we point them to the way?—*Dr. Ennion G. Williams, Virginia, U.S.A.*

FITNESS AND SIZE OF FAMILIES.—Judging from the statements which are constantly appearing in the public Press and in articles by authorities on eugenics, one would gather that the majority of unfits come from the large families of the poor, and that the size of the family has something to do with the unfitness. My own impression is that size, *per se*, has very little to do with fitness; it is much more a question of nurture than of nature. I dare say if the question were asked of the average citizen why the size of family was diminishing in the South Ward, he would give as the reason "economic circumstances" and the difficulty of making adequate provision for large families under the existing conditions of industrial depression, but the same plea uttered on behalf of a family living in one of the well-to-do suburbs of the City would sound somewhat strange, and yet when one enquires as to why the families of the wealthy are so small the answer invariably is the same—"economic circumstances." Perhaps that explains why the word "economics" has such a vogue at the present time.—*Dr. J. Johnstone Jervis, Leeds.*

A HEALTH Education Congress, arranged by the Central Council for Health Education, will be held at the London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C.1, on Wednesday and Thursday, October 23rd and 24th, 1929. The proceedings on the first day will commence at 3 p.m. with discussions on "Co-ordination in health education" (opened by Professor H. R. Kenwood, C.M.G., Chairman of the Central Council) and "To what extent can the Central Council and voluntary health associations, etc., co-operate with commercial firms and organisations serving useful public health services" (introduced by Professor A. Bostock Hill). After an interval for tea, the latest health films will be exhibited in the lecture theatre. On the second day, at 10.30 a.m., there will be a discussion on "The relative values of various means of health education (lectures, press propaganda, exhibitions, posters, leaflets, films, wireless, etc.)." At 3 p.m. Sir George Newman, K.C.B., will deliver an address on "The opportunities for health education afforded by statute." This will be followed by a discussion on "Health education as a means of reducing the sickness burden of the friendly societies and approved societies," and a further display of the latest health films. At 8 p.m. a reception will be held by invitation of the Director and Staff of the School. Morning dress will be worn. The Congress will be preceded by the annual meeting of the Central Council for Health Education, on October 23rd, at 2 p.m.

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Editorial.

The President of 1929-30.

IN installing Dr. John Buchan of Bradford as his successor in the Presidential Chair of the Society, Dr. Howard-Jones offered him a welcome in the name of the entire Fellowship and pledged him their loyalty during the period of his tenure of the high office to which they had elected him. Of his title to the position there is none to doubt, and he in his turn need not doubt the sincerity of all the pleasure that has been expressed at seeing him President or the reality of the willingness of all to serve under him faithfully and well. That the year may prove to be one of extreme importance in the annals of the Society is not uncertain. The health organisation of the country cannot be re-fashioned as the Local Government Act requires it should be, nor

the field of public health activities extended as it must be, and the Society remain unaffected. Sufficiently adaptable in the past to accommodate itself to every extension that has taken place on the medical side of public health, there is no reason to fear that the greater extensions for which the Local Government Act provides cannot be met by the Society also. In relation to the carrying out of these extensions full and careful consideration will be required and, as in the case of so much of the business of the Society, it will be to the President that eyes will look for guidance. Within the Society there is probably no one better fitted to act as a guide in the circumstances of the moment than Dr. John Buchan. Well acquainted with the work and workings of the Society, he is well known to and well liked and respected by everybody

in the health service and interested in public health. He is a man of the highest ideals; a keen man and enthusiastic not only for public health but for the health of the people. He has the good of the Society at heart and will work for it. It was because the Society knew these things of Dr. John Buchan that they elected him President, and because of them and of their belief in him they will give him their loyal and wholehearted support throughout his period of office.

* * * * *

The Position of the School Medical Officer.

A GOOD deal of attention has been directed both in medical and in educational circles to certain paragraphs which appeared in an appendix (Appendix II) to the published and circulated Minutes of the meeting of the Executive Committee of the Association of Education Committees held on July 26th last. This Appendix is headed "Salaries of School Medical Officers. Memorandum of (six) recommendations agreed to at a conference held at the Ministry of Health in June, 1929." The unfortunate substitution of the word "of" for the word "on" in this heading, may have led some who read it to the conclusion that this was an official statement sanctioned by the Conference referred to, especially as it immediately follows Appendix I, which was the official statement of such recommendations with regard to the salaries of whole-time medical officers in public health services. There is, of course, no foundation whatever for such a conclusion. But even to readers who did not accept this implication, it must naturally have appeared that Appendix II embodied the declared opinion of the Association of Education Committees or of its Executive Committee. It seems now that this also is a complete mistake, although the procedure of that committee was alone responsible for the very general misunderstanding.

The Executive Committee of the Association at their meeting in July received and considered the Recommendations with regard to salaries of medical officers made as the result of the Conferences under the chairmanship of Lord Askwith. Quite properly they heard from their two representatives at those conferences—Alderman G. F. Betts of Smethwick and Dr. James Graham, the Director of Education of Leeds—a statement as to what had taken place. The Executive Committee then resolved "that the Hon. Secretary shall communicate to each Education Committee in

membership of the Association the full text of the Memorandum of Recommendations, together with a synopsis of the statement made to the Executive Committee by their representatives (see Appendix II)." It appears, then, that the pronouncements made and opinions expressed in this Appendix are not those of the Executive Committee of the Association, but merely those of Alderman Betts and Dr. Graham. It is very unfortunate that this was not made clear at the time the document was circulated and published, and not in fact until the next subsequent meeting of the Executive Committee, which took place a few days ago, when it was explained by the Chairman (the Rev. Canon A. W. R. Little) that this was the status of the Appendix in question, and that in confirming the minutes the Executive Committee of the Association must not be taken necessarily to approve everything stated in that Appendix. Presumably in the minutes of this more recent meeting, when published, there will be found a paragraph to this effect. It would seem only fair and proper that the true position as now elucidated should be given early and wide publicity in the columns of *Education*, the official journal of the Association, for the matter is of considerable importance.

Dr. Graham and Mr. Betts, then, are acknowledged to have made statements on an important occasion, of which the following sentences are a correct and official synopsis.

"Where the Medical Officer of Health is also titular School Medical Officer he is appointed School Medical Officer by the Education Committee and not by the Public Health Committee. In his capacity of School Medical Officer he is the servant of the Education Committee and not of the Public Health Committee. Where he exercises functions under the Education Committee he takes his instructions from their Chief Executive Officer and reports through him to the Education Committee."

"The Education Committee is responsible for the health and well-being of each individual child of school age in their area. The curative or treatment side of the work of the School Medical Service is to-day at least as important as medical inspection. It is therefore of the first importance to secure medical officers for posts in the School Medical Service who have had a good clinical experience. In contrast with this, Public Health Committees are concerned mainly with the general conditions of their areas, and their work is to ensure that these conditions are such as to conduce to the general health of the community. This work is preventive and not curative, and the trend of medical opinion is that medical officers engaged in such preventive work tend to lose touch with the latest developments in clinical and curative medicine which is the chief concern of the School Medical Officer."

With regard to these statements it need only be said at present (1) that the important subjects with which they deal—namely the relation between the Education Committee, the Chief Education Officer, and the School Medical Officer, and the relative importance of clinical and administrative experience for a School Medical Officer—have no relevance whatever to the question of the adoption of the scale of salaries recommended as the result of the Conferences at the Ministry of Health; (2) that these subjects were never once referred to by anyone in the whole course of those conferences; (3) that the authors have no authority or qualifications whatever to enunciate "the trend of medical opinion" on this or any other subject; and (4) that it would be difficult to find in as many sentences a more completely erroneous or misleading statement of the facts of the case on either matter. Since these pronouncements have behind them the weight of opinion of two individuals merely, it is not worth while to deal with them in detail. As purporting to be statements of fact their glaring errors will be at once evident to most administrators and medical officers; as statements of opinion, they need not, in the circumstances, be too seriously regarded. Even so, however, it will be matter for surprise if the Board of Education and the Ministry of Health allow them to pass without some enquiry or action.

* * * * *

The Tuberculosis Conference.

THE Fifteenth Annual Conference of the National Association for the Prevention of Tuberculosis, which was held in Newcastle-upon-Tyne on October 10th, 11th and 12th, 1929, under the Presidency of Sir Robert Philip, pointed in no uncertain manner to a very important feature of the campaign against tuberculosis, namely, the great part which is now being played by the laity in the study of tuberculosis in its many aspects.

The opening session was devoted to the consideration of two papers contributed by laymen, dealing with the social conditions of Tyneside and their influence on the incidence of tuberculosis. These did not lack in interest even to the trained listener, and one at least showed the reasoning of a scientific mind brought to bear on a complex problem.

In the course of these papers it transpired: (1) that very bad housing conditions need not necessarily be coincident with a high tuber-

culosis death-rate, but that the latter occurs where bad housing is coupled with irregular earnings, low steady wages being much preferable to big money alternating with periods of low earnings or no earning at all; (2) that Ministry of Health figures show that factors have been at work for the last fifteen or twenty years which are operating unfavourably to the young between 15 and 25 years of age, especially to females, and particularly in the North-East Coast area; and (3) that there is a great lack of sanatorium and hospital accommodation for tuberculous persons in that area (apart from Newcastle-upon-Tyne) and a need for greater co-ordination of service. It seems quite clear that a joint tuberculosis committee for the whole area should be established by the local authorities, with a joint sanatorium and hospital for advanced cases as its first charge.

The Conference was fortunate in having Dr. Edouard Rist of Paris as a speaker, when the factors that produce adult pulmonary tuberculosis were discussed from several points of view. The balance of opinion appeared to be in favour of the theory that in most cases of tuberculosis occurring in adult life the infection dates back to childhood and develops in later years as a result of numerous factors which produce lack of cell resistance and change in the bio-chemical functions of the body, thus allowing the childhood infection to become active and to spread. Amongst the activating agents were included the effects of bad housing with its concomitant poverty and prolonged fatigue, and Dr. Rist drew attention to the apparent association of hyperthyroidism and tuberculosis, and the powerful effect of extreme grief or sorrow in the production of pulmonary tuberculosis, possibly by producing anergy. Extreme grief or sorrow may, therefore, often be the important factor in cases of conjugal tuberculosis, rather than the fact that the actual disease has spread from the first affected to the other partner.

The Association's scheme of national propaganda regarding tuberculosis was referred to, and it was pointed out that the co-operation of the Association was available to local authorities and their medical officers of health in furthering knowledge of the prevention of the disease. The teaching of health matters—not of disease—in the schools was recommended, and the great value of cinema films, models and coloured pictures in this direction was stressed.

The Burrow Hill Sanatorium Colony in the county of Surrey, has now been adapted to the long-period treatment and technical education in gardening and clerical work of tuberculous youths between the ages of 14 and 19 years, and this should meet a long felt need. It is always difficult to advise as to treatment and subsequent occupation in the case of a youth without occupation, who has limited tuberculous disease of the lung, or a tuberculous pleuritis. There is a lurking fear, however, that at the end of training, occupation will not be available for the youths and that they will drift back to idleness and the streets. The position seems to be identical with the schemes of combined treatment and vocational training inaugurated about 1922 by the Ministry of Health for tuberculous ex-service men. Many were trained, but the numbers who subsequently worked at the newly-acquired trades are never disclosed, and enquiry indicates that they were very small. No scheme which has for its purpose the training of the tuberculous in new employments, should overlook the importance of obtaining situations for the trained at the end of their training. It is refreshing to see the Association subscribing to the view that clerical work is adequate to the needs of the post-sanatorium case of pulmonary tuberculosis. This may help to abolish the popular idea that "open-air jobs" alone are suitable for the "lunger." Quite the reverse is the case.

As the result of the discussion on "The Teaching of Tuberculosis to Undergraduates" it seems quite clear that so far as pulmonary tubercle is concerned, the material for practical teaching is not present in the majority of the teaching hospitals. The cases are centred in the sanatoria and the hospitals for advanced cases, and there the modern methods of treatment are practised. Undergraduates should study the disease and its treatment where the cases and treatment can be seen, but the question whether the curriculum should be lengthened or whether some part can be jettisoned from the existing curriculum to allow for this study is, indeed, a difficult one.

On the last day, visits were made to the Stannington Sanatorium for Children, the Sanatorium Pavilions for Advanced Cases at Walker Gate City Hospital, and to the Newcastle-upon-Tyne Sanatorium at Barrasford.

A reception and dance for the delegates, at the invitation of the Lord Mayor and Lady Mayoress, was held on the first night of the

Conference, and on the second there was a dinner for medical delegates arranged by the North of England Tuberculosis Society, at which more than forty were present, whilst a visit to the Roman Wall followed the inspection of Barrasford Sanatorium.

This well-attended Conference was characterised by a sustained interest in the subjects under discussion, without neglect of the social value of the function.

The Lectures of Professor Madsen at the New School.

IN performing what he himself described as the entirely unnecessary duty of introducing Professor Madsen to his audience at the first of his series of advanced hygiene lectures in the University of London, Dr. Andrew Balfour claimed it as a happy chance that the first of the visiting lecturers from abroad to lecture in the theatre of the School of Hygiene and Tropical Medicine should have been Professor Madsen. This was not the only happy chance associated with the presence of this distinguished visitor. Happier it was that Professor Madsen should have found himself in the position to accept the invitation of the University and provide an opportunity to the public health service to offer a personal welcome to one whose name and work in the field of preventive medicine are so well known.

In Professor Madsen's choice of subjects there was happiness also. By refraining from devoting the three lecture periods at his disposal to one matter he gave his audiences opportunity for regarding his work from more than one point of view and himself a chance of revealing the real catholicity of his interest in epidemiology and disease prevention.

Those who heard him analyse the results of his investigations into the seasonal variations of epidemic diseases and discuss various milk epidemics, and more particularly the researches into the relationship between cows' milk and undulant fever, have every right to consider themselves fortunate. Even more fortunate may those claim to be who heard him on diphtheria toxin and antitoxin, the subject that he has made so definitely his own and on which, perhaps, more than on others the great reputation he enjoys is founded. Professor Madsen has a personality almost more attractive than it is possible to believe a scientist could possess. His lecturing style is fascinating and he never fails of interest and

stimulation. So fascinating, stimulating and interesting indeed did he prove that sight was lost almost at once of the fact that the lectures were being delivered in a tongue other than his own. When it was remembered that this was so, admiration was added to the other sensations and inevitably it occurred to the mind that in all probability Professor Madsen had equal mastery of other tongues and could, with similar readiness to that with which he had addressed an English audience in their language, address audiences in the capitals of other European countries in theirs. And apropos it occurred to wonder who there was here, in the group that might claim to contain the opposite number to Professor Madsen, to accept such an invitation as that extended to him and to stand before a Danish or other foreign audience and, possessing such a mastery of their tongue as he has of ours, address them so easily and fluently.

At the closing meeting Dr. Charles Porter, Chairman of the Board of Studies in Hygiene in the University, and Professor Topley, Professor of Bacteriology in the 'new School, voiced the appreciation of all those who had had the privilege of meeting and hearing Professor Madsen. It is unfortunate that the visit of Professor Madsen was not made during a week in which a meeting of the Society was held, when an opportunity of honouring him and of offering a welcome and expressing esteem on behalf of the health service as a whole would have offered. Since this was denied there is extended here to Professor Madsen the assurance that the esteem exists and that the entire Fellowship of the Society endorses every expression of gratification and appreciation that his visit and his lectures evoked.

A Clinical-Statistical Study of Scarlet Fever, Diphtheria, and Enteric Fever.

MEDICAL statistics of a large number of cases can, as a rule, only be obtained by combining the records of many observers, and this introduces a possibility of error owing to the differences of individual judgment. In the preface to the report under review* it is

* SCARLET FEVER, DIPHTHERIA, AND ENTERIC FEVER, 1895-1914: A Clinical-Statistical Study. By E. W. Goodall, M.D., M. Greenwood, F.R.C.P., F.R.S., and W. T. Russell. Medical Research Council, Special Report Series, No. 137. H.M. Stationery Office, 1929. pp. 58. Price 2s. net.

claimed that the special value of the analysis of the data, which is based upon records of over 21,000 cases of scarlet fever, 15,000 diphtheria cases and 2,000 cases of enteric fever, lies in the fact that they are derived from a single source, the cases with few exceptions being under the care of Dr. Goodall and the records edited by him. It does not, however, seem that the possible fallacy of the former method is a serious one. Such tables of this report as can be compared with other published tables, viz., those on annual admissions, age incidence, and seasonal incidence, either correspond closely or, where they differ, the latter are probably the more reliable.

The report discusses also the form of disease, complications and their relation, and on these matters there exists no previous information, at least to anything like this extent. In this respect it breaks new ground. The particulars noted include year and date of admission, sex, age, district, form of disease, complications, and result. No diminution of scarlet fever was found during the school holidays, though such a diminution occurred in diphtheria, but enough evidence of this diminution exists in other publications. Scarlet fever cases were classified into mild, 88.7 per cent.; septic, 8.3 per cent.; toxic, 0.4 per cent.; and undefined, 2.6 per cent. Septic cases are commoner in childhood and form about 12 per cent. of all cases under five but only 5 per cent. of all cases over eight years of age. They also occur approximately with equal frequency throughout the year, the autumnal rise in scarlet fever being due to the milder form. Consequently the proportion of septic cases is highest when the disease is least prevalent.

From tables given showing the correlation of complications and age it appears that otitis is far commoner in the earliest ages, the other complications showing a less marked age-incidence. On the whole, complications were least common in 1910-1914, next in 1895-1899, and most common in the middle period.

In diphtheria a diminution occurred during the summer holidays. Laryngeal and nasal forms are commonest in children. Over 25 years 98 per cent. of cases were faucial. Paralysis is most common at 9 years, and albuminuria at 6. As with scarlet fever the complications were less common in the last quinquennium.

In enteric fever the complication rate increased with age for all complications except otitis.

General Paralysis and Malaria.

TREATMENT of general paralysis by induction of malaria, though first suggested by Dr. Wagner Jauregg of Vienna in 1887, was not introduced as a recognised treatment even by him until 1917. In this country it was in 1922 at the Whittingham Mental Hospital that the first case was treated, since when the use of this method of treatment has greatly increased with most encouraging results.

A recent report issued by the Board of Control* is full of information and interest on the subject. It gives a history of general paralysis, and remarks on the failure of treatment prior to the present century to produce any lasting effect in amelioration or cure of the disease. The figures as to the modern method of treatment and its results have been obtained from forty-one county and borough mental hospitals, and cover a period of five years from the middle of 1922 to the middle of 1927. The results of cases treated by this method are contrasted with the results of cases admitted to fifty-four other mental hospitals where this treatment has not been inaugurated. In all, the results of 1,597 treated and 1,173 untreated cases are dealt with. From the report it appears clear that the treatment has produced beneficial results, in that life has been prolonged and physical and mental conditions improved. Definitely the results shown are better than those of any other form of treatment yet tried. Encouraging as they are, however, they still fall short of all that is desired, and continuous research must be persevered in with a view to discovering an adjuvant to the treatment and still further improving results. As the author himself says: "Wagner Jauregg has found a key which moves the lock. It would seem that this key needs but little fashioning to make it entirely serviceable." Two notes of warning that are sounded in the report are worth repeating. One is that meticulous care must be taken in applying the treatment, since the malaria induced may be a cause of death; secondly, it is essential that treatment should be given early, *i.e.*, before there is permanent cerebral damage.

* GENERAL PARALYSIS AND ITS TREATMENT BY INDUCED MALARIA. Report by SURGEON REAR-ADMIRAL E. T. MEAGHER, R.N. (Retired), Inspector of the Board of Control. Preface by Sir Hubert Bond, K.B.E., F.R.C.P., Commissioner of the Board of Control. Board of Control (England and Wales). H.M. Stationery Office, 1929. pp. 88. Price 2s. net.

Unfortunately, under the existing law, in view of the fact that general paralysis is similar to other mental conditions, admission to hospital, with but few exceptions, is impossible on a voluntary basis, as certification as insane is essential for public mental hospitals. Doubtless this disadvantage will be removed when the Lunacy Acts are amended.

The report makes fascinating and stimulating reading all through—a fact which increases vastly the great value it possesses as an addition to the literature on the subject with which it deals.

* * * * *

Antimony and Food Poisoning.

FOLLOWING on the case of antimony poisoning in Newcastle-upon-Tyne, recorded by Sir George Newman in his annual report for 1928 (p. 213), comes an interesting note from Dr. E. T. Colville, Assistant Medical Officer of Health for Folkestone, giving details of a somewhat similar occurrence in the South Coast town during September of this year. At a social gathering held at a grammar school in Folkestone the refreshments consisted of sausage rolls, tomato, cucumber, boiled egg sandwiches, home-made lemonade and coffee. The lemonade was prepared by a member of the committee at the school at about 4.30 p.m., lemons and sugar only being used. This was made separately in three enamel jugs—six lemons and 2 lbs. of sugar to each jug. The lemons were first washed, peeled, then squeezed, and the peel cut up and put in the jugs, the white being thrown away. Boiling water was added and the mixture well stirred with a wooden spoon. The three jugs were lent by a local ironmonger; two were of a cheap pattern, the third being a well-used, pre-war German-made article. At 9.30 p.m. the refreshments were served and before 10.15 p.m. 25-30 persons out of an audience of 117 (men and women) were taken ill with vomiting. The case was reported to the public health department the next day, and enquiries were immediately made. The rapidity of the symptoms suggested at once some form of metallic irritant poisoning, most probably due to the lemonade; the other foods were, however, subsequently examined and gave negative results.

A quantity of lemonade found to have been left in the German-made jug was submitted for analysis, but with no result. Investigation established the fact that the contents of the

cheap enamel jugs had been served first and had apparently caused the sickness. These jugs were obtained by the public health department in an unwashed condition, and contained a deposit of sugar. They were forwarded to the Ministry of Health for further examination, and a preliminary report from the Ministry stated that a considerable quantity of antimony was obtained from the washings of both jugs. A further report on the examination of the jugs was received after the enamel on one of them had been submitted to a quantitative examination, and this revealed the presence of 9.07 per cent. of antimony oxide. The acidity of the lemonade was considerable, its pH value being 3 or less.

From the public health point of view, adds Dr. Colville, it is significant to note that the labels on the jugs, which were new, contained the following wording: "*We guarantee all articles having this brand to be perfectly safe in use and free from any injurious substances.*"

* * * * *

Iodine and Goitre.

THE relation of iodine to goitre is a subject in which considerable interest has been shown by health officers in recent years, and in a report issued by the Medical Research Council*, although no attempt is made to offer close analysis of thyroid disease in man or to give special attention to the medical uses of iodine, information of the greatest possible interest and value is given.

Surveying the subject from the historical point of view, the authors mention the fact that sponges and seaweed were used for the treatment of goitre in Ancient Greece, and note that in 1820, Coindet, a physician in Geneva, suggested that the beneficial effects of these marine products might be due to the iodine which they contained. The use of iodine for the cure of goitre rapidly spread, but toxic symptoms developed in some cases. As regards the relationship of goitre to water supplies, examples are given, more particularly that of two villages on the banks of the Rhone, in one of which goitre was universal and cretinism common, while in the other the inhabitants had remained free until they

* IODINE IN NUTRITION. A Review of Existing Information. By JOHN BOYD ORR, D.S.O., M.C., M.D., D.Sc., and ISABELLA LEITCH, D.Sc. Medical Research Council Special Report Series, No. 123. H.M. Stationery Office, 1929. pp. 108. Price 2s. 6d. net.

changed their water supply. In the former instance the water supply, it is shown, had always been free from iodine, whereas in the second village the water contained a considerable quantity of iodine until it was changed, when it became iodine-free, and thereafter goitre and cretinism became increasingly common. That such results are not universally obtained and that the case is not one of all plain sailing, experience in Derbyshire, for example, shows, several districts in this county with a high percentage of iodine in the water having more goitre than those in which the iodine content is less.

The observations of school medical officers and medical officers of health in several districts on the incidence of goitre are quoted in the report and the fact is noted that in most cases beneficial results have been reported from the use of iodine. The Derbyshire evidence tends to show that endemic goitre is closely related to water supplies, and that it is some substance in the water, and not a substance lacking from it, which is the cause. A notable instance in Derbyshire was the disappearance of goitre from the little village of Beeley and the town of Bakewell when a wholesome water supply was substituted for polluted water from a brook.

Interesting figures regarding the distribution of iodine in nature are given, and mention is made of the very large number of determinations of iodine in water supplies made in America. Though the difficulty in obtaining a method of analysis sufficiently delicate to determine accurately the small amounts of iodine found in plants and mineral tissues is stressed, and modifications of Fellenberg's methods are recommended, several references are made to the work done in connection with iodine in vegetation, plant life, etc., showing, as might be expected, that sea plants are much richer in iodine than fresh water plants, the latter in turn being richer than land plants.

The distribution of iodine in animal tissues, particularly the thyroid, also in the blood, milk, etc., receives consideration, and the action of iodine on plant and animal metabolism is dealt with at some length. Quite an extensive literature is available in connection with these problems. One conclusion is that thyroid secretion produces results due to factors other than the contained iodine. As to the effects of iodides on the basal metabolic rate of the normal subject there are no data.

The question of Nature's distribution of

goitre receives much consideration, but results at times are contrary to expectation. For instance, goitre tends to increase from east to west and reaches its maximum in the Cornwall and Devon peninsula. Cornwall, which is nearly all coast, should contain more iodine than any part of England, yet goitre has its maximum prevalence in this county.

With regard to iodine therapy, a reminder is given that enlargement of the thyroid can be of various forms, and that iodine may be good in the "colloid" type but may do harm in the "hypertrophic" form. Further investigation is still needed to reconcile conflicting views. The report provides a review of much of the recent work carried on in this country and abroad which cannot fail to be of real value, and the authors are deserving both of congratulation and thanks.

Sewage and Sewage Effluents.

THE Committee appointed some time ago by the Minister of Health to discuss the question of technique in carrying out chemical analyses of sewage and sewage effluents, has now issued a report* which should contribute materially towards securing greater uniformity in the technique of the various tests. It contains matter descriptive of methods for carrying out tests for sewage and sewage effluents and methods of expressing results; tests to be included in all analyses; and tests appropriate for use at small sewage works. The Royal Commission on Sewage Disposal which sat from 1898-1915 did a large amount of work on methods of analysis, and in suggesting the best methods which might be adopted the present Committee have built upon that work. One of the members of the Committee, Dr. McGowan, was the chemist to the Royal Commission.

The publication should prove invaluable not only to public analysts and analysts engaged in dealing with the supply of water and the disposal of sewage, but also to medical officers of health, engineers, managers of sewage disposal works and other officials of local authorities who find the burden of sewage disposal no light one.

Special Lectures at the London School of Hygiene.

IN connection with the course of study for the Diploma in Public Health, the programme of special lectures, arranged by Pro-

* H.M. Stationery Office. Price 2s. 6d.

fessor Jameson at the London School of Hygiene and Tropical Medicine, is now issued and affords yet another illustration of the whole-hearted manner in which the School is undertaking its new developments. The number of students taking the course already greatly exceeds the earlier expectations of the Director and the School Council.

The special lectures for the Michaelmas term are as follows, and it is hoped to publish in due course the series for the remaining terms of the academic year:—

Date and Time.	Subject.	Lecturer.
1929.		
28th Oct. 5 p.m.	Atmospheric pollution	J. S. Owens, B.A., M.D., ASSOC.M. INST.C.E., Supt. of Observations, Dept. of Scientific and Industrial Research.
4th Nov. 5 p.m.	Ditto	Prof. Leonard Hill, M.R.C.S., L.R.C.P., F.R.S., National Institute for Medical Research.
11th Nov. 5 p.m.	Sunlight and health	Ditto.
18th Nov. 5 p.m.	Clothing and climate	Ditto.
25th Nov. 5 p.m.	Disposal of refuse	J. C. Dawes, O.B.E., M.I.MECH. E., Ministry of Health
2nd Dec. 5 p.m.	Ditto	Ditto.
9th Dec. 5 p.m.	Ditto	Ditto.

THE Advisory Committee on the Welfare of the Blind have recently had under consideration the question of promoting the further education of the adult blind by means of correspondence courses. It is felt that many blind persons would desire to take advantage of any arrangements having for their object the provision of courses likely to broaden their interest and outlook in all phases of life and human activity. Before proceeding to suggest means for the organisation of correspondence courses on a more comprehensive scale, the Advisory Committee are anxious to ascertain the extent to which such courses are likely to be used, and with this end in view invite all blind persons who are interested to send in their names to the Secretary of the Voluntary Association to which they are attached, or to their Home Visitor, at an early date. It is not anticipated that blind persons will be involved in any expense in connection with the courses.

Some Principles in Public Health Reform.

Being the Presidential Address of DR. J. J. BUCHAN, Medical Officer of Health, City of Bradford, President of the Session, at his Installation on October 25th, 1929.

WHILE improvement in the health of the people has become a shibboleth of social reformers, a test word for admission into that select circle of those who are to be deemed as qualified to govern, we sometimes permit ourselves to wonder how far concern for the public health is merely a matter of pious creed, and how far it is a real impetus to practical action. Fortunately for the people generally, there have always been a few men in all sections of public life who have made health improvement the mainspring of their activities, but these, I fear, have been in the minority, the greater number contenting themselves with an expressed goodwill towards the theory of health work and an unexpressed doubt as to its practicability or likely success. In all branches of human endeavour, a certain doubt is bound to exist in the well-balanced mind as to the ultimate outcome of new developments, but in other spheres this doubt does not prevent the exploitation of new proposals; the erection of new plant or the scrapping of old, or the exploration of new markets. A progressive industry is constantly reviewing its organisation, and does not fear to incur new charges to improve its efficiency, maintain its trade position, increase its profits, and diminish its expenses. But probably, because values are so different in public health, one seldom sees the same progressive acumen displayed, yet the only real capital of the State is in the health and efficiency of its people, and its greatest expenses and losses are in sickness, disease and death, and judged by these standards, public health work to-day can claim for itself a greater measure of success in increasing capital and diminishing expenses, than the most successful venture in the business world. Its record in the past should, therefore, give to all who seek health improvement for the Nation an ample confidence to consolidate and improve its organisation and to increase and develop its activities.

Despite all the difficulties in the way, much has been accomplished, and, in a Nation in which changes occur so slowly as ours, we may indeed feel some satisfaction at the rate of progress made in recent years. Public health is the practical application of scientific knowledge,

and we are still far short of making full use of the knowledge already gained, and we are still more wanting in our facilities for investigation and research whereby our knowledge may be increased. The possibilities of success in health work are limited only by the limits of knowledge, and it should be regarded as a primary duty of the State to promote and encourage all reasonable efforts to increase such knowledge. We know that manufacturers maintain, and combine in maintaining, research workers, institutes and institutions of many descriptions to solve for them problems of a less difficult and intricate nature than those in public health. Surely then, the State, with its heavy responsibilities in this matter should do something more than leave the great bulk of research work in health and medicine to the self-sacrificing labour of a few, or the vicarious generosity of the well intentioned.

But apart from the search for new knowledge, if there is to be any great advance in the practical application of the knowledge which we possess, we must be constantly revising our organisation, re-adapting it, both centrally and locally, for the additional work undertaken, and re-arranging and consolidating its various activities. In public health, this is a task of no small difficulty, because the subject has developed in England, as indeed in other countries, more as a result of sporadic activity in many fields than by a systematic and well ordered growth. From the beginning well meaning philanthropists and statesmen, and enthusiastic social reformers, drew attention to such special public health needs of certain classes as appealed to them at the time, and legislation followed, usually ill-correlated with analogous public activities. In the early stages of development, such piecemeal legislation no doubt served its purpose, but sooner or later, as it multiplied, it led to overlapping, inefficiency, and waste, and only when this was generally recognised did the country make re-organisation possible through the Ministry of Health. But the chaos into which public health work has been plunged by a century of patchwork legislation, cannot be reduced to order by a new Ministry in a short time, for both centrally and locally,

serious obstacles have to be encountered and overcome before a well planned scheme can be put into operation. Nevertheless, very substantial progress has been made in this direction and the general lines of reform are gradually being disclosed. But there are some principles in reform which must be tenaciously adhered to if the work is to be carried to a successful issue. These are all very simple, but from their simplicity the main difficulties arise. The first is, that the protection and improvement of the health of the people should be regarded by the State as an end worthy to be sought for by itself. No other form of public work so nearly touches the welfare of the people and the stability of the State as this, yet a large amount of this kind of work in the past has been badly done, because it was undertaken to serve some other purpose. The classical illustration of this, is the health work of the Poor Law Service where such health work as was done was constantly impeded because it was regarded, not as a health need, but one for the relief of destitution. It can be put to the credit of the Ministry of Health that after a generation of effort by Poor Law reformers, it has made it possible next year to break this association. There are, however, other examples of the failure of the State to recognise the health of the people as a primary purpose, some of which have now been remedied, some of which remain. Of those which remain, possibly the most important to-day is factory legislation, which has been administered as a unit of health work greatly isolated from the other units, suffering from its isolation and association with other departments of State work in no proper sense analogous to it. Factory legislation has from its beginning more than a century ago, been legislation almost entirely interested in the health of the worker. While this is the unacknowledged fundamental aim, it has been approached by the State as a piece of legislation dealing primarily with certain trades and industries without due regard to the more important question that good conditions of health should be enjoyed in all employment. It is true that certain evil conditions are peculiarly liable to arise in certain industries, but they are not confined to those industries to which factory legislation has been made to apply. In rather a weak and futile fashion, this legislation has endeavoured to follow fresh classes of workmen who seemed to require the benefits of its protection, but despite a succession of Statutes

and a multitude of Orders, factory legislation has continuously failed to meet fully the real health needs of the whole body of the employed. The present Minister of Health himself pointed this out fifteen years ago, when he drew attention to the fact that only some 6 millions out of 16½ millions of occupied persons came under the Factory Act, and his enunciation of public duty in this matter will be accepted by all health workers when he says "The business of the State, so far as industry is concerned, is to see that its citizens work under reasonably good conditions, and only for such hours as shall not impair health and vigour or interfere with the performance of civic or social duties."* Mr. Greenwood's ultimate solution for this problem at that time, was a codification and consolidation of the whole body of industrial laws, bringing the un-regulated and lesser regulated industries up to the level of the better regulated—a solution which looks like making the health of the worker, not a health problem at all, but a trade and labour problem. This was fifteen years ago, and except on that point, one would not seriously contest the view then expressed. While it is true that health and labour conditions are closely interwoven, I for one, refuse to regard the health of the worker as a labour problem to be solved by codification of industrial laws. We can make much progress before this comes about if we regard the health problem alone, for after all, the health problem is much the more fundamental one of the two. Yet we have seen, in successive Parliaments, attempts at factory and workshop reform on the old-fashioned lines. There is undoubted need of reform, but whatever reform is carried out, that reform should bring the health of employed persons within the survey of the Ministry of Health and not leave it in the hands of the Home Office.

The next principle, possibly only an elaboration of the first is, that in dealing with health we cannot sectionalise the people. The whole history of public health has shown us that evil health conditions in one class of Society, or at one age, or in one set of circumstances, have comparable evil conditions or health results in very different quarters, and that to combat ill-health at one age means, more often than not, action taken at quite another. Examples of this are almost too numerous to mention, but possibly the best one to take would be that

* The Political Quarterly, September, 1914.

of the expectant mother. Here we have very special conditions arising in a special class of the community. But health in pregnancy has a most profound effect on the health of the Nation, and no proper consideration of the matter can be made unless it be viewed in relationship, not only to the expectancy, but also to the conditions before expectancy and those liable to arise afterwards. If this be true in the case of the expectant mother, it is equally true with regard to the school child. There is hardly any disease or condition of ill-health which can fortunately now be associated with school life alone, and there are few, if any, conditions of ill-health amongst school children for which the remedies of prevention and cure are to be sought solely in the educational system. The more deeply we enquire into the conditions of the health of school children, the further we are taken from the school. The schools indeed, so far as health is concerned, go little further than this, that they form convenient centres in which children may be surveyed, and teachers and educational officials instructed on health matters affecting the school children and their education. Tonsils and adenoids, the mentally defective, defective vision and the nursery school child are in essence hardly problems of school life at all, although they give rise to special problems there and the same is usually true of such a simple matter as dirty and verminous heads, though at first sight it may appear to the uninitiated to rank as such. From the beginning under the inspired lead of Sir George Newman, the true position of school medical work as a branch of health work has been recognised, but nevertheless, the manner in which this system was set up is liable to lead to disorder and damage hurtful both to the school child and the whole cause of health of the people.

The third principle of health reform is one to which ultimately much more attention will have to be paid. It is, that a central unification and re-organisation of health effort is in itself not sufficient unless it be accompanied by a similar unification and re-organisation at the points of actual administration and working. The passing of the Local Government Act, 1929, is the first step towards this end, but sooner or later, we will require complete legislation to unify health services locally. At present, this is being done chiefly by the influence of the Ministry of Health, but local circumstances exist in many places where it cannot reasonably be carried out. Health work

in this country generally has suffered from the start from the want of well ordered and arranged local government areas. If the service is to progress and the people are to receive its benefits, it can only be done satisfactorily through local administration, and if this be accepted, it is incumbent upon the State to see that its machinery is competent in every fashion to discharge the work placed upon it, and the State should permit no consideration of local history, pride, prejudice or precedent, to stand in the way of securing this end as has so often been done in the past.

The last guiding principle of public health reform is still one to be insisted upon among medical officers of health; that the expert officer in health work giving advice must have freedom of expression of opinion within his own sphere. This does not mean that the health officer seeks to control and direct any organisation or department set up for a different, even though allied, purpose. The task of health improvement is an enormous duty in which many organisations take part, and the health officer, except in those projects with a direct health aim, must content himself with giving advice. This advice should be given as from an independent source if it is to be of real value. Such advice is, in many instances, unpalatable, and it is often imagined that it can be rendered more palatable by being controlled at the source. Public health officers do not seek to be unrestrained critics on every branch of human activity, but if they are to be of any service to the people, they must have an unreserved free right to express their opinions on matters of health, whether it be lead poisoning among painters or the exclusion of school contacts in infectious disease. There may be a measure of control of this expression of opinion that that control must come from within the public health service itself. However good administrators may be in their own particular branch of work, it is unfair to the people as well as to the administrators themselves, to expect from them any kind of control of opinion on subjects of which they have little acquaintance and no understanding.

These seem to me to be foundation principles in the progress and development of health work, which have often enough been departed from in the past, but in no case with advantage. And they will in all probability be often enough departed from in the future, for principles and ideals make less appeal to the

public and their representatives than what are considered the practical and material things of life. Yet the duty placed upon these representatives to care for and improve the health of the people is the most sacred of all falling upon them, and from it they should not be turned by any of the multifarious and less

useful and less pressing problems of the State. "For does not health mean harmony, the synonym of all that is true justly ordered good; is it not in some sense the net total . . . of whatever worth is in us?" —(Carlyle.)

Hypoplasia.

By GEORGE THOMSON, L.D.S., Dental Surgeon, Royal Hospital for Diseases of the Chest.

This paper, read before the Dental Officers' Group on February 8th, 1929, though of special interest, perhaps, to members of that Group, contains information and views that may be of value to others in the Service.

I PROPOSE to discuss the condition known as hypoplasia, and because of certain misuse of the term it will be well in the first place to trace back the origin of the word and the meaning ascribed to it. In 1881 Magitot made a communication to the Seventh International Medical Congress entitled "Erosion," and gave a long list of cases which he attributed to infantile convulsions. Now erosion had been mentioned by Fauchard and it was well known that Magitot meant the same thing.

In 1895 Grevres of Amsterdam, at a meeting of the Odontological Society, put forward "aplasia" as a better name, but later, accepting the suggestion of Tsigmondy and Cunningham made in 1893, used the term "hypoplasia."

Salter in 1874 calls it "rocky enamel, a manifestation and permanent record of depressed nutrition at a period of tooth formation." Further, he says "*a priori*, this honey-combed enamel would seem to indicate fragility of the tooth and a speedy yielding to decay, but in effect it is not necessarily so."

Buxton, in "Outlines of Dental Science," says the teeth have the appearance as if they had been dipped in acid and the tips eroded.

All the authorities are agreed as to its affecting the incisors, canines and first molars of the permanent dentition. Terms which referred to its etiology, such as mercurial, rachitic, scrofulous and atrophic, and to its appearance as honeycombed, erosive, etc., were used. The appearance presented is transverse grooves or furrows, sometimes pits, the enamel both below and above being normal and not

penetrating into the dentine below. According to Black, the teeth are rarely of the Hutchinsonian type and, although these are hypoplastic, it is convenient to relegate them to a special class.

Mr. Sydney Spokes, President of the School Dentists' Society for ten years, obtained figures as to its relative frequency. In a public school he found 4 per cent., in a poor law school 7 per cent., and in an ophthalmic institution the number rose to 15 per cent. No one has ever questioned that Spokes was looking for what Grevres and Cunningham called hypoplasia.

It has been assumed by some that we know its etiology. Measles and rickets have been mentioned, but the markings on the enamel do not quite correspond to the periods when the enamel is laid down. Judging only from X-ray photographs it appears that the enamel is well advanced by the time measles and rickets usually appear. It is not a removal of the enamel such as is seen in dental caries after it has been formed, but an arrest of development for a definite period as if the ameloblasts had laid down tools for a while.

Leon Williams says: "The cells of the stratum intermedium play a rôle—the most important in the selection of materials from the blood for the formation of enamel." It is still a question whether the ameloblasts act by secretion or transformation. The differentiation of the ameloblasts takes place at an earlier stage than the odontoblasts.

From these considerations I am inclined to the view that the period of arrest should be put much further back, probably to a very

early period after birth, and if this is so, the condition is most likely to be found to be the result of "febrile and digestive disturbances due to changes from breast to bottle feeding." In that event we have a strong case for Sir Truby King's demand that every woman should nurse her own baby.

It is a common observation that in mouths in which hypoplasia is obvious, the teeth seem less disposed to dental caries, the explanation being, either that more care is taken to keep the affected teeth clean because they look unsightly, or that their shape and form expose the surfaces to greater friction.

Dr. Hyatt says that 70 to 80 per cent. of occlusal surfaces of first permanent molars are hypoplastic.

It is evident that he means something different from the hypoplasia referred to in the text books. He speaks of fissures in the molar teeth which he regards as arrested development. I have examined many first molars soon after their eruption, and I have failed to find fissures in which I can pass a probe; but six months later it is a different story. I do not find fissures, that is, clefts, failure of development, but dental caries due to the lodgment of carbohydrates. Dr. Hyatt fails to grasp the fact that teeth having hypoplasia may be covered with enamel, good as to quality but deficient in form, which accounts for the absence of decay.

Dr. Sim Wallace says: "Up to the present there is no evidence that hypoplasia is even a predisposing cause of caries except in so far as this may cause abnormal pits and crevices favouring carbohydrate stasis."

Confusion of thought must arise if Dr. Hyatt's new definition of hypoplasia is to be accepted. He says that all teeth having defects, such as pits and fissures, are hypoplastic teeth. Now we have seen that all the modern text-books refer to a condition affecting the incisors, canines and first molars only. The dictionary definition of the word has nothing to do with it. The word has acquired a meaning which describes a condition which is not related to occlusal surfaces of molar teeth. More confusing still are the references in editorials in dental and medical journals to uncorroborated experiments in dental caries. An editorial in a British dental journal of 1927 says, first, "that perfect calcification is found only in a very small proportion of deciduous teeth, hypoplastic conditions being much more general than was

previously supposed," and secondly, "that defects in dentine are reflected, as might be expected, in enamel developed at the same time." Here it is apparent that by hypoplastic conditions something other than hypoplasia of enamel is meant. It was here stated that 863 of 395 first deciduous molars (91.9 per cent.) are hypoplastic, but Pitts, who examined 10,000 children, found less than 1 per cent. hypoplastic. Most dental experts accept these figures, first, perhaps, because the findings correspond so completely with the general clinical experience, and secondly, because Pitts is a reliable authority.

More or less apropos, the *British Medical Journal* of December 15th, 1928, states that "the general belief has been that the majority of deciduous teeth are normal, but Mrs. Mellanby showed that by far the greater number of these present signs of defective development of dentine."

Even if this were true, however, it has no bearing on the question of caries or hypoplasia. Caries must first attack the enamel and, once having penetrated the dentine, it will progress rapidly given the same cause, however good or bad the dentine may be.

Attention has been diverted from the true cause of dental caries by calling it by a new name. Hypoplasia has nothing to do with dental caries. Primitive races whose teeth never decay in their natural surroundings become carious when introduced to a civilized diet. No dental expert has produced evidence that dental caries is induced by defective dentine, but Black, Tomes and, later, Sprawson, have definitely proved that enamel is of such a nature that metabolic changes are unlikely to affect it. Further, given that we could so build up its resistance as to make it as good as, say, that of primitive man, we have shown that it needs only to meet the suitable environment and it will succumb.

Mr. Sprawson, I believe, has been the first to obtain penetration of enamel from the pulpal aspect, and probably he would support the view voiced by, amongst others, those quoted below, that there is no possibility of bringing to the surface of the enamel a drug administered internally. Leon Williams, for example, says: "The absence in formed enamel of cells through which recuperative changes can be effected is that which makes it a unique tissue."

"There is no reason for supposing that attention to diet can change the structure of

enamel of erupted teeth, so as to render it less immune to caries." *Cosmos*, 1927.

Dr. Sim Wallace also holds that "badly formed enamel may be slowly permeated by certain staining reagents. It does not appear, however, that bad enamel ever becomes good: that is to say, notwithstanding its permeability, the enamel does not seem to utilise this property for the purpose of making it as fully calcified as the thoroughly calcified enamel which we call good, and there is no need of good enamel utilising its permeability. If, however, it be admitted that bad enamel, on account of its permeability, might resist caries the better because it could soak up salts from the pulp which might calcify the enamel decalcified by acid on the surface, this would only indicate that bad enamel would be more resistant to caries than good."

It seems strange at a time when the cause of dental caries had been so fully explained and understood that a school should have arisen to revive the old ideas of one hundred years ago. About 1835 and onward the idea of defective structure of the teeth and internal caries gave way to the belief that the attack was external. Miller proved that the enamel was dissolved by the action of acid, and, owing to Pasteur's discoveries, he was able to explain that the fermentation producing the acid was parasitic. Hence the chemico-parasitic theory. Later, Sim Wallace convinced the whole dental world that the fermentation was carbohydrate.

Another school has arisen which is trying to show that all the grooves and furrows in the enamel are hypoplasia. They would have us believe that nearly all of our teeth, especially the molars and bicusps, are under-developed and that Nature is not capable of producing perfect teeth or, at any rate, does not.

Now, it is common knowledge that teeth which show the stigma of hypoplasia are not so prone to dental caries as others, except where the grooves or pits are deep and escape friction. We have statistical evidence that 95 per cent. of the children born are normal; we have also evidence that 95 per cent. of the children are born with normal teeth.

For some years it has been my practice to examine the teeth of children under five years of age who are gathered from the worst slums. The mothers are of the poorest and most neglected class. Some of the children are being treated with thyroid extract for cretinism. My records show markings against their names

of "sound." They are fed on the Sim Wallace régime—twice-baked bread and crusts, and fruit, usually apples. On examination I find hard, shiny enamel and no dental caries.

In conclusion, I would like to refer to Dr. Livingstone's latest book on Dental Histology, in which he says that the delicate and exact method of Sprawson leaves no room for doubt—that enamel is practically *inorganic*.

"THE CAUSES OF CANCER" is the title of a Chadwick Public Lecture to be given by Professor A. E. Boycott, D.M., F.R.S., in the Lecture Hall of the Royal Society of Arts, John Street, Adelphi, London, W.C.2, on Friday, November 22nd, 1929, at 8.15 p.m. The chair will be taken by Sir William J. Collins, K.C.V.O., M.D., M.S., B.Sc., Chairman of the Chadwick Trustees. Admission to the lecture is free, and no tickets are required.

THE Joint Tuberculosis Council announce a post-graduate course in relation to tuberculosis, to be held in the X-ray Department of the Hospital for Consumption and Diseases of the Chest, Brompton, London, S.W.3, from Monday, November 25th, to Saturday, November 30th, 1929. Approval has been secured from the Ministry of Health in regard to the course, the fee for which is three guineas. Full details may be obtained from Dr. William Brand, Hon. Secretary, Post-Graduate Courses, Joint Tuberculosis Council, 1, Gordon Square, London, W.C.1.

"BRITISH RAINFALL, 1928," is the title given to the sixty-eighth annual volume of the British Rainfall Organization of the Meteorological Office (Air Ministry), containing a full account of the distribution of rain over the British Isles during last year, as recorded by over 5,000 observers in Great Britain and Ireland. Although 1928 was the sixth successive year in which the rainfall over the British Isles as a whole was in excess of the average, the year is more likely to be remembered for its sunshine. The year was wetter than 1927 over most of Scotland and Ireland, but drier in England and Wales. Both 1927 and 1928 were wetter over the country generally than any other year since 1903, and in the last sixty years there were only four wetter years. Copies of the Report may be purchased from any branch of H.M. Stationery Office, price 15s. net.

Ut Ita Dicam.

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

The Central Council and its Congress on Health Education.

For one reason and another I was unable to give all the attendance I should have liked to have given at the Health Education Congress of the Central Council for Health Education, and much of the information I possess with regard to it I have obtained from others. Generally, all of those from whom I have heard agree that it was a success and that the Central Council is to be congratulated. Myself, I think congratulation deserved. The progress made by this body—probably it is unnecessary to issue a reminder that it is basically a Society of Medical Officers of Health body—has been to my mind phenomenal. Think: this is only the second annual meeting it has held, and in order to meet the business needs of the various organisations composing it, it has been compelled to arrange for two days to be devoted to it and to transform it into a "Congress!" Admirably arranged, with attractive subjects for discussion and attractive speakers to open them—Sir George Newman amongst them delivering one of the best addresses I have heard him give—and with practical people to take part in them, the Congress was almost bound to be successful. And it was successful. The Congress, however, successful as the Council made it, is not the only thing of which they have made a success. Without question health education and propaganda in this country are showing very obvious signs of being organised. For this the Council is, in the main, responsible. The bodies concerned with the provision of health teaching see in it—saw in it at once—the organisation to which they should become attached, whose cachet was one that it was proper they should possess. Aiming to act mainly as a means of bringing together those who were in a position to provide teaching and those who desired to have teaching provided, it has succeeded in a remarkable degree in reaching that objective. Without doubt it has saved an immense amount of effort on many parts and has been the means of securing financial saving also. Largely this saving, both in respect of effort and money, has been in relation to propaganda and teaching material. By examining and editing leaflets already prepared, by suggest-

ing the preparation of some and themselves preparing others, and generally placing themselves in a position to indicate where specimens or supplies appropriate and suitable on general subjects could be obtained, not only was effort and expense saved but it was secured that the advice given was uniform and authoritative.

Kissing by Rule.

Not only these things as advantages were gained but this also, that there was placed to some extent a check upon stunting and exaggeration, a limiting of the issuing of leaflets to matters appropriate and of importance. Not, of course, that in this country the temptation to indulge in stunting or freakishness in this connection is very great. The sense of the ridiculous amongst the people is too marked and the fear of ridicule on the part of those who might have ideas as to the necessity for instruction on some particular fad too strong to permit of the risk being taken. Who, for example, here, important as he might believe the hygienic aspects to be, would dream of preparing and issuing a leaflet on "Kissing?" Who, particularly, unless his avowed object was to add to the gaiety of the nation, would father a leaflet on this momentous health subject containing cautions such as these: (1) Never kiss in crowded places or a poorly ventilated room; (2) guard against sudden changes in temperature when kissing; kissing in furs one minute and in lighter apparel the next moment is extremely dangerous; (3) do not kiss any person who has chills or fevers; (4) at a party where kissing games are played be sure to gargle frequently; (5) if you must kiss, take hot mustard footbaths and avoid draughts?

Ministry of Health Reports.

My authority for stating that such a leaflet as this has been issued in the U.S.A. and by no less a body than a State Board of Health, that of Kansas to wit, is no higher than a morning paper which published it as from its New York correspondent. Myself, though I have encountered some comic leaflets, not all of them emanating from American State Boards of Health, I have not seen this one. That does not prevent me from saying, however, that completely as it might be believed that there are conditions and circumstances under which kissing—from the health point

of view—is a risky procedure, it is impossible to imagine anybody here issuing a guide to healthy kissing in leaflet form. Least of all can one picture the Ministry of Health, our National Board of Health so to speak, issuing such a thing. As a fact, the Ministry has done and does very little in the way of drafting or sending out of leaflets of any kind, and for some reasons this may be a very good thing. If the omission on the part of the Department to give a thought of any kind to the subject of health education leaflets led to the preparation and issue of more reports on public health subjects no one would be better pleased than I or more convinced that additions of value were being made to the literature of preventive medicine. I know that I have said something more or less like this here or elsewhere before. At present I am driven to repeat the statement because two publications sent out by the Ministry and prepared by members of the Ministry staff have impressed me so very favourably, have given me a longing to say grandly in presenting them to a foreign colleague: "There, that is the kind of stuff our Ministry people get out. Quite good, isn't it?" The two publications responsible for arousing such feelings in an individual normally so meek and so free from national pride as I, are "Undulant Fever" (No. 56 of the Reports on Public Health and Medical Subjects) by Dr. Dalrymple-Champneys, and "The Purification of the Water of Swimming Baths," by E. A. Sandford Fawcett, H. T. Calvert and J. Alison Glover.

Undulant Fever.

It is quite possible that my enthusiasm for these reports, and my readiness to describe them as excellent examples of the kind of work of this class done at the Ministry, arises because the subjects dealt with happen to be matters in which I have been interested and in regard to which I have felt the need of further and authoritative information and guidance. Undulant fever here and there I have heard and read about for months. Friends and colleagues, veterinarians particularly, in my presence have disputed loud and long over the question of the presence of *Brucella abortus* in cows' milk and its pathogenicity in the case of man, some holding that it was without significance, while others with vehemence claimed it as an organism not only capable of harm but actually doing harm, producing conditions that escaped recognition because so little was known about

it. This view I found confirmed in what I read in American and Australian and other publications from overseas. To me, therefore, it appeared essential that something that would help to clear things up and that would wake up the profession in this country to a recognition of the possibilities so far as undulant fever here were concerned was needed. Apparently the Ministry had the same sort of idea in mind. Hence Dr. Dalrymple-Champneys' report which aims primarily to stimulate interest in the condition amongst bacteriologists and practitioners of medicine and does so by setting out everything that is known regarding it, summarising in the most complete manner and most attractively the results of a careful investigation and an exhaustive examination of the literature on the subject. I do not know exactly what steps are taken to ensure a wide publicity for the reports of the Ministry, but I hope that they will be adequate to ensure that this gets into the hands of as many as possible of the members of the profession.

Swimming Bath Water.

The report on the purification of the water of swimming baths, the other of which I have made mention, is again one that sets out information of extreme value authoritatively and attractively. I may be wrong but I certainly have the feeling that in public health departments and by medical officers of health far less attention is devoted to and interest taken in questions relating to the bathing pools, public and private, in their areas than they deserve. In general, in my opinion, put mildly, the bathing pools in this country, as regards arrangement, equipment and the water they provide, are not good and would have been better if health officers had taken or had been given or not lost interest in them. Up and down the country I have visited public baths in which the conditions were quite shocking; such, indeed, as would not have occurred if any sort of supervision by the health department had been carried out. The demand for the provision of swimming and bathing facilities is growing all over the country, and if health officers are not consulted on the question by their authorities they ought to be and should see that they are. Though it has come to be regarded as a matter with which engineers and architects can deal quite without assistance from medical health experts, this is far from being the case. Evidence that there is very much that is of medical concern, that it would

be to the public advantage if the medical health expert took or was given concern, is to be found in plenty in this report. Reason and encouragement for him to take an interest in the subject are to be found there also, and because these things are there he should study it. I can promise him that he will enjoy it; find it even fascinating. In addition to reading the report, particularly if fuller information is required on methods of water purification and the apparatus available for the

purpose, the officer may read also "Swimming Bath Water Purification," by Messrs. F. Wilkinson and F. J. Forty (post free one shilling from "The Contractors' Record and Municipal Engineering," 329, High Holborn, W.C.1). On the whole this booklet, in its construction, somewhat too closely resembles a catalogue to make interesting reading. It will, however, undoubtedly be found useful, particularly for reference purposes.

P.

The Society.

Reports, Proceedings and Announcements.

COUNCIL MEETING.

The first meeting of the Council for Session 1929-30 was held at the house of the Society on Friday, October 25th. The retiring President (Dr. J. Howard-Jones) was in the chair and there were present Drs. J. J. Buchan (President-Elect), C. Porter, G. F. Buchan, R. A. Lyster, E. Ward, E. H. T. Nash, A. A. Turner, F. C. Linton, F. T. H. Wood, D. J. Thomas, R. H. H. Jolly, H. Gibbons Ward, J. Fenton, R. M. F. Picken, H. B. Brackenbury, W. Paterson, A. A. Mussen, P. H. Stirk, G. W. N. Joseph, Stella Churchill, E. G. Annis, R. H. Wilshaw, K. E. Tapper, Professors H. Kerr, W. W. Jameson, J. J. Jervis, and Lieut-Colonel G. S. Parkinson.

The minutes of the last meeting having been approved and signed, apologies for absence were received from Dr. A. K. Chalmers, Professor A. Bostock Hill, Sir Humphry Rolleston, Dr. G. H. Pearce, Lieut-Colonel F. E. Fremantle, M.P., Dr. Eustace Hill, Dr. E. H. Snell, Dr. A. E. Baker, Dr. A. F. Cameron, Dr. T. W. Naylor Barlow, Dr. A. M. N. Pringle and Dr. F. A. Sharpe.

Delayed Notifications.—On the recommendation of the Metropolitan Branch it was agreed to approach the Postmaster-General in reference to the delayed delivery of disease notifications and school exclusion notices posted at the printed paper rate after the time permitted for packages in that category. In view of the urgent character of these communications it is to be suggested that packets marked "Public Health, Urgent" be accepted for the earliest letter delivery irrespective of whether there is affixed a half-penny, penny, or three half-penny stamp.

Medical Women at V.D. Clinics.—Consideration was given to the following Resolution from the Medical Women's Federation:—

"The Medical Women's Federation urges that the medical officers treating female venereal disease cases whether in hospitals or clinics should be women medical practitioners, where and whenever such practitioners are available."

After some discussion it was agreed to support no departure from the Society's policy which recognises no differentiation in regard to the remuneration and conditions of employment of men and women medical officers, or any sex allocation of work within the competence of all medical practitioners with the necessary qualifications and experience.

Representation of the Society.—The following were elected as representatives of the Society for the Session 1929-30:—

London School of Hygiene and Tropical Medicine: Dr. J. J. Buchan.

Child Guidance Council: Dr. G. F. Buchan.

Shipping Federation (Ship Hygiene Committee): Dr. J. Howard-Jones.

B.M.A.: Maternity and Child Welfare Sub-Committee: Drs. Barlow and Puddicombe.

B.M.A.: Health of Seamen Sub-Committee: Dr. Howard-Jones.

B.M.A.: For Conferences on Salaries, etc.: The Society's General Purposes Committee.

Committees for Session 1929-30.—Committees for the new Session were elected as follows:—

General Purposes: The President, Vice-President, Hon. Treasurer, Hon. Editor, Drs. Picken, Fenton, Ernest Ward, Jolly, Barlow, and Wood.

Training of Medical Students in Preventive Medicine: Professors Kenwood, Jameson, Bostock Hill and Kerr, Drs. Porter, Picken, Lyster, G. F. Buchan and Brackenbury.

Salaries.—County Boroughs: Drs. Wood, Barlow and Picken. Urban Districts: Dr. Tapper. Rural Districts: Dr. Gibbons Ward. Metropolitan Boroughs: Dr. Fenton. Tuberculosis Group: Dr. E. Ward. Fever Hospitals Group: Dr. A. F. Cameron. School Medical Group: Dr. Puddicombe. Dental Group: Dr. Baker; with the officers of the Society. Further nominations are reserved for representatives of County Medical Officers (2), and the Maternity and Child Welfare Group; the Committee to have power to add to their number.

School Medical Notices to Parents.—The Medico-Political Committee of the B.M.A. in a letter to the Council, invited assistance in reference to the following Resolution of A.R.M., and intimating that they would await observations or suggestions from the Society before making their report. The Resolution read:—

"That the representative body urges the Council to take such steps as it considers desirable to secure the use of a uniform notice to parents or guardians of children requiring special surgical or medical treatment, and that a form similar to the draft copy set out in paragraph 26 of Appendix A. to the Report on Encroachments on the Sphere of Private Practice is acceptable to the private medical practitioners concerned, ensuring as it must a more stringent scrutiny of those cases which are, or are not, necessitous."

The form referred to above reads as follows:—

"To the parent or guardian of Your child is in urgent need of operative treatment for tonsils and adenoids (or is reported to be suffering from defective eyesight, etc.). You are recommended to consult your own doctor with a view to securing the necessary treatment, or if he prefers it, arrangements can be made for the operation through the Education Committee's Scheme." (Then follow particulars which the parent is obliged to give before he can use the Scheme.)

After some discussion it was decided that the above form could not be accepted as satisfactory, and that no standardised form could be devised which would fully cover the varying conditions in different areas. It was agreed to notify the B.M.A. Medico-Political Committee to this effect, with an assurance that as in the past, school medical officers would advise the adoption of forms which would safeguard the proper interest of the family doctor in his patients, and at the same time assure the provision of advice and treat-

ment for the children of poor persons who would not otherwise secure medical attention. At the request of Dr. Paterson, members of Council undertook to forward copies of forms at present in use for the information of the B.M.A.

Annual Representative Meeting, B.M.A.—Professor Harold Kerr with Drs. Naylor Barlow, Veitch Clark and Eustace Hill, as elected representatives of the Public Health Service, submitted a report on the A.R.M. of the British Medical Association, as follows:—

The Annual Representative Meeting at Manchester was held on July 19th, 20th, 22nd and 23rd, 1929. It was unusual in that the acoustics of the hall in which it took place were excellent, so that one could hear all speakers from any part of the room. To those who have suffered the inconveniences of the more recent meetings this was indeed a boon.

The meeting was attended by all four of the representatives of the Public Health Service.

Dr. C. O. Hawthorne was the exceedingly able chairman.

The most important items on the agenda were hospital policy, which chiefly concerned itself with the question of accommodation of the middle classes and pay beds; and psycho-analysis, both of these subjects being debated long and keenly.

Matters concerning the public health service were fairly prominent, and were represented by a prolonged discussion upon the report of the Special Committee (which included representatives of the Society of Medical Officers of Health) of the British Medical Association upon its negotiations with the representatives of the various local authority bodies. This was presented by Sir Robert Bolam, whose clear and lucid statements were followed attentively and carried conviction. While admitting that the results were by no means what we wished for, he emphasised the stubbornness with which our demands had been resisted and contested, and described how near the Conference was on several occasions to a complete deadlock. As subsequent speakers showed, this would undoubtedly have been the result but for Sir Robert's personal diplomacy and finesse. The gains, however, could be regarded as substantial if inadequate, and if finally accepted by the various authorities would place the service in a very much better position than it had hitherto occupied. Sir Robert also spoke in particular appreciation of the help that had been given to him at the Conference by members of our Society. Gratification was expressed by numerous speakers at what was regarded as a decided gain by the profession, and thanks were accorded by ourselves and others to Sir Robert Bolam and the other representatives of the Association for their invaluable efforts on our behalf.

Attention was drawn by two of the Public Health Service members to the unsatisfactory position occupied in the scale by Medical Superintendents of Sanatoria of less than 100 beds. To this it was pointed out that special care would be taken to deal with these through the Advisory Committee. The case also of whole-timers appointed as District Medical Officers under

the Poor Law was mentioned, and the chairman stated that the Representative Meeting last year laid it down emphatically that District Medical Officers doing domiciliary work should in no circumstances be whole-time officers. Therefore, it ought not to be even suggested that they should come under the scale in question.

A feature of the discussion was a tribute that was paid by one who hitherto has strongly and prominently opposed the public health service and its "encroachments." He stated that his experience during the last few months, not only in his own area but by reports which reached him from all over the country, was that an extraordinary spirit of sympathy and co-operation was developing between the public medical officer and the general practitioner. Indeed, the whole atmosphere of the meeting was notably more sympathetic than has been felt hitherto.

It was reported that up to June 15th, the B.M.A. had dealt with matters relating to 237 appointments. In 226 of these cases the scale of salary laid down by the Association had been either offered initially or secured after negotiation.

A considerable amount of attention was given to the National Maternity Service Scheme, issued at the end of June by a committee of the Council of the B.M.A. The details of this are doubtless familiar to members of the public health service, who will have noted appreciatively the goodwill shown by the Association towards the maternal mortality problem. Naturally, however, much of the criticism of the scheme was of those parts of it affecting the general practitioner directly, and more especially for its alleged failure to provide the lying-in-woman with both a doctor and a midwife.

This Memorandum was finally approved without alteration and adopted "as a contribution on lines acceptable to the profession towards the establishment of a National Maternity Service Scheme." It has since been forwarded to the Ministry of Health and is being considered by the Departmental Committee on Maternal Mortality.

The Council's report on "Encroachments on the Sphere of Private Practice" was discussed, and was approved with little amendment. A member from Aberdeen endeavoured to have included a resolution recommending the combination of the functions of the health visitor and district nurse by one person under the control of the family doctor. This was readily disposed of, one of your representatives speaking very strongly against it and showing the absurdity and impossibility of the suggestion. The original report was approved.

It was evident that the discussion upon the report that had taken place throughout the Divisions had led to considerably better understanding than had existed previously, since there was an entire absence of acrimony in the Annual Representative Meeting in regard to it. Both sides were recognised—the case for the whole-timer and the case for the part-timer—and while naturally the meeting favoured the part-time appointment of general practitioners to public health clinical posts, strong stress was laid upon the obligations attached to such appointments, and the impossibility in many cases of their adequate fulfilment by those who had to earn the main part of their living otherwise.

Poor Law Reform was merely touched upon, since very little was known of the arrangements that would be come to ultimately. Strong emphasis was placed upon the need for professional representation by co-option upon local authorities and upon hospital advisory committees.

The *Brown versus Dagenham* District Council case had its echo in the statement by the Chairman of the Public Health and Poor Law Committee upon the reply of the Minister of Health to a deputation from the N.A.L.G.O., and his reference of the matter to the Royal Commission on Local Government then sitting. The case of the recent dismissal of the Tuberculosis Medical Officer of Gateshead as the result of permanent disability following infectious disease contracted in the course of his duty was also referred to. Failure to obtain any kind of compensation had to be reported, but one result at least was the adoption by the County Borough Council of the Local Government and Other Officers' Superannuation Act, 1922, although too late to benefit this particular case. A resolution was adopted instructing Council to bring pressure to bear upon defaulting authorities to adopt the Act.

Legal disqualification for service on local authorities was also raised, and some explanation was given of the position under the Local Government Act, 1929. This matter is also being investigated by the Royal Commission on Local Government.

A strong resolution advocating the supply of Government vaccine lymph to other than public vaccinators, if necessary on payment, or the giving by Government of a guarantee of efficiency to supplies of lymph prepared by private firms, was also adopted.

In view of the pending break-up of the Poor Law, the remuneration of District Poor Law Medical Officers had a special interest for your representatives, since these officers will in all likelihood be controlled by Health Committees after April, 1930. Statements were made showing the absurdly inadequate remuneration that appears to be only too common in the case of these officers, and the representative body instructed the Council to examine the whole matter and to take such steps as are necessary to ensure equitable terms in the future.

The question of the expulsion from the Association of members who had applied for or accepted appointments that had been the subjects of warning notices was raised by a representative who is a member of the whole-time public health service. He was informed that a special committee was now dealing with the whole subject, of which this was but a part, and that it would have to be put fully before the meeting next year.

In conclusion we would offer our thanks to our colleagues of the Public Health Service for the honour they did us in nominating us as their representatives at this meeting, itself representative of every section of medicine in the Empire. The organisation of the meeting is an experience in itself, and the opportunity that it offers of overcoming misunderstandings and prejudices is absolutely invaluable.

The President expressed the thanks of the Council to Professor Kerr and his colleagues for their very interesting report, and for their capable representation of the Public Health Service.

Report of the Hon. Editor.—Dr. Charles Porter submitted his report as Hon. Editor of PUBLIC HEALTH for the year ended September 30th, 1929, as follows:—

In the report for last year the claim was ventured that there were signs of a growth in the importance attached to the official organ of the Society. This year that claim may be made again even more strongly. It is unfortunate that amongst the bases upon which the claim rests there cannot be included that there has been an increase in the user of the journal as an advertising medium. Possibly in time those in search of an organ through which to obtain publicity may recognise that they have it in PUBLIC HEALTH, and the Editor, in submitting his report, may be in a position to use as evidence in support of his claim something more tangible than that the number of writers anxious to secure publication of their writings, as well as of quotations from its contents in contemporaries, is increasing.

Risking difficulties with those in charge of the financial and business side of the journal, though not without first seeking their permission, the number of pages was quite frequently increased beyond what is regarded as the normal. The average number per issue was 35, the smallest being 32 and the largest 52. The total for the year was 420, the figures for the two preceding years being 403 and 404.

In former reports reference has been made to the high standard of quality of the contributions, papers particularly, submitted for publication from the Branches and Groups, and during the year under review it is safe to say this standard has been maintained. Several of the papers, indeed, as already indicated, on account of their excellence and appeal, attracted attention in circles outside that of the Society itself.

In numbers of contributions also there was no falling off, and on occasion it became necessary, in order to avoid overloading, to take advantage of the rule that provides for refusal of a paper that has already appeared elsewhere.

One of the most important objects of the Hon. Editor's report is to provide him with an opportunity of thanking, as well as those who contributed papers, other writers who placed their knowledge and skill at his disposal. Of these there were many, and to all of them gratitude is most warmly expressed for the assistance they gave and for the readiness with which it was given.

It was agreed unanimously that the best thanks of the Council be accorded to Dr. Porter for his successful conduct of the Society's journal during the past session.

Hon. Treasurer's Report.—Dr. G. F. Buchan submitted his report as Hon. Treasurer for the year ended September 30th, 1929, as follows:—

The total income of the Society for the year ended September 30th, 1929, has been £3,856 0s. 2d., and the actual expenditure, £3,436 2s. 0d., leaving a balance of income over expenditure of £419 18s. 2d., £350 of which has been passed to the Reserve Account on account of depreciation in the market value of investments.

Looking at the expenditure, it will be observed that

this year there are no bank charges. This is due to the fact, as may be seen from the balance sheet, that our holdings at the bank in respect of the Reserve Account and Revenue Account have annulled any bank interest that might have accrued in respect of the purchase of the lease of the premises.

Under the Salaries Account an item of £200 in respect of the Assistant Secretary is shown this year, no corresponding charge having appeared in last year's account.

The net cost of the Journal during the year 1928-29 was £655 12d. 11d., which is about the usual net annual cost.

Turning to the balance sheet it will be noted that the market price of our investments are down by a sum of £299 14s. as compared with this time last year. The reasons for this are that the bank rate increased shortly before September 30th, 1929, and in addition there was a financial crisis in the City causing a slump in the markets just before the end of our financial year. This depreciation may be regarded as temporary. Already (24/10/29) the value of these investments has increased by about £80, and doubtless a further appreciation will occur during the financial year 1929-30.

The lease of our present premises, which expires in 1939, was purchased in the early part of 1925 for the sum of £2,200. Since then we have been able to pay off every year a sum of £157 3s., so that the lease will be wholly redeemed on its expiry. At the same time a considerable Reserve Account, now standing at £875, is being built up which will enable our successors to make adequate provision for the housing of the Society on the termination of the current lease.

Speaking in general terms, it may be said that the financial position of the Society is sound. Unless undue expenditure is embarked upon by the Council our income should continue to exceed our expenditure by not less than £400 per annum, which on a total income of under £4,000 would appear to be satisfactory.

Certain secretarial changes are ahead which if carefully considered should not increase the expenditure of the Society in this department. In addition the changes which have taken place in the scope of the public health service as a result of the Local Government Act of 1929 should enable the Society to bring in many workers who had not previously the opportunity of becoming members. The Council should also consider in connection with these changes what further steps can be taken to gain more members from among those who are at present eligible.

All these matters I would suggest require the most careful attention of the General Purposes Committee so that action may be taken whereby the prestige and membership of the Society are increased and its financial position still further strengthened.

I desire to record my indebtedness to Mr. G. S. Elliston, Executive Secretary, for his invariable readiness to assist me in the discharge of my duties and for very valuable help.

The report was received and adopted. It was agreed that matters arising out of the report be referred for early consideration by the General Purposes Committee. Dr. Buchan received the cordial thanks of the Council for his valuable services as Hon. Treasurer.

Education Committees and the Revised Scale of Salaries.—Communications were received from several members of the Society in reference to the following paragraph in an appendix to the published minutes of the Executive Committee of the Association of Education Committees (July 26th, 1929), referring to the revised Scale of Salaries, viz.:—

An Education Committee considering the Scale will have in mind the fact that where the Medical Officer of Health is also titular School Medical Officer, he is appointed School Medical Officer by the Education Committee and not by the Public Health Committee. In his capacity of School Medical Officer he is a servant of the Education Committee and not of the Public Health Committee. Where he exercises functions under the Education Committee he takes his instructions from their Chief Executive Officer and reports through him to the Education Committee, and the portion of his salary which is attributable to his services as School Medical Officer is provided for in the Education estimates. In a number of areas the work of the School Medical Service is considered so important and extensive that it is maintained as a self-contained unit under a School Medical Officer, whose sole work is to take charge of the School Medical Service. Such authorities feel it is not worth while to transfer a purely nominal responsibility to a Medical Officer of Health. Each Education Committee working on this particular footing will make their own arrangements as to the salary of their School Medical Officer, subject to the general approval of the Board of Education.

The Education Committee is responsible for the health and well-being of each individual child of school age in their area. The curative or treatment side of the work of the School Medical Service is to-day at least as important as medical inspection. It is, therefore, of the first importance to secure Medical Officers for posts in the School Medical Service who have had a good clinical experience. In contrast with this, Public Health Committees are concerned mainly with the general conditions of their areas, and their work is to ensure that these conditions are such as to conduce to the general health of the community. This work is preventive and not curative, and the trend of medical opinion is that medical officers engaged in such preventive work tend to lose touch with the latest developments in clinical and curative medicine, which is the chief concern of the School Medical Officer.

The work of the School Medical Service, like that of general practice, hospitals and infirmaries, is very largely curative and clinical, and, therefore, is and should be undertaken by men of the same type as the general practitioner and specialist, whose medical life's work is of this character.

Dr. Brackenbury was able to satisfy the Council that the above paragraphs were from an Appendix which merely embodied the private views of two members of the Association, and was in no sense the considered opinion of the Association of Education Committees or of its Executive Committee.

It was decided that a full statement in this connection should appear in the November issue of PUBLIC HEALTH (see editorial columns, p. 34—"The Position of the School Medical Officer").

Dr. Picken gave notice that at the next meeting of Council he would move a resolution to the effect that the assistance of the B.M.A. be invited towards securing the transfer of school medical work from education committees to health committees, in accordance with the precedent established by the Scottish Local Government Act.

The Local Government (Qualifications of Medical Officers and Health Visitors) Regulations, 1929.—The Committee of Officers of the Society reported that they had considered a draft of the above Regulations, forwarded by the Minister of Health for any observations which the Society might wish to submit. The Committee had also considered representations in the same connection from several Fellows of the Society. They were of opinion that in its main features the draft would command the approval of the Society, but they could see no reason why in paragraph 9 an alternative portal of entry is provided for Tuberculosis Visitors, when no such provision is made in the case of Health Visitors. The Committee therefore recommended that the Minister be asked, in support of the principle of a single portal of entry, to delete from paragraph 9 the words "or who is a fully-trained nurse, and has had at least three months' special experience at a sanatorium or hospital for the treatment of tuberculosis, or at a tuberculosis dispensary." The Committee's recommendation was approved and adopted.

The Retiring President.—At the close of the meeting a hearty vote of thanks was accorded to Dr. John Howard-Jones for his devotion to the interests of the Society during his year of office as President and for his kindly discharge of his duties as chairman of the Council.

The Council then adjourned.

ANNUAL GENERAL MEETING.

The Annual General Meeting was held at the house of the Society on Friday, October 25th, 1929. The retiring President (Dr. J. Howard-Jones) was in the chair, and there was a large attendance.

The minutes of the last Annual General

Meeting having been approved and signed, apologies for absence were received from Dr. A. F. Cameron, Dr. Ernest Baker, Dr. G. H. Pearce, Dr. A. K. Chalmers, Sir Humphry Rolleston, Dr. C. Killick Millard, Professor A. Bostock Hill, Dr. E. H. Snell, Dr. T. W. Naylor Barlow, Dr. A. M. N. Pringle and Dr. Eustace Hill.

Dr. Howard-Jones announced that the Council had unanimously nominated Dr. John James Buchan, Medical Officer of Health for the City of Bradford, for election as President of the Society for the Session 1929-30. The nomination having been accepted by acclamation, Dr. Howard-Jones invested his successor with the presidential badge and wished him, on behalf of the whole Society, a happy and successful year of office.

Briefly acknowledging the honour conferred upon him by his colleagues, Dr. Buchan said he hoped he would be found a worthy occupant of the chair which had been filled by so many distinguished members of the Public Health Service.

On the proposal of Dr. Charles Porter, seconded by Professor W. W. Jameson, the grateful thanks of the Society were accorded to Dr. John Howard-Jones for his presidential services during the past session.

The annual report of the Council (see Proceedings of Council, PUBLIC HEALTH, October, 1929) and of the Hon. Treasurer and the Hon. Editor were received and adopted, and thanks accorded to the Council and officials for their work during the past session.

Mr. J. T. Harris was re-elected Auditor of the Society for the Session 1929-30.

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

As Fellows:—

Allison, Stuart Frew, M.B., CH.B. EDIN., D.P.H.; Dingley, John Ralph, M.B., B.S. LOND., M.R.C.S., L.R.C.P.; Fawcus, Harold B., C.B., C.M.G., D.S.O., Lieut.-Genl., A.M.S., M.B., B.S. DURH., D.P.H.; Foley, Edward Stephen, M.B., B.CH., N.U.I., D.P.H.; Fourie, Louis, M.B., CH.B. EDIN., D.P.H.; Grierson, Alexandra Millar Meek, M.B., CH.B., D.P.H.; Hardy, George Francis, M.C., M.R.C.S., L.R.C.P.; Kemp, Philip Rowland, M.B., CH.B. EDIN.; Littlejohn, Mary Victoria, M.B., CH.B. ABERD., D.P.M., D.P.H.; McColgan, Kathleen Gertrude, M.B., CH.B., B.A.O., N.U.I., D.P.H.; Maguire, Charles, M.B., B.CH., B.A.O., U.N.I.; Micah, David John, M.B., CH.B. EDIN.; O'Farrell (Farrell), Michael Augustine, M.B., B.CH., N.U.I., D.P.H.; Stewart, George Gordon, M.R.C.S., L.R.C.P., D.P.H.; Whitehouse, Harold Beckwith, M.S. LOND., F.R.C.S.; Wood, Grace Hortense, M.B., CH.B. LIVERP., D.P.H.

As Associates:—

Chase, Reginald, L.D.S., R.C.S. ENG.; Davies, Henry Lewis, L.D.S., R.C.S. ENG.; McClelland, Thomas, L.D.S., R.F.P.S. GLASG.

A number of nominations were received for the November election.

Dr. J. J. Buchan then delivered his presidential address (published in this number) on "Some Principles in Public Health Reform."

A hearty vote of thanks was passed to the President for his address on the proposal of Lieut.-Colonel F. E. Fremantle, M.P., seconded by Professor H. R. Kenwood.

The meeting then adjourned.

THE METROPOLITAN AND HOME COUNTIES BRANCHES.

Two interesting features related to the public food supply made up an attractive programme arranged by the Hon. Secretaries (Dr. James Fenton of Kensington, and Dr. A. A. Turner, M.C., of Finchley), for the joint meeting of the two branches held in London on September 27th, 1929.

Demonstration of the Sealed Milk Carton.—In the forenoon the party, numbering some seventy members, proceeded by motor saloons from the headquarters of the Society to College Farm, Finchley, to inspect, on the premises of the Express Dairy Co., Ltd., the plant of Sealed Milk Containers, Ltd., for the making, sterilising, filling and sealing of the "Sealcone" Milk Container, a device which, after several years of experiment and the expenditure of considerable sums of money, marks a decided advance in the retail distribution of milk. The experimental plant at Finchley, which is the first of its kind in this country, turns out 6,000 containers (in pint and quart sizes) per day, and it is significant to note that from the making of the container to the filling and final sealing is one continuous process. The machine is fed with a piece of thick paper which is formed into a cone shape, secured down the side by a slip, and closed at the lower end by a rigid circular paper disc which cannot be displaced. Thence the cone enters a sterilising chamber where it is completely immersed in wax at a high temperature, filling and emptying itself automatically. It continues its journey to a filling machine, and immediately thereafter passes

along to the sealing device where the flattened upper end is hermetically sealed with a metal clip which does not come in contact with the milk. Among the many claims made for the "Sealcone" container are that it is clean and inexpensive; liquid tight and air tight, and therefore entirely free from any form of contamination or interference. Flexible yet of great strength, its unique shape lends itself to quantity packing and facilitates transport; moreover, it is extremely light, the pint size weighing under two ounces—less than a tenth of the weight of a glass bottle; is sufficiently transparent to allow the milk and cream lines to be seen; cannot be refilled; eliminates the necessity of washing and sterilising glass bottles after use, and avoids the possibility of such bottles escaping proper sterilisation.

After the demonstration the members were entertained at luncheon at the Hotel Russell, Russell Square, by Sealed Milk Containers, Ltd., the Managing Director (Mr. George G. Mitcheson) being in the chair. In proposing the toast of "The Metropolitan and Home Counties Branches," the chairman expressed appreciation that the members had seen fit to investigate first-hand something which might prove of benefit to the community.

Dr. J. B. Howell (President, Metropolitan Branch), and Dr. F. T. C. Linton (President, Home Counties Branch), conveyed to the Company the thanks of the party for the opportunity of inspecting the "Sealcone" process and its possibilities as an improved method of milk distribution.

Dr. Charles Porter, in supporting, offered thanks also to the Express Dairy Co., Ltd., for permitting the demonstration on their premises. He had been perfectly certain that the last word had not been said in relation to the distribution of milk when the bottle method was introduced, and those who had witnessed the new process had been impressed by its advantages from the hygienic standpoint.

Mr. A. L. Barton, replying on behalf of the Express Dairy Co., Ltd., thanked the party for its interest in the "Sealcone" process, which he considered an engineering and a sanitary triumph.

Among those present were Dr. P. C. Varrier-Jones, Medical Director of the Papworth Village Settlement, near Cambridge, and Sir Enoch Hill, J.P., F.C.I.S., Chairman, Executive Committee, National Association of Building Societies, and President and Managing Director of the Halifax Building

Society. Both Sir Enoch and Dr. Varrier-Jones, in replying to the toast of "The Visitors" proposed by Dr. G. F. Buchan, voiced their warm appreciation of the reception accorded them.

The Medical Examination of Food Handlers.—Following the luncheon, Dr. Charles V. Craster, Health Officer, Newark, New Jersey, U.S.A., described the system in operation in his city for the examination and supervision of persons engaged in the handling of food for sale. Dr. Craster, introduced by Dr. Howell, received a hearty welcome from the assembled company. Prior to giving his paper Dr. Craster acknowledged the debt of gratitude he owed to Professor Kenwood under whose guidance he had received his public health teaching, and made a number of interesting comments on the health activities of Newark. Public opinion in America, he added, was coming round very strongly in favour of public health preventive measures, and it was comparatively easy for a health officer to sell an idea to the public providing the idea was reasonable and apparently good.

Of Dr. Craster's paper itself no further mention is necessary here, since permission has been obtained to publish it in full in an early number of PUBLIC HEALTH. The subject, it may be said, proved of great interest to his hearers and an excellent discussion followed in which Dr. Howell, Dr. Buchan, Professor Kenwood, Dr. Linton and Dr. Charles Porter took part. Replying to a vote of thanks for his paper, Dr. Craster said it was gratifying to hear from those who had spoken how well they considered the work in Newark was being carried out.

THE MIDLAND BRANCH.

President: Dr. W. D. Carruthers, County M.O.H., Staffordshire.

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

The first meeting of the session of this Branch was held at the Medical Institute, 154, Great Charles Street, Birmingham, on October 3rd, 1929. There were present twenty-four members. Apologies for unavoidable absence were received from eleven members.

The retiring President, Dr. R. H. H. Jolly, introduced Dr. W. D. Carruthers and wished him a very happy year of office as President of the Branch.

Dr. Carruthers delivered his Presidential Address on "Habit." The speaker traced the development of habit into "second nature" and briefly mentioned the views of psychologists on habit formation. He then referred to the influence of habit in relation to hygiene. Childhood was certainly the time for the formation of health habits, but was it not often the case that the lesson of health preservation as given was modified on account of the deeply rooted habits of thought of the teacher himself? Dr. Carruthers also instanced the habit of mind of the lecturers in our medical schools, nearly all of whom were engaged in curative medicine. Although it was expected that the preventive aspect of medicine should be given prominence at all stages in the medical curriculum, the teacher's own sub-conscious mental attitude frequently presented an obstacle to the proper observation of this rule. Dr. Carruthers concluded his address by some reference to the dangers of the formation by health officers of habits which tend to limit their mental outlook on the problems confronting them.

Dr. Snell proposed a hearty vote of thanks to the President for his thoughtful and interesting address. This was seconded by the Hon. Secretary, and carried by acclamation.

A letter was read from the Birmingham Branch of the British Medical Association inviting the Midland Branch of the Society to nominate two of their members to act as Public Health Representatives on the Branch Council. It was agreed to nominate Dr. H. P. Newsholme and Dr. H. Gibbons Ward for these positions.

THE NORTH-WESTERN BRANCH.

President: Dr. F. A. Sharpe, M.O.H., Preston.

Hon. Secretary: Dr. G. W. N. Joseph, M.O.H., Warrington.

A meeting of this Branch was held in Manchester on October 4th, 1929, eighteen members being present.

Before the proceedings commenced, Dr. Wilkinson asked permission of the President for a demonstration of a special milk-can which not only protected the milk from outside contamination but measured it out in half pints on delivery.

A letter was read from Dr. T. W. H. Garstang, one of the oldest members of the Branch and President in 1901-2, who is now in his eightieth year, conveying his best wishes for a successful session.

Dr. F. T. H. Wood, O.B.E. (the President) introduced Dr. F. A. Sharpe to the chair and invested him with the emblem of office as President of the Branch for the session 1929-30.

On the proposition of Dr. T. W. Naylor Barlow a hearty vote of thanks was accorded to Dr. Wood for the able manner in which he had conducted the proceedings during the past session. Dr. Veitch Clark seconded and thanked the past President, not only for the way in which the work had been carried through, but for the grace of literary accomplishment and diction which Dr. Wood had always imparted to the meetings.

Dr. Sharpe then delivered his presidential address, entitled "The Immediate Future," which will be published in PUBLIC HEALTH. He placed in the foreground the changes which will take place in 1930 consequent upon the passing of the Local Government Act of 1929. Many of the provisions entail merely administrative changes and an extension of public health work in a quantitative direction, such as poor law functions of vaccination and infant life protection, but other matters will make large demands on the skill and ability of administrative officers; for instance, what sort of supervision will medical officers of health be able to exert upon the work of district poor law medical officers? The taking over of the poor law hospitals, too, bristles with difficulties and the question of co-operation and co-ordination with voluntary hospitals is not easy. No less in importance to administrative health officers is the question of maternal mortality on which there have been important pronouncements recently. Reference was also made to the report of the Mental Deficiency Committee of the Board of Education and the Board of Control.

Dr. C. O. Stallybrass proposed a vote of thanks to the President for his excellent address and stated that it had been an admirable introduction to the work of the session. He referred to the difficulties of co-ordinating the work of the district medical officers of health who had been very largely unsupervised in the past but through whom numbers of patients were admitted to the institutions. There had been a large increase in the number of births occurring in institutions and these had to be co-ordinated with the present work of the public health service. He referred also to the number of mental defectives and the difficulty of making a declaration

in certain mixed institutions in which lunatics were dealt with.

Dr. Spence seconded and the President briefly replied.

THE NORTHERN BRANCH.

President: Dr. G. C. M. M'Gonigle, M.O.H., Stockton-on-Tees.

Hon. Secretary: Prof. Harold Kerr, O.B.E., M.O.H., Newcastle-upon-Tyne.

The annual meeting of this Branch was held in the Medical Institute, 7, Windsor Terrace, Newcastle-upon-Tyne, on October 18th, 1929. Twenty-six members were present. Apologies for absence were received from seven members.

The retiring President (Dr. James Bannerman), before vacating the chair, thanked the members for their kindness and consideration during his year of office. It was with great pleasure that he asked Dr. M'Gonigle to take the chair, and he felt sure that the Branch would continue to prosper under the new President, who was a keen man.

Dr. M'Gonigle then took the chair, and thanked the members for electing him as President. In referring to the services of the retiring President, Dr. M'Gonigle said that Dr. Bannerman had attended all the six Branch meetings and three Council meetings during the past session—an excellent record having regard to the distance Dr. Bannerman lived away from Newcastle. Dr. M'Gonigle moved that a hearty vote of thanks be accorded to the retiring President for his services, and this was carried by acclamation.

The Annual Report of the Council, containing details of the activities of the Branch during the past session (reports of which have already appeared in the journal), was read and approved.

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

The arrangements for the next meeting of the Branch, and for the annual dinner, were left in the hands of the President and Hon.

Secretary, and the latter was instructed to inform the members as soon as possible after the date had been fixed.

Dr. G. C. M. M'Gonigle gave his Presidential Address on "The Biological Concept of Preventive Medicine," and in the subsequent discussion Drs. Spinks, Dickinson and Kerr took part. On the motion of Dr. Kerr, the President was heartily thanked for his address, which it is hoped will be published shortly in PUBLIC HEALTH.

THE SCOTTISH BRANCH.

President: Dr. Thomas Adam, County Medical Officer of Health, Stirling.

Hon. Secretary: Dr. G. V. T. McMichael, Medical Officer of Health, Paisley.

A meeting of this Branch was held in the Caledonian Hotel, Edinburgh, on September 21st, 1929, the President occupying the chair. Thirty-seven members—a record number—were present. Apologies for absence were intimated from Drs. Macdonald and A. K. Chalmers.

A letter was read from the Department of Health for Scotland regarding inquiries into maternal deaths, and asking for the co-operation of members of the Branch in facilitating the investigations proposed.

The President explained that this meeting had been specially called to enable members to have the benefit of the advice of Dr. J. Parlane Kinloch, Chief Medical Officer of the Department of Health for Scotland, regarding the Local Government (Scotland) Act, 1929. Dr. Kinloch expressed his pleasure in meeting such a large and representative gathering of medical officers of health, and gave a most interesting and informative statement regarding the various provisions of the Act. The following were among the many important points emphasised by Dr. Kinloch:—(1) the success of the Act would be largely gauged by the degree of unification of the medical services which might be evolved; (2) the medical officer of health should be the administrative medical officer for all medical services, including lunacy and mental deficiency, with expert deputies advising him regarding the various services; (3) general health schemes should deal simply with the machinery of administration, *e.g.*, the allocation to various committees of the transferred services; (4) the public health committee should take over the school

medical service, with a liaison committee acting between them and the education committee; (5) there should be effective co-ordination of the maternal and child welfare and the school medical services, and the welfare of the child from one to fourteen years should be regarded as a single service; (6) schemes of local authorities should provide that, as soon as practicable, assistance which might be given by way of poor relief or by virtue of enactments other than the Poor Law Acts shall be given exclusively under such other enactments; (7) in conjunction with the power contained in Section 14 (4) to provide treatment of sick persons outwith the poor law, Section 27 enables local authorities to effect the dissociation of hospital treatment from the poor law; this would entail considerable re-organisation of existing institutional accommodation; (8) in effecting re-organisation of hospital facilities, there must be close co-operation and consultation with the voluntary hospitals; (9) in the development of hospital services, the principle of regional organisation should always be kept in mind, and the Department of Health proposed to have frequent consultation with committees of medical officers of health grouped in the four areas centred round the medical schools of the four universities, and a fifth committee established for the northern area; similar regional committees had been set up by the voluntary hospitals, and there was also a central liaison committee representing the voluntary hospitals which would act in liaison between the five regional committees and the Department of Health; (10) the Secretary of State had power under Section 66 to reduce the amount of grants otherwise payable if local authorities failed to achieve or maintain a reasonable standard of efficiency and progress in the discharge of their functions relating to public health services.

After Dr. Kinloch's general statement, questions were invited and numerous points were raised by members and replied to by Dr. Kinloch, who stated that explanatory circulars relating to the preparation of administrative schemes would shortly be issued by the various Central Departments, which he anticipated would be of considerable assistance to medical officers.

On the invitation of the President, Dr. A. S. M. Macgregor, O.B.E., Medical Officer of Health, City of Glasgow, gave a most interesting *résumé* of what he proposed to recom-

mend to his committee regarding the transfer of the medical services of the education authority, the most important point being that the public health committee should be responsible for the appointment and for the work of all medical and nursing members of the transferred services, and for the management of all medical institutions, clinics, etc. Dr. Macgregor very kindly agreed to supply the Hon. Secretary with copies of his report for distribution to members.

After an interval for luncheon, the discussion was resumed and carried on until 4 p.m. Before closing the meeting, the President cordially thanked Dr. Kinloch for the very helpful advice he had given to members, and suggested that he might attend another meeting of the Branch to be called after the issue of the various departmental circulars. Dr. Kinloch agreed to do so, and again expressed his pleasure in meeting such a large gathering of medical officers of health.

THE DENTAL OFFICERS' GROUP.

President: Dr. J. Sim Wallace, Lecturer on Preventive Dentistry, King's College Hospital.
Hon. Secretary: W. Leigh Breese, Esq., L.D.S., 328, Brixton Road, S.W.9.

The Annual General Meeting of this Group was held on Friday, October 11th, at 1, Upper Montague Street.

The President, Dr. J. Sim Wallace, having been absent abroad for several months during his year of office was asked to continue his occupancy of the chair for another year. Mr. Baker and Mr. Senior having proposed and seconded a proposal to this effect it was agreed to with acclamation.

The following officers were re-elected:—

Vice-President: Mr. Evelyn Sprawson.

Hon. Treasurer: Mr. G. Thomson.

Hon. Secretary and Hon. Editor: Mr. W. L. Breese.

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

Mrs. Parlance and Mr. Bryce were elected to the Council in place of Mrs. Thorne and Mr. Turner who retire by the rules of the group.

The Hon. Secretary read his annual report. Papers had been read by Dr. Sim Wallace, Mr. Evelyn Sprawson, Mr. H. J. Morris and Mr. Thomson.

The Hon. Treasurer reported a deposit account of £150 and a current account of £23,

the financial position of the group being thus shown to be very satisfactory.

The General Meeting endorsed the Council's recommendation that when a member, or reader of a paper, was put to travelling and other expense by reason of his visit to the group—that the Council should be permitted to reimburse him financially from the funds of the Group.

The President then read his address—to appear later in PUBLIC HEALTH.

Attention was drawn to the loss of grant

caused by delay in the payment of annual subscriptions. It was decided to appeal to members to assist the officials of the Society and the Group by early payment of their subscriptions, and that those in arrears should be reminded that after two years they are liable to removal from the Roll.

The Hon. Secretary will at all times be glad to hear from any provincial member who may have a subject of interest to the Group and who would be willing to read a paper thereon.

Central Council for Health Education Congress.

THE first Congress on Health Education, organised by the Central Council for Health Education, was held at the London School of Hygiene and Tropical Medicine on October 23rd and 24th. Each of the three sessions were well-attended by audiences thoroughly representative of Local Health, Education and Insurance authorities, and of the principal bodies engaged in the work of health education.

Professor H. R. Kenwood, chairman of the Central Council, in opening the Congress, urged that the best results in health education could only be obtained by co-ordination and well devised national schemes. False doctrines and conflicting advice seriously prejudiced their course. Half truths, extreme statements and impracticable advice also did damage. It was only by the co-operation of local authorities and responsible bodies interested in the various branches of public health work that effective educational results could be achieved.

A paper by Professor A. Bostock Hill, who was unfortunately absent owing to illness, dealt with the possibilities of co-operation with commercial firms and organisations serving useful public health purposes. An interesting discussion followed in the course of which Dr. A. Cox (British Medical Association) suggested that it would be a fine thing if advertisers would consult the Central Council regarding the claims they made for their products. He thought the country was suffering from the vogue of shrieking advertisement. In closing the discussion Dr. Kenwood made it plain that in any advisory assistance the Central Council might give to reputable commercial undertakings they would carefully

avoid any duplication of the services already available from existing educational bodies.

At the second session, with Dr. Ernest Ward in the chair, there was a most instructive discussion on the relative value of various means of health education. Amongst those who took part were Mr. Bompas (as deputy for Sir Francis Dyke Acland of the Dental Board), Miss Norah March (Health and Cleanliness Council), Dr. W. Brand (National Association for the Prevention of Tuberculosis), Miss Halford (National Council for Maternity and Child Welfare), Colonel Pickard (National Safety First Association), Mrs. Neville Rolfe (British Social Hygiene Council), and Mr. C. E. Hecht (Food Education Society). So many useful points were made by the speakers that it may be hoped the Central Council will publish a full report of the discussion.

At the final session, Sir George Newman, chief medical officer to the Ministry of Health, spoke on the opportunities for health education afforded by Statute.

"We spend not less than twenty millions a year in sickness and disablement benefit and the State treatment of disease," he said. "Much of this would be saved if people lived according to the principles of hygiene. We lost twenty-six million weeks of time from industry in 1928 owing to sickness. There is, therefore, serious expenditure of money and time." Continuing Sir George pointed out that indirectly, social evolution was an educator and directly, voluntary societies and statutory agencies were educators. "It is necessary to teach English people the way of personal health. They have not yet learned the lesson. We have

also to teach the people of the Empire how to live a healthy life. People should be taught, secondly, the methods of the State in assisting health. It is idle to open the doors of one thousand ante-natal clinics, which we have been pressed to establish, unless somebody persuades six hundred thousand young women to come in."

"We want to think of a race of people improving their own health. The dress, diet, amount of open air, recreation and employment of a girl or boy are some of the factors formulating their lives. Nationally, imperially, and internationally the greatest single factor in the education of the people is the social, moral, and spiritual evolution of that people."

Sir George then referred to the lead given in this country in regard to the accurate registration of births and deaths. The reason why our Public Health Service was the greatest on earth was that it was built up by many who said, "We will get the facts." It was much more comprehensive than the health service in the American Republic. When he told the Americans that, they were not very pleased with him. "We have a system which is the most amazing scientific, social, and administrative instrument for the survival of the people that exists in any civilised nation on earth." This was because we had built patiently in the beginning. Sir George said that there were unfortunately still hundreds of medical practitioners who did not understand the place which they were invited to fill in preventive medicine. Also "there are 318 educational authorities but there are only one hundred of them that have chosen to appoint a physical training organiser. When I go round the hundred and compare them with the 218 there is no shadow of doubt left in my mind as to who has chosen the right course." Nearly every child in our twenty-two thousand schools was receiving physical training. Sir George said that he did not want the physical training experts in the classrooms but he wanted them to see that the teachers were teaching physical training as it ought to be taught.

The Food and Drugs Acts had taught the necessity of purity in food. People wanted their bread and biscuits wrapped up in paper, their food prepared in covered vessels and clean shops. Complaints were coming to the central and local authorities daily—the demand of English people to have clean food. It was one of the results of the splendid campaign against impure, contaminated, polluted and poisonous

food which had been waged by medical officers of health for a generation. Even the child wanted to be clean. The child now disgraced itself and the honour of its school when it came dirty. Its standard of cleanliness had been raised and it blushed to the roots of its hair when it was turned out of its school as unclean. That was good for its morals and character. But in the old days it was the child who was clean that did the blushing because the majority were dirty.

"Not one of you has even gone to the dentist and come away uneducated," said Sir George. "The dentist tells you to come once a quarter or once a month and you don't do it because you have some sense left. But you do reflect on your teeth and decide to take more care of them."

Sir George closed with an appeal to the Central Council, and the bodies represented at that conference to persevere in their good work which meant much for the health, happiness and well-being of the people.

After a number of speakers had discussed matters dealt with in the address the Congress closed with cordial votes of thanks to Sir George Newman for his inspiring oration and to Dr. Kenwood for his kindly guidance of the proceedings.

Later in the evening those who attended the Congress, with members of the Society of Medical Officers of Health, were entertained at a reception by the Director and School Council of the London School of Hygiene and Tropical Medicine. This opportunity of seeing the fine Library, Museums, Laboratories and Lecture Rooms of the new school was much appreciated by many guests in spite of the bad weather which kept a number away.

THE Ninth Winter School for Health Visitors and School Nurses, organised by the Women Sanitary Inspectors' and Health Visitors' Association, will be held at Bedford College for Women (University of London), from December 30th, 1929, to January 10th, 1930. The syllabus for this post-certificate "refresher" course has been designed to cover a wide variety of subjects of special interest to women public health officers and of practical help to them in their work. The inaugural address will be given by the Rt. Hon. Arthur Greenwood, M.P., Minister of Health. Full information regarding the syllabus and fees for the course may be obtained from the Secretary of the Association at 92, Victoria Street, London, S.W.1.

The Literature of Preventive Medicine.

THE PREVENTION OF HUMAN TUBERCULOSIS OF BOVINE ORIGIN. By WILLIAM G. SAVAGE, M.D., B.Sc., D.P.H., County Medical Officer of Health, Somerset. London: Macmillan & Co., Ltd., 1929. pp. 195. Price 10s. 6d. net.

In the Road of Life from Jerusalem to Jericho there are many enemies ready to attack the individual; and so strong is the appeal to act the Good Samaritan that perhaps too little thought is given towards "taking adequate measures to police the road." Dr. Savage aptly draws this metaphor in connection with non-pulmonary tuberculosis of bovine origin, which at present seems to be dealt with by burying many of the victims, and treating, at considerable cost, the crippled survivors.

The preventive force is the great need, and in this book the author has given an excellent and detailed account of the present position of this aspect of the tuberculosis problem with special reference to the possible lines of prevention. For practical purposes liquid milk is the chief cause of spread of human tuberculosis of bovine origin, which amounts to about 5 per cent. of the total tuberculosis mortality. Many cases do not end in early death, but cause a vast amount of chronic suffering and ill-health; and each case of bone and joint tuberculosis probably costs about £400 for treatment, so that the whole position is not creditable to public health administration.

The problem of the disease in bovines is intimately connected with the human aspect, and an able discussion is given of the practical difficulties of the elimination of tuberculosis in cattle. A ray of hope gleams out in the possibility of artificial immunisation; and although short cuts in this disease have usually been sad failures, the method of Calmette and his associates is worthy of very extended trial. A reasonable scheme would include radical alterations in the environmental conditions of the cow, the development of adequate measures to prevent or limit the spread of infection, immunisation experiments, the formation of tuberculin-free herds, with the operation of a modified Tuberculosis Order and the routine veterinary inspection of cows. Short of that, pasteurisation (a confession of failure indeed) will give a more effective protection to the milk supply than any incomplete scheme under existing conditions.

It was to be expected of an authority with the experience and ability of Dr. Savage to produce a really first-class dissertation on this special problem; and he has not failed. The book contains a wealth of detail and references to all the appropriate literature. It will find a prominent place and rank among the best contributions to a difficult subject. It is, indeed, fortunate for the guidance of administrators and workers alike that Dr. Savage has produced this clear and accurate survey of the present position.

APPLIED CHEMISTRY. A Practical Handbook for Students of Household Science and Public Health. By C. KENNETH TINKLER, D.Sc., F.I.C., Professor of Chemistry, University of London, etc., and HELEN MASTERS, B.Sc., Head of Domestic Science Department, Battersea Polytechnic. Volume I: Water, Detergents, Textiles, Fuels, etc. Second edition revised. London: Crosby, Lockwood, & Son, 1929. pp. 296. Price 15s. net.

This book is written for those students who are preparing for the B.Sc. (Household and Social Science), University of London. It is a well-designed and ably written treatise, dealing clearly and illuminatingly with the subjects of the syllabus, and anyone who has mastered the sections and has conscientiously done the practical work described should not only be well prepared for that particular part of the examination but should have laid a sound foundation for more technical work after student days are over. No better work could be imagined for the purpose in view, though a few minor criticisms could, of course, be made. But a point of some importance is that although thirty-two pages—the first chapter in the book—are devoted to the determination of the amounts of those substances in a water which are of special importance in coming to a conclusion as to its purity and wholesomeness, it is specifically mentioned on page 1 that "the correct interpretation of these results . . . is dealt with in another part of the degree course." This omission may mean little or no drawback to those students who have had the advantage of attending lectures given by the authors of this work, yet others not so favourably situated are left with the results of analyses and with no guidance as to

applying these results to form conclusions in concrete cases. In all branches of analytical work the obtaining of results is often the least difficult part, and the experience and advice of the authors, together with a few words as to possible pitfalls, would help the inexperienced and warn the unwary. Such an addition in a later edition would add greatly to the value of Chapter I.

How far it may be necessary for students of household science and public health to be acquainted with the construction of a Boys Gas Calorimeter, or the contents of the "Notification of the Gas Referees," 1918, may be a moot point. If information about such an apparatus is necessary for any purpose it is here clearly and accurately set forth.

Altogether it is a book to be commended, and certain sections would repay reading by any interested in the scientific aspect of the domestic arts.

FIGHTING FOR LIFE. A Study of Bureaucracy.

By HAYDN BROWN, L.R.C.P., Edin., Fellow of the Royal Society of Medicine. London: The Liberty Press, 1929. pp. 136. Price 3s. 6d. net.

Since Adam and Eve were expelled from the Garden of Eden, Man has encountered many enemies in a variety of shape and form, and the latest type, according to Dr. Haydn Brown, is Bureaucracy. It is difficult to define this monster, at once most subtle and overwhelming; and at times so much has been heard of it that it seemed to replace the school-boy's "Mesopotamia" for a useful word to reply to any question he could not answer. Naturally, organisations may get large and seem unwieldy; but they are necessary, and the difficulties which this book raises appear to be those which occur on putting into practice any theoretical aim or idea. Public health workers are not unmindful of the prevailing social conditions; yet how far a faulty bureaucracy is responsible for the hard fight for life and health is not easy to define.

Dr. Haydn Brown has written an interesting little book; yet it is doubtful if the efforts to destroy this nebulous bureaucracy will help materially in the amelioration of inimical conditions. Perhaps if swept away, this demon, Bureaucracy, would go and take seven other spirits more wicked than himself, and return; and the last state would be worse than the first.

HEART DISEASE IN CHILDHOOD. By H. B. RUSSELL, M.D., M.R.C.P. (Lond.), Medical Officer, Electrocardiographic Department, St. Thomas's Hospital, etc., and C. K. J. HAMILTON, B.M. (Oxon.), M.R.C.P. (Lond.), Physician, Children's Department, Charing Cross Hospital. Modern Medical Monographs. London: Constable & Co., Ltd., 1929. pp. 104. Price 7s. 6d. net.

In this volume an attempt is made to set down in convenient compass the characters of heart disease as it occurs in childhood, as a congenital defect, as a part of primary rheumatism, and as a sequela of other infections, *e.g.*, diphtheria; to indicate the simplest means of differentiation and diagnosis, and to describe in general terms the rationale of treatment, both medical and environmental. The book is singularly concise and to the point, appears to be free from conceits, and gives just that measure of guidance as regards diagnosis, etc., that will be appreciated.

MODERN METHODS OF FEEDING IN INFANCY AND CHILDHOOD. By DONALD PATERSON, B.A., M.D. (Edin.), M.R.C.P. (Lond.), Physician for Diseases of Children, Westminster Hospital, etc., and J. FOREST SMITH, M.R.C.P. (Lond.), Physician to Out-Patients, St. Thomas's Hospital. Modern Medical Monographs. London: Constable & Co., Ltd., 1929. Second edition. pp. 149. Price 7s. 6d. net.

There are some who will disagree fundamentally with things in this book, *e.g.*, the dictum that in healthy breast-fed babies it is necessary to start mixed feeds, at whatever age, on attaining the weight of 15 lbs. Others will criticise not the matter but the point of view which has placed breast feeding, by virtue of serial position in the text, a poor second to artificial feeds as commercially available in this country and even to artificial feeding in the tropics. There is contained here, nevertheless, a serious attempt to give information on those points which are not always crystal-clear when commercially presented, and to classify the favourite infant foods according to their physiological character and value. The book is intended for medical students, not for mothers, and exception need not be taken to it as a moral guide.

Later chapters are devoted to diet after the age of weaning and during the school years,

and suitable food tables for certain cases of metabolic disease are supplied. The directions given throughout are supported by clear explanations of what is required and intended.

RADIUM AND ITS SURGICAL APPLICATIONS. By H. S. SOUTTAR, C.B.E., D.M., M.Ch. (Oxon.), F.R.C.S. (Eng.). London: William Heinemann (Medical Books), Ltd., 1929. pp. 60. Price 7s. 6d. net.

The advance of surgery has been very swift and dramatic within the past half-century, and new fields of work are constantly being opened up by the well-directed progress of research. The use of radium in the treatment of malignant disease is such a new field of surgery; it is an area largely unexplored and uncharted, but it has vast possibilities. In this book on the surgical application of radium the author has aimed, successfully, at forming a link between the theoretical deductions of the physicist and the practical requirements of the surgeon.

After discussing the physics of radium and describing the apparatus used with the means of application, Mr. Souttar discusses the marked differences in the way in which the tissues react to irradiation; this is important as upon it, indeed, depends the possibility of destroying malignant disease. From this the author shows the practical application of radium in neoplasms of various organs of the body, illustrating his description with details of cases and with some very good plates and diagrams.

It is a balanced, well-written book, free from extravagant claims; and it should prove of extreme value to the numerous surgeons carrying on Schick clinics, which should prove helpful.

THE SCHICK TEST. A Practical Guide to the Schick Test and Diphtheria and Scarlet Fever Immunisation. By GUY BOUSFIELD, M.B., B.S. (Lond.), Medical Officer, Diphtheria Immunisation Clinics of the Metropolitan Boroughs of Camberwell and Lambeth. London: J. & A. Churchill, 1929. pp. 72. Price 5s. net.

This is an extremely practical little handbook which will serve as a preliminary guide to those undertaking Schick work. The essentials of the technique and the interpretation of the various types of response to the test and to immunisation are clearly stated, and the problems met with in regard to the detection

and treatment of carriers and of cases of doubtful diphtheria are satisfactorily discussed. The book gives a list of the various reliable preparations at present on the market for use in Schick clinics which should prove helpful.

In the Annual Reports.

THE VENTILATION OF SHOPS.—An aspect of the social conditions which has not had much attention is the question of light and ventilation in shops. There are many shops with a comparatively narrow frontage and considerable depth. These conditions must create difficulties in ventilation and natural lighting, and are thereby potential producers of anæmia, etc., and many shop assistants, the future parents of the city, have to spend all their working day there in an atmosphere very liable to infections of all sorts. The subject is too new to advance any concrete proposals with regard to it, but it is well that it should be considered.—*Dr. V. F. Soothill, Norwich.*

INFANTILE MORTALITY—THE INFLUENCE OF FEEDING.—The total number of babies who have been under the observation of the health visitors from January, 1908, to December, 1927, was 51,045. Of these 73.9 per cent. were wholly breast-fed during the first three months of life, 5.5 per cent. were wholly hand-fed, and 20.6 per cent. were partly reared by hand and partly by natural means. The infantile mortality, or death-rate per 1,000 births, among children wholly breast-fed was 35.5, among the hand-fed it was 154.1, and among those mixed-fed 105.7. The evidence, then, in favour of the breast-feeding of infants, especially during the early months of life, is very great indeed.—*Dr. A. E. Brindley, Derby.*

WHY CLEARANCE SCHEMES FAIL.—In a clearance scheme in theory the new buildings should house the population displaced when the insanitary property is demolished. Actually this is so for a short time, but the rents are too high, so that many of the families get into arrears with their rent, and are then evicted. Their places are not taken by families of the same class, since these are in no better position regarding ability to afford a high rent, but are replaced by a financially better class, coming, perhaps, from another neighbourhood, and in any case not leaving suitable accommodation for those evicted from the new buildings. These are forced to get in somewhere and so increase overcrowding in an already congested neighbourhood. In this way clearance schemes do actually cause an increase in the over-crowding, and this simply because the rents charged are too high.—*Dr. A. G. G. Thompson, Lambeth.*

IRISH COW BEEF.—Large quantities of very inferior Irish cow beef have been received in Finsbury during 1928. It was badly packed, and arrived covered with nondescript pieces of sacking or chaff bags. This beef was from aged cows, some so emaciated that the whole carcass weighed only 160 lbs.; apparently these carcasses had not been inspected prior to export. Many were tuberculous; some had been stripped of the lining membrane of the chest in an effort to conceal the existence of disease, others were wet and

dropsical. Most of it was quite unfit for human consumption. As the meat came here from the Irish Free State, there were very great difficulties in launching a prosecution with any prospect of successfully attaching the defendant, who was outside the jurisdiction of the local courts of law. During 1928, the amount of Irish old cow beef destroyed in Finsbury as unfit for human food was 15,205 lbs.—*Dr. A. E. Thomas, Finsbury.*

THE PUBLIC HEALTH (SMOKE ABATEMENT) ACT, 1926.—There is no doubt that since the Public Health (Smoke Abatement) Act, 1926, came into operation great efforts have been made by manufacturers and others to control properly the emission of smoke from chimneys, inasmuch as it is known that in 135 instances improvements have been made to plant, whilst in other instances it is known that improvements are contemplated. This, of course, is due in a great measure to the active steps which have been taken by the inspectors in order to get into touch immediately with the persons concerned when smoke nuisances have been found to exist. . . . Experience during the year has revealed one weakness, namely, the provision of Section 9 of the Act which exempts any ship habitually used as a sea-going ship. Certain of the Hull Docks are situated in the centre of the city, surrounded by business premises and dwelling-houses, and on several occasions during the year serious nuisances have been caused by the emission of smoke from vessels passing through the Docks. Owing to the above-mentioned exemption the authority has only been able to take informal action in connection with the nuisances caused in this way.—*Dr. W. Allen Daley, Hull.*

THE CANCER CLINIC.—The establishment of a cancer clinic has never appealed to me, although there is one in an adjacent borough. We already have two hospitals fully equipped with all manner of diagnostic appliances in the vicinity. If the family doctor has a patient of over forty who has pain in the stomach or other symptoms, not quickly removed by ordinary treatment, he knows where to send his case for an X-ray examination. Similarly, it is open to any person to walk into our hospitals and arrange for an examination. It sounds well to have a cancer clinic, but is it really necessary?—*Dr. Charles S. Thomson, Deptford.*

THE STAFFING OF CENTRES.—I know full well that the British Medical Association, centrally and locally, would like to staff the ante-natal centre and other centres with general medical practitioners. I have much sympathy with my colleagues in general medical practice; their sphere of activity tends to grow narrower. Had I been a general practitioner, I would have raised this question, from the practitioner's point of view, twenty years ago. So far as Deptford is concerned, the borough council has courteously informed the local branch of the British Medical Association that they are satisfied with the present whole-time medical officer arrangements. The local branch of the British Medical Association have published their reply, and in it some reference is made to the possibility of public health committees and

their medical officers perhaps unconsciously desiring to increase their own power and importance in mistake for disinterested zeal for the public health. It is a great pity that the whole-time officer trend was not diagnosed by the Association's members and officials years and years ago. It just comes to this, that experts at the Ministry of Health and reasonably competent medical officers of health, like myself, have enquired into such grave matters as infant and maternal mortality. Enquiry has disclosed serious mortality rates; disclosure has led to action, and so to improvement. National and municipal interference has been necessary to organise and direct; the authorities have educated and trained officers, burning with a desire to encompass mass improvements in public health. Kindly, self-sacrificing and competent though he is, the average general practitioner has not developed a communal interest in these problems; he has not been trained to it to any appreciable extent as a student. It is a pity that the British Medical Association did not find a fighter in their ranks twenty years ago, one perhaps with "a natural and perhaps unconscious desire to increase" the general practitioner's power and importance.—*Dr. Charles S. Thomson, Deptford.*

In a recent issue of the New York State health bulletin, *Health News*, reference is made to a number of amendments in the health laws of the State. As a result, provision is now made for compulsory vaccination in cities of 50,000 population or more. Under the old act the law required vaccination in first and second class cities but this classification was abolished by an amendment to the State constitution enacted in 1923. There are interesting amendments also in relation to undertaking and embalming. Any person applying for a permit to take an examination for undertaking and embalming must be a citizen of the United States and shall have higher educational qualifications than were required in the old law. For the year 1930 a one-year high school education is required; for 1931 a two-year high school education; for 1932 a three-year high school education, and for 1933 and thereafter a full high school education. Licensed undertakers and embalmers are required to register annually with the State Department of Health, for which a fee of \$2.00 is required and, in addition, every place of business conducted by an undertaker must be registered, for which a fee of \$1.00 is required. The Workmen's Compensation Law has also been amended, injuries from radium, radium emanations or X-ray being classified as occupational diseases to be compensated for.

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Editorial.

The Local Government Act.

IT was opportune that the subject chosen for discussion at the first meeting of the session should have been the Local Government Act of 1929. That the meeting was the largest almost within living memory was proof that the choice was appropriate, and showed too that there was a great desire on the part of many members for further information upon the Act. This was shown further by the fact that the discussion that followed the papers submitted by the openers (as admirably chosen as the subject of the symposium—Drs. Butterworth, Picken, Fenton and McMaster) proceeded largely by way of question and answer. That there appears to be no weakening of

the longing of health officers to seek every opportunity of getting together over the Local Government Act is interesting and need not be taken as evidence entirely of difficulty in arriving at a complete understanding of its provisions on any part. Rather it comes from an anxiety to ensure that there shall be a uniformity in its working; a desire to get at the real implications of the measure and to discover the way whereby the service may best help in obtaining the wonderful effects that the re-organisation provided for in the Act aims to produce. In his speech at the dinner, Sir Arthur Robinson chose to speak of the Act. It was a natural choice for many reasons, amongst them the audience that surrounded

him and the fact that he himself is largely responsible for the Act, a circumstance which, according to Sir Robert Bolam (he made a delightfully witty speech at the dinner) led to his dubbing as G.C.B.—“Grand Cooker of Bills.” Responsible for the Act, Sir Arthur knows it as few others can know it; is more concerned than most that it should be a success, and that all it aims at securing shall be secured. That the part to be played by health officers was a great one he showed to be his belief, and this mainly by stressing the need of their assistance and their co-operation by those at the Ministry. That Sir Arthur and his colleagues might rely upon all, at least within the Society, for co-operation the President promised. This was a promise rightly made and that with safety could be made. But it is not alone with the officers of the Ministry that there must be co-operation. It is not alone upon co-operation between the local health officers and them that success for the Act will depend. There are many other bodies, interests and officials which will work only properly if the members of the health service co-operate. Under the Act it is plain that many new duties will fall upon the medical officer of health and the health department. These there is no question will be accepted and will be performed so that the people and the health of the people shall benefit. Many other duties possessing preventive aspects and in many respects appropriate for performance by the health officer for one reason or other will pass into other hands. Unless in connection with their performance there is the co-operation of those versed and practised in preventive medicine, the fullest good cannot come to the people, the re-organisation under the Act cannot be completely successful.

The Ministry, needing co-operation, has asked for it, and it has been promised unhesitatingly. These others who need it will look for it also as and when it is required. In many instances it will mean sacrifices in one way and another to grant it. It will be given nevertheless. The health officer rarely, if ever, gets his due, and this will be merely another case in which, though he feels there has been failure to recognise the wisdom of his views and in a sense injustice, he will accept the situation and will not fail of co-operation or in effort on behalf of his primary concern—the health of the people, with the care of which he is charged.

A National Maternity Service.

THE recently published Reports of the Departmental Committee on the Training and Employment of Midwives,* and of the British Medical Association,† though they were both referred by the Council to particular sections of the Society, and to some extent may be regarded as *sub judice*, nevertheless call for a welcome here, not merely on account of their apropos, but because they are in their nature constructive.

The point of these Reports is that both Committees arrived at the position that in these days no part of our obstetric personnel can be visualised as functioning independently or irrespectively of the other parts; that what is required is a National Maternity Service, and both provide an outline of what such a service should be. The future training and status of the midwife, which formed the basis for deliberation of one of these Committees, depend entirely on what duties she is called upon to perform as part of her independent service; what assistance and direction she may look for, and of what support she will be assured in respect of the co-operation she extends to other officers—support, that is to say, on the material and moral planes. If these could be defined, there might be honour, security and reward in obeying the discipline of this exacting profession.

“Assured” is the word that runs through discussions of the problem from whatever angle regarded. The mother must be assured of adequate and skilled attention, the midwife must be assured of conditions of service which spell neither mental, physical nor financial victimisation, as so often in the past; the doctor, whether in general or specialist practice, must be assured of proper nursing assistance for his labours; and the institution carrying out the primary work of training young nurses and practitioners, and supplying special services to all the others in difficulty or emergency, must be assured of a proper field for its enterprise and a proper return for the expensive benefits it confers on individuals and the community in need. To “assure” the whole, co-ordination and close-knit organisation are necessary, and can only

* H.M. Stationery Office, 1929; pp. 96. Price 1s. net.

† Memorandum outlining a National Maternity Service Scheme for England and Wales. (Adopted by the Annual Representative Meeting, 1929.)

be arranged, as has been recognised, through an extension of the present Health Insurance provisions.

The proposals outlined by the Departmental Committee and by the British Medical Association differ in certain unimportant details. The Departmental Committee advises, for example, two ante-natal medical examinations, while the British Medical Association would content itself with one, the difference largely no doubt being referable to financial considerations. The British Medical Association again envisages the necessity for post-natal medical examination as a part of the maternity care. Both schemes expect that the midwife acting as maternity nurse alongside a doctor shall fulfil her duties in all respects, save for the actual delivery of the patient, as if she were in sole charge. The Departmental Committee, it is interesting to note, specifically condemns the training of women for limited duty as “maternity nurses” only, a practice that doubtless has contributed to economy in finance where certain hospitals are concerned. Such training, while unaccompanied by an appreciation of the practical results of sepsis intervening in a clean case, such as every general trained nurse must learn in her ward experience, cannot be held to be “limited” as regards its risks.

What precisely is to be the share of the general practitioner in midwifery in the future is difficult to foretell. Both Reports seem to anticipate that it will be possible, if not necessary, to permit a voluntary enrolment of practitioners who wish to join the panel of those able and willing to carry out full obstetric care. How the practitioner is to derive and maintain his judgment and experience, if limited after qualification to abnormal and operative cases, is a little difficult to understand, though both Reports visualise that under any future Insurance Scheme the midwife will undertake the bulk of ordinary confinements. Under a scheme which provides full benefits on the lines of medical and consultant services for certain examinations and for abnormal conditions, the general practitioner is hardly likely to find a large number of cases prepared to pay him independent and supplementary fees to have him supplant the midwife in her ordinary duties. So that there may occur a complete metamorphosis of the service in another twenty years with a different race of obstetric practitioners

pervading the country, and not confining itself to the big cities, which with the help of the midwives will restore the art of midwifery to its superior place among the medical sciences.

Under such conditions it is hardly likely that the independent ante-natal clinic as now constituted will survive, but at least it will have served to point a lesson and fill a gap.

Irradiation and Health.

SOME are born great, and some achieve greatness, and perhaps this may be said about the report,* recently issued, of Dr. Dora Colebrook. For even before its publication, the reference to the work in the Annual Report of the Medical Research Council had caused considerable stir, which thrust the whole matter into the flooded lime-light of the press and the greatness of such fame. From the sceptic to the enthusiast, from the man who had no use for any modern method to the individual who advocated ultra-violet therapy for all conditions between prematurity and senile decay and between alopecia and hammer-toe, from the scientist to the ignorant, confusion became worse confounded in almost worthless controversy.

In spite of the abundance of literature dealing with ultra-violet therapy, it seemed difficult to obtain definite evidence, with statistical data, of experimental results or conclusions from therapeutic procedures. Dr. Colebrook carried out two experimental studies in which particular methods of applying light treatment were used, each investigation being carefully and exactly controlled. In the first study a group of some 287 school children of ages from five to seven were kept under medical observation from August, 1927, to March, 1929; of these, 101 children were irradiated from a carbon-arc lamp with a high output of ultra-violet rays, 94 children were exposed under exactly the same conditions to a similar lamp, from which radiation of wave-lengths shorter than 3,200 A.U. was cut off by window glass, and 92 children received no irradiation. The routine of the treatment and the dosage are carefully detailed in the report; and records were kept of the children's height and weight, of the incidence and duration of colds and

* IRRADIATION AND HEALTH. Two Experimental Studies. By Dora Colebrook, M.D. Medical Research Council Special Report Series, No. 131. H.M. Stationery Office, 1929. Price 1s. 6d. net.

allied conditions, of the attack rate of infectious diseases, of the occurrence of chilblains and of progress in school work. The results were purely negative and it is probably to be inferred that "there is no ground for expecting that the bad effects of urban and industrial pollution can be offset to any serious degree by such periodical artificial irradiation as can be given to healthy people following their normal occupations."

The second section of the report deals with an investigation into the treatment of varicose ulcers in some 70 cases, of which 31 were irradiated, 25 were treated with Unna's paste dressing, while 14 were dressed with the paste bandages after an unsuccessful trial of irradiation. The results of irradiation were negative; and the rate of healing, a favourable change in general character of the ulcer, and relief of symptoms were all more marked in the cases treated with Unna's paste.

These two investigations with their negative results do not imply that artificial ultra-violet light has no therapeutic value. And it is no more legitimate to generalise the application of these negative findings of experiments made under particular conditions than it is to claim

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The Treatment of Syphilis.

MAN'S mind is often a mixture of heredity, habit, custom and bias; and it is no small wonder that personal impressions of experience are at times erroneous, or at least somewhat inaccurate. There is still great diversity of opinion on the treatment of syphilis, partly because the choice of method is based rather upon subjective "impressions" than upon a critical survey of objective results. It is difficult to obtain detailed analyses of results because there is a great labour in compiling them and there are not many clinics dealing with data large enough to provide the material for trustworthy deduction.

meet the requests from many different quarters for general guidance on this subject, the Health Section of the League of Nations has appointed an expert committee which will make collections of new data before considering any recommendations.

Recently, however, the Medical Research Council have published a very important report* by Colonel L. W. Harrison, who had begun to prepare this record of detailed experience before the formation of the League of Nations Committee and with a similar object in view. In 1926 Colonel Harrison began his analysis of the results of treatment of male cases of syphilis attending the centre at St. Thomas's Hospital, London; but for various reasons, such as the irregularities of attendance of many patients, the work of classification has proved very considerable with consequent delay in the publication of the records.

The first part of the report, dealing with the results of treatment, illustrates the great advantages of starting treatment as early as possible; and it shows that the course of treatment at the venereal diseases centre is by no means excessive. Attention is drawn to the varieties of response shown by different patients in the same stage of disease to identical types of treatment, and also to the necessity for investigating the individual lack of response to treatment sometimes found. The exclusive use of arsenobenzene compounds in the early weeks of treatment may give a higher percentage of neuro-syphilis than when such a metal as bismuth or mercury is used with arsenobenzene from the start.

The second section of the report deals with the study of the sites of the primary lesions, and with the occupations, ages and histories of patients at the time of admission. It is seen that extra-genital infection is in this country much less frequent than might have been supposed from analyses in other countries; the list of different occupations does not show anything striking in the incidence of syphilis, nor is any occupation more dangerous than others in respect of accidental infection.

The whole report is an admirable contribution which will be welcomed by all those in charge of venereal disease clinics or departments.

* THE TREATMENT OF SYPHILIS. A Survey of Records from St. Thomas's Hospital. By L. W. HARRISON. Medical Research Council Special Report Series, No. 132. H.M. Stationery Office, 1929. pp. 83. Price 2s. net.

Bacteriology in its Relation to Medicine.

NO comprehensive treatise on bacteriology at present exists in English, and to the Medical Research Council sincere congratulation is due that they are now attempting to make good the deficiency. The new work, under the title of "A System of Bacteriology in Relation to Medicine," is to be completed in nine volumes, and the first to appear is, curiously enough, labelled Vol. III.* More than a hundred different authors are contributing, each with a personal knowledge of the subject with which he deals. It goes without saying that such a work will be of the utmost value, not only to bacteriologists but to the whole medical profession, and not least to those in the public health services. The object of the articles is to give a full critical account of the state of knowledge at the present day, with indications of lines of possible advance, rather than detailed information of the steps by which present knowledge was evolved. To judge by the present volume this object has been well attained and the Council have been fortunate in their choice of contributors. It is impossible in a short review to touch on the many interesting questions with which this volume deals or, indeed, to do more than give a list of its contents. Although the system is one of bacteriology in relation to medicine, this relationship is interpreted in no narrow sense. Thus certain aspects of economic bacteriology which may be supposed to be of special interest to medical men are described by Mr. A. C. Thaysen; these include baking, the retting of flax, and bacterial problems of the textile and wood industries. The dairy industry is dealt with by Dr. R. L. Vollum, and the bacteriology of other food-stuffs by Dr. W. G. Savage, who also contributes chapters on bacterial food poisoning and botulism. The limited knowledge which we possess of soil bacteria is set forth by Mr. H. G. Thornton, while water and sewage are dealt with by Dr. H. Henry. There are chapters on bacterial diseases of insects and plants by Dr. St. John-Brooks and Prof. S. G. Paine respectively. Turning to the chapters which deal with more strictly pathological subjects, we find a full account of present-day knowledge of *B. pestis* and the epidemiology and pathology of plague by Dr. G. F. Petrie. Clari-

has been introduced into the confused & difficult subject of the anaerobic bacilli.

* H.M. Stationery Office, 1929; pp. 413. Price £1 1s. net.

ated with gas gangrene in the chapter by Miss Muriel Robertson, to which Dr. O'Brien contributes a section on the preparation and uses of antitoxins. The chapter on *B. tetani* is written by Dr. Paul Fildes, who has made this subject specially his own. Historical sections by Prof. W. Bulloch are included in several of the chapters, and lists of references to all important work on the subjects treated are appended. The system will be indispensable to workers in bacteriology and public health, and welcome and praise are offered here.

The Physiology of Vision.

THERE have been many indications of the need in this country for more active and extensive original work into the physiology of vision; and fortunately the Medical Research Council appointed, some years ago, a Committee to direct and supervise this branch of work. Since 1926 some six reports* have been issued and there is abundant evidence that a valuable series of results is being collected.

The first of the series was a review of current literature by R. J. Lythgoe, M.A., B.Ch., who presented an analysis of the recent work upon the relation of illumination to visual capacities; the second report is a similar review of literature by Dorothy Adams on the subject of dark adaptation of the eye. The third comprises studies in the psychology of reading by M. D. Vernon and R. W. Pickford, while Report No. 133 contains the results of a series of studies on binocular vision by Instructor Lieutenant-Commander N. M. S. Langlands, R.N., who has done considerable work on this subject at the Royal Naval College, Greenwich. A detailed report by R. J. Lythgoe, M.A., B.Ch., and K. Tansley, B.Sc., shows some decisive results on the critical frequency of flicker and the relation of the adaptation of the eye to this factor. The most recently published report of the series is an account by Myer Salaman of some experiments on peripheral vision.

The whole series gives abundant evidence that the physiology of vision is being investigated in a very thorough and comprehensive way.

* REPORTS OF THE COMMITTEE UPON THE PHYSIOLOGY OF VISION. Medical Research Council Special Report Series, No. 104 (1926), price 2s. 6d. net; No. 127 (1929), price 5s. net; No. 130 (1929), price 2s. net; No. 133 (1929), price 2s. 6d. net; No. 134 (1929), price 2s. 4d. net; No. 136 (1929), price 2s. 6d. net.

The Local Government Act, 1929.

By J. J. BUTTERWORTH, M.D., D.P.H., Medical Officer of Health, Lancashire
R. M. F. PICKEN, M.B., B.S.C., D.P.H., Medical Officer of Health, Cardiff; JAMES
FENTON, M.D., D.P.H., Medical Officer of Health, Kensington; and A. B.
MCMASTER, M.D., D.P.H., Medical Officer of Health, Dover.

These four papers submitted at the ordinary meeting held on November 15th, 1929, attracted one of the largest gatherings of health officers ever held in the house of the Society. By those present they were found to be helpful and stimulating. With the discussion they elicited they are certain to be found useful and interesting to read by those officers who were unable to be present at the meeting.

DR. BUTTERWORTH.

DURING the past months many of us have been assisting in the preparation of administrative schemes of the arrangements proposed to be made for discharging the functions to be transferred from the guardians.

The majority of the county councils, at any rate, will probably have discovered that the possibilities of making formal declarations under section 5 are very limited. Section 5, you will remember, requires a council, in preparing an administrative scheme, to have regard to the desirability of securing that, as soon as circumstances permit, all assistance which can lawfully be provided otherwise than by way of poor relief shall be so provided. It may be of interest if I give you a few of the decisions which my own council have already taken in connection with the transfer of poor law work.

In the first place, they decided that in any well-planned scheme, poor law services must be co-ordinated with the general health services of the county. They hope that such co-ordination of services will lead to a gradual classification of institutions for general and specialised purposes, and to co-operation with voluntary institutions. Secondly, they decided that the clerk of the county council shall be the chief official of the public assistance committee, acting in a supervisory and co-ordinating capacity and as legal adviser. The second official shall be the county medical officer of health, who will be responsible for the administration of all medical services, hospitals, infirmaries, and workhouses, or other institutions containing inmates requiring medical attention. The third official shall be the public assistance officer, to whom will devolve all duties not assigned to the clerk of the county council or the county medical officer of health.

In April, 1930, all the present poor law hospitals will pass under the control of either the county councils or the county borough councils. Many of these hospitals in the larger centres of population already possess first-class staff and equipment, and I think there can be little doubt that those hospitals which at present do not reach this standard and are capable of being improved, will be brought up to standard in the course of a few years.

The scientific developments taking place in medical and surgical science are rapidly increasing, and will continue to increase the demand for hospital beds, not only for the treatment but also for the scientific investigation of disease.

Many of the poor law hospitals are situated in rural districts or in the vicinity of the smaller urban areas which are unprovided with voluntary hospitals, and, when fully equipped and staffed, in my opinion will be extensively used by both the poorer and middle classes whether they are appropriated as public hospitals under Section 53 or remain poor law hospitals.

The increasing intervention of the State in the hospital services will raise many questions of first-class importance during coming years. I would like to mention two, *viz.* :—

1.—What effect will the increased use of hospitals by the general public have on private and consulting practice?

2.—Will the increased use of public money for borough and county hospitals affect the attitude of those persons who have in the past so generously subscribed to the voluntary hospital organisation?

With regard to the first question, I cannot help feeling that during the coming years of development of public hospitals some means ought to be devised to keep the private practitioners in touch with these hospitals, and especially in the rural and smaller urban

districts of county areas. The association of the private practitioner with hospital work would be a tremendous benefit to the patient and the community, not only from the point of view of scientific medicine, but also in maintaining his interest in his work, and, if I may say so, his self-respect.

This question would involve a discussion as to the future relationship of the work carried out by the Insurance Act medical service to the public hospitals and the public health service in general.

The taking over by the county and county borough councils of the domiciliary treatment of the sick poor will at once associate with the public health services of those bodies a considerable number of general practitioners.

Vaccination will become a function of the public health services, and will again associate those private practitioners who are public vaccinators with the public health service, and I think it is a point for future consideration as to whether or not a much larger number of practitioners should be appointed as public vaccinators.

The second question raises the problem of the relationship of the borough and county hospitals to the voluntary hospital system. Section 13 of the Act makes provision for consultations between the local authority and representatives of the governing bodies and the medical and surgical staffs of voluntary hospitals. The section provides that they are to consult as to the accommodation to be provided, and as to the purposes for which it is to be used.

The problem of making the necessary institutional provision for the health of the people in a large industrial county such as Lancashire is a difficult and complicated one if the hospitals, both voluntary and municipal, are to be used to the best advantage, and will entail a large measure of goodwill and co-operation between the county boroughs, the county council and the governing bodies of voluntary hospitals. A full discussion of this problem not only entails a consideration of the accommodation to be provided, and the purposes for which a particular hospital is to be used, but also such matters as the best means of providing a pathological service for the whole hospital system, the possibilities of making use of the clinical opportunities in public hospitals for the training of medical students, the promotion of research work, the provision to be made for the obtaining and training of nurses, and numerous other

considerations. As to the effect of the spending of public money on the development of borough and county hospitals on the financial position of voluntary hospitals it is difficult to form an opinion, but I cannot help feeling that it will not lessen their difficulties. I have no doubt that the governing bodies have given and will give consideration to the problem.

As to the immediate future, it is our first duty to take over the poor law service practically as it stands on the appointed day, and to ensure that the sick poor do not suffer in the process of transfer. Officials and many members of the newly appointed public assistance committee will have much to learn, and a policy of slow and sure progress will eventually show the best results.

It is very difficult to persuade many people that the transfer of the guardians' duties does not imply an immediate breaking up of the poor law; all that it means at present is that the basis of the guardians' activities is considerably widened, and their liabilities, at any rate, in large county areas, are spread over a larger area.

I would like to say a few words with regard to the provisions as to medical officers of health.

Under the Public Health Act, 1875, the Minister, on any representation made to him, has power to combine two or more county districts for the purpose of appointing a single medical officer of health.

Another way of achieving this object is the appointment of an officer who is at the same time an assistant county medical officer.

The Royal Commission on Local Government were impressed with the need for quicker progress, and section 58 of the Local Government Act, 1929, therefore, provides that the council of every county shall, after consultation with the councils of districts wholly or partly within the county, formulate arrangements for securing, either by means of a combination of districts or otherwise, that every medical officer of health subsequently appointed for a district shall be restricted by the terms of his employment from engaging in private practice as a medical practitioner.

The section, therefore, makes it compulsory to formulate a scheme. In large counties containing numerous district councils with a strong sense of independence and civic spirit, the formulation of such a scheme is a difficult administrative problem. In addition many county councils hesitate to allow assistant county medical officers to act as district medical officers of health.

The creation of a large number of posts for full-time medical officers will raise several important considerations. One of the most important will be the question of promotion in the public health service. Under the present system, it has been obvious for some time that assistant medical officers have very little chance of obtaining a senior post unless they are attached to boroughs or counties bearing well-known names.

The medical officer of health of a small borough, of a less well-known urban district, or a combined district, has the greatest difficulty in obtaining promotion. I know of many instances of well-qualified and experienced members of the public health service taking such appointments at a very moderate salary hoping to gain promotion in due course. The majority have never appeared in a list of selected candidates.

If the public health service is to remain an efficient force, I think the question of the conditions of service and promotion will have to be considered.

With regard to the provision of hospital accommodation for infectious diseases, at present both county councils and county district councils may provide hospitals for this purpose. I believe in some parts of this country there is still a serious lack of accommodation for infectious disease.

The sections in the Local Government Act relating to this question should be read in conjunction with Part I of the Act, as it is possible that one or more of the transferred poor law institutions might eventually be used for this purpose.

Section 63 of the Act lays upon every county council the obligation of making a survey of the hospital provision for infectious diseases throughout the county. When the survey is complete, the council, in consultation if necessary with the council of any county borough, must prepare a scheme for providing adequate hospital accommodation for infectious diseases.

The scheme may provide for the joint use of institutions owned by individual authorities, and for the provision of additional accommodation by the county council.

The responsibility of local authorities in regard to infectious diseases hospitals has thus been more clearly defined.

One great defect in some counties is the fact that there are numerous small hospitals for the purpose of isolating infectious diseases. This position arose in the days of slow transport.

Such hospitals are difficult to administer from several points of view, and are expensive to run. I think the aim in the future should be to develop hospitals of sufficient size so that you can employ a specialised staff, carry out a proper system of grading of cases, and have an economical unit for purposes of administration.

In conclusion, I would just say this: the Local Government Act places on county boroughs and county councils the duty of carrying out the curative treatment of an important section of the community, namely, the sick poor. The main achievements of the members of this Society have arisen from the preventive side, and of these they can justly be very proud. I hope there is no danger that the curative work now imposed upon us will take the time and energy which ought to be given to preventive work.

The most important part of our work should still be the promotion of the science of healthy living, which includes adequate housing accommodation, proper nutrition, the dissemination of a knowledge of hygiene and health education, and the best means of preventing disease.

DR. PICKEN.

It seems to me that we are now sufficiently familiar with the general question and so much in agreement as to the ideals we should strive to attain, that it is desirable at this stage to get down to practical issues. I propose, therefore, to put forward for discussion some considerations in connection with which those of us whose work lies in county boroughs may be expected to offer opinions at no distant date.

First of all, let us consider the administration of outdoor medical assistance, for here we have a clear-cut issue. There exists already a system under which a large number of medical officers are employed, most of them part-time, some whole-time, nearly all of them underpaid. The British Medical Association has expressed the view that persons in receipt of financial assistance should receive medical care in the same way as insured persons, and should have the same free choice of doctor. As practical administrators we must decide whether we subscribe to this view, and, if so, how soon and in what way we are going to advise that it should be given effect. I think most of us will agree that differentiation as to treatment should be on medical and not on social grounds, and that a person who is at one time in receipt of relief and at another time employed should not be bandied about from one practitioner to another whom he may not

desire to consult. Even if a person is more or less permanently under the outdoor care of the guardians it is undesirable, in principle, that he should be medically advised by another practitioner than the one who attends insured persons in his or her family. Further, the machinery of the poor law involves certification for purposes of assistance by a poor law medical officer quite often in cases who have been certified already by a panel practitioner for insurance benefit, but, if there is a difference of opinion, no means are provided, so far as I know, for settling the point in dispute. It is a position which is unpleasant and exceedingly difficult for the poor law medical officer, but can hardly be avoided under the present type of arrangements. Again, the district medical officers are called upon to examine patients as to their suitability for admission to institutions. So far as the stable population of persons in receipt of assistance is concerned, this is a simple and obvious line of procedure and appears to work without friction, for the district medical officers are familiar with the medical needs of their patients and presumably initiate the steps for having them admitted in most instances. But, with the increased public acceptance in recent years of the poor law hospitals, a larger number of persons who are not poor persons strictly in the sense of the Acts are making use of them. Those who are not actually sent direct to the admission department of the hospital as emergency cases are admitted through the relieving officer who requires a confirmatory certificate from a district medical officer. Thus we have a practitioner, who in most instances is a general practitioner, acting as a part-time officer, called upon to endorse or countermand the certificate of a brother practitioner regarding a case about whom he may and probably does have much less reliable and complete information. That is a position in which he ought not to be placed, and, in practice, the system does not work so effectively as it might. Even if the district medical officer has a shrewd suspicion that the patient does not require institutional treatment he rarely cancels a recommendation because of the grave consequences of an error on his part; its continuance is justified only by the occasional moribund case whose admission he is able to countermand and so avoid deaths in ambulances or in admission rooms. Theoretically, therefore, there are strong arguments in favour of the policy of the British Medical Association. The care of the sick, their certifica-

tion for assistance, and their selection for hospital treatment are all functions of the general practitioner in the ordinary course of his work. If he can carry them out for insured persons he can do so for the poor. From the practical standpoint there is no reason why poor persons of the insured class should not receive medical care and medicines by an arrangement similar to that provided under the Insurance Act, and such a reform would be an effective step toward the removal of the stigma of pauperism now attached to the outdoor medical service of the poor law. It would certainly be more costly, but it is not our business to refrain from advocating a reform merely on grounds of economy if it is otherwise desirable.

It is when we come to consider the dependents of persons of the insured category that we are face to face with the first difficulty. So long as medical benefit is withheld from dependents any scheme which would try to bring the care of poor persons into the hands of panel practitioners would have to set up new and cumbersome machinery for transferring the care of dependents to and from them with every addition to, and deletion from, the registers of the poor law of any family. Such a scheme would have to be local. It would mean, in fact, a duplicate and local panel system which would be difficult to operate on the capitation basis and, I think, unworkable in practice. The conclusion one is forced to is that any such proposal must be deferred until medical benefit is extended to dependents, and that any such change should be brought about under a national and not a local scheme; that, in fact, it is not a practicable proposition as a part of the local reforms which the Local Government Act makes possible.

It is hardly necessary to emphasise the point that district medical officers are salaried officers and enjoy security of tenure and superannuation rights. No change such as the British Medical Association advocates can be brought about by gradual penetration of the existing system. It would have to be brought by *ad hoc* legislation which would fully safeguard our colleagues, and especially our whole-time colleagues, in the poor law service.

Before passing from the work of district medical officers I wish to return briefly to the question of selecting cases for hospital on which I have already touched. I fancy we shall be asked very soon after the poor law institutions come over, to help the medical officers of these institutions to protect them from the growing

tendency to abuse them by sending in patients who, from a purely medical point of view, do not require institutional treatment. It is part of a problem which affects all our institutions, including the voluntary, isolation and tuberculosis hospitals. In the case of the last-mentioned type of institution the schemes of local authorities provide a pretty effective medical control of admission. We have seen that the poor law has machinery for the purpose which is less efficient. We shall find, I think, that much more effective use can be made of it, provided the medical officers, both indoor and outdoor, can rely confidently upon support from those of us who may be willing to take responsibility for their actions and protect them in committee. In most areas, the medical officers have not had anyone to support them on medical questions and it will probably be better to see what we can do within the existing organisation than try to develop a new one to cope with the problem. After all, the fault as usual rests with a very small number of practitioners in each area who are taking advantage of the reluctance of their colleagues to reveal to their patients or to the public that there is any difference of opinion. We may be confident that any stand which may be taken against it will receive the hearty support of the vast majority of the profession, since it is in the interest of their patients that the limited number of beds available for cases should be kept for those whose medical and surgical needs are greatest. At the same time, we shall have to give careful thought to the arrangements for selecting patients for admission to hospitals, especially in areas where the management of these institutions is taken out of the hands of the committee responsible for public assistance, and non-pauper cases are consequently sent in without the intermediary of district medical officers and relieving officers.

The rest of the time allotted to me I intend to devote to hospital staffing. Some of the institutions which are to be transferred are workhouses with hospital beds attached; others are workhouses with less closely associated hospitals capable of more or less separate administration; while some are quite separate distinct hospitals. In any case, a number of isolated sick will be taken over who in the type that voluntary hospitals does not mean that poor law hospitals will have to admit many cases of the same kind as voluntary hospitals. The extent of the change used by the general

public is, as we all know, rapidly growing. A large proportion of the inmates, however, even of the wards for acute cases, are persons technically coming under the poor law and often they have to be kept much longer than is necessary for purely medical reasons, either in wards intended for the acutely sick or in wards for chronic cases to which they are transferred. There is seldom any separate provision for convalescents. Sometimes the accommodation for these chronic or slowly recovering cases is found in dormitories on the workhouse side which have been set apart for this purpose and acute cases overflow into them to an extent depending on the pressure upon the beds specially earmarked for such cases. It is therefore no easy matter to dissect away from the workhouse the hospital accommodation proper, even if the latter has separate offices, store-rooms, kitchens, etc., which facilitate separate administration.

Under these varying circumstances it is impossible to arrive at any universally applicable scheme for staffing. The established poor law system is based on a small staff of whole-time medical officers appointed without limitation of period of service. Consultants are often appointed for special or general purposes, but as a rule, no specified wards or beds are allotted to them. It does appear that there is some advantage in having a more or less stabilised staff of whole-time residents for the occasional attention which the chronic cases require, and, of course, the number of beds for such patients per resident medical officer may reasonably be much higher than in a hospital for the acute sick. To that extent the policy which guardians have followed in the past may receive our endorsement. When, however, we turn our attention to the hospital proper, I think we shall find the staff as a rule very inadequate in numbers and it will be our business, if we are convinced that this is so, to recommend an increase in expenditure in this direction. In doing so, we shall probably apply the standard set up by voluntary hospitals. It will probably be agreed that an increase in the employment of short-term house surgeons and physicians is desirable, so that post-graduate hospital experience may be extended to as many as possible. We shall find, however, that the standard of about one resident to 30 beds, which is not uncommon in teaching hospitals, will have to be modified because of the absence of out-patient departments and of the interference with routine work which teaching entails.

It may be, also, that the absence of the irregularities of honorary consultants will enable the time of the resident staff to be economised. Again, we shall, in most instances, be faced with difficulty in finding accommodation for what we consider an adequate resident staff. Generally, it may be said that it will probably be found desirable to continue in poor law hospitals, and especially in those attached to workhouses, a higher proportion of long-term resident medical officers, but that the short-term appointments should be made as numerous as possible, a tentative standard for the latter being one to 50 or 60 beds.

The next question is the employment of visiting consultants. It is clearly desirable to continue and extend the policy now so common among guardians of employing specialists at a proper scale of remuneration for the care of maternity and gynaecological cases, throat, nose, ear and vision cases, and cases for radiology and ray therapy. It is also right that major surgery should be done by one who is devoting his whole time to this line of work and is unburdened of any responsibilities for administration, although we must not lose sight of the first-class work which is being done by superintendents of large poor law hospitals who have a bent for this branch of practice. If a visiting surgeon is required, it is equally desirable that a visiting physician should supervise the really much more difficult field of medical diagnosis and treatment, and that a pathologist should be attached. Experience shows that if these men have no definite responsibility for certain wards and beds their services are not used to the best advantage. They should not merely be available at call, but it is bound to be hard to give them the position they ought to have unless the policy of appointing short-term residents is adopted.

If all this is admitted, the question immediately arises as to what is to be left for the medical superintendent. With the substitution of medical for lay control (as represented by workhouse masters) in hospitals, there will be greater responsibility on the medical superintendent for administration, but it is only in fairly large institutions—say, over 400 beds—that the appointment of a purely administrative superintendent is practicable. Indeed, it is very doubtful if such appointments are entirely desirable. A medical superintendent, who has sufficient assistance on the secretarial, business and stores sides, should have some time free for medical work and there is much to be said for

his retaining certain wards, in addition to directing the management of the whole institution. In some institutions a compromise is made by having a visiting administrative medical superintendent, but this is really part of the old poor law system under which the master is in control. While, therefore, it should be our object ultimately to embody everything that is good in the voluntary hospital method of staffing in any proposals affecting the future of the local authority hospitals about which our opinion may be asked, we must keep in mind the special medical problems of these hospitals, and their peculiarities of structure and site, apart from our immediate concern to safeguard the position of the existing staffs, some of whom are definitely protected by the security of tenure afforded them by the Poor Law Acts. We must also remember that the voluntary and teaching hospitals themselves have not reached finality of opinion as to the best way of medical administration and staffing. We shall probably find that there are advantages from the medical standpoint, and not merely from the administrative and economic aspects, in some parts of the present system.

The nursing staff raises problems of a less complicated character. Mainly it is a question of sufficiency. Generally speaking, poor law hospitals are understaffed as compared with voluntary hospitals, especially since registration has demanded the devotion of a much larger amount of time than formerly to teaching and study. For example, if the voluntary hospital standard of about one nurse to 2½ patients is accepted, the staff of the acute wards of the hospital in which I am interested should be 116 as compared with 71 as at present, an increase of more than 60 per cent. Obviously, there is much leeway to be made up, but we shall immediately be faced, if we urge an improvement, with the lack of accommodation for the necessary numbers.

We shall find, too, that the chronic infirm and senile cases are not tended by a nursing staff in the sense in which we are accustomed to use the term. Women employed for many years in these wards, which are often within the workhouse proper, cannot be dismissed lightly, and any scheme of peaceful penetration by trained nurses or nurses in training would give rise to grave friction during the long transition period. The male nurses may be assisted to become qualified, but it seems to me that, in so far as it is found desirable to have the infirm looked after by trained nurses, it will be best to aim

at providing more hospital accommodation and transferring to it gradually the cases most in need of hospital care, at the same time letting the staff of the old infirm wards dwindle by attrition. If more chronic and infirm cases are brought under the care of probationer nurses, we must also make it our business to support the matrons in ensuring that the work is so arranged that the training of the nurses and their future prospects do not suffer from too long periods of duty in the wards set apart for such cases.

Consideration of the training of nurses brings us back to a question which the best use of a visiting consultant staff has also suggested, namely, the classification of cases in the wards of poor law hospitals. It will be found that it is not uncommon in these hospitals to adopt a much less rigid differentiation of cases for purposes of ward grouping. For instance, a case of chronic constipation may be found side by side with an operation case of hernia, an anterior poliomyelitis next to hæmorrhoids, myocarditis sharing a room with a perinæorrhaphy, and so on. Naturally, with a small staff of whole-time residents, such arrangements have not the disadvantages they would obviously have in a voluntary hospital. Elasticity of this kind may allow the maximum use to be made of limited accommodation. So far as the training of nurses is concerned, however, it is undesirable and it is certainly inconvenient for a responsible visiting staff.

DR. FENTON.

The provisions of the Local Government Act, 1929, apply to London, as to the rest of the country; but as the system of local administration in the metropolis is widely different from that in the provinces, the methods of application of the new legislation are not identical with those which apply outside London.

The twenty-five London boards of guardians will be abolished on March 31st next, and all their duties will be transferred to the London County Council, with the exception of those relating to vaccination and the registration of births, marriages and deaths, which will be transferred to the metropolitan borough councils. The Metropolitan Asylums Board will also be abolished on the same date, and its duties transferred to the central authority. The principal function of the Board is that of providing a fever hospital service for London, but it also maintains sanatoria and controls casual wards. On the transfer of the functions of the

guardians and the Metropolitan Asylums Board, the county council will be the sole authority in London for residential institutions maintained out of the rates. The beds in the various London guardians' hospitals and institutions number approximately 46,000, and those in the Metropolitan Asylums Board institutions are about 24,000 in number.

The county council already administer a number of institutions for mental cases and are the authority in London for the provision of in-patient treatment of tuberculosis. Therefore, the beds they will control will not fall far short of 100,000, and will be available for every variety of disease. The magnitude of their task can be judged when it is borne in mind that the total number of beds in the voluntary hospitals in London is only about 13,000.

In addition to the duties in connection with residential institutions, the county council will be responsible for medical and other forms of domiciliary or outdoor relief. They are the education authority with responsibility for the school medical service. They supervise midwives, nursing homes and maternity homes, and have duties and powers in connection with other health matters. It will be seen that from April 1st next the county council will be burdened with a volume of responsibility which will be greater than that of any other local authority in the country.

In compliance with section 4 of the Act, the county council have prepared an administrative scheme of the arrangements proposed to be made for discharging the poor law functions transferred to them. This scheme has been submitted to the Minister of Health, who has intimated that he has decided to approve it, subject to certain modifications of a minor character.

The county council have endeavoured as far as possible, to provide that the transferred services shall be merged in the council's existing organisation, and allocated to the committees of the council to which they are appropriate. In this connection, it has to be borne in mind that under the Act the county council, in common with other authorities concerned, are required to appoint a public assistance committee, but, unlike other authorities, they are free to provide in their administrative scheme for the reference or delegation to any committee of the council (including the public assistance committee) of any of the functions transferred under the Act, except the power to raise a rate or borrow money.

One of the most important provisions of the Act is that in section 5 relating to alternative powers of giving assistance. Local authorities provide certain services under various Acts for the benefit of the general population, which are identical with some of those to be transferred from the poor law authorities. There will consequently be overlapping in some of these services for a section of the population defined solely by the fact that the persons concerned are, for the time being, in some sense or other, in a state of destitution. The section gives power to the county council to deal with destitute persons, as well as other persons, by means of the services which they provide under the special Acts mentioned in the section, and also contains a direction that in preparing an administrative scheme regard shall be had to the desirability of securing that, as soon as circumstances permit, all assistance which can lawfully be provided, otherwise than by poor relief, shall be so provided. The section further provides that a declaration may be made in the scheme that any assistance which could be provided after the appointed day, either by way of poor relief or by virtue of any of the special Acts, shall be provided exclusively under the appropriate Act and not by way of poor relief, subject, however, to the duty under section 34 of the Poor Law Act, 1927, to provide relief for the poor, remaining undiminished and unaffected.

The making of a formal declaration would place the county council under an obligation to provide exclusively under the appropriate special Act or Acts assistance which otherwise could be provided either under such Act or Acts, or by way of poor relief. It would also place the county council, in so far as destitute persons are concerned, under an obligation to exercise powers which it has under special Acts.

The transferred services in respect of which the question of making a declaration arises are as follows:—

(1) Maintenance and treatment of sick persons and pregnant women in hospitals. (Local Government Act, 1888, as extended by section 14 of the Local Government Act, 1929.)

(2) Maintenance of mental defectives in institutions. (Mental Deficiency Act, 1913.)

(3) Maternity and Child Welfare. (Maternity and Child Welfare Act, 1918.)

(4) Maintenance of blind persons in institu-

tions and in their homes. (Blind Persons Act, 1920.)

(5) Maintenance and treatment of tuberculous persons in sanatoria and other institutions. (Public Health (Tuberculosis) Act, 1921.)

(6) Education of children. (Education Act, 1921.)

On the appointed day, the London County Council will have under their control about 130 transferred institutions at present used as hospitals and infirmaries, workhouses, schools, homes, and for other purposes. Having regard to the different classes of persons dealt with at the several institutions, and the extent to which the accommodation for such persons is distributed, the county council consider that at the present time it would not be desirable, even if it were practicable, to earmark particular institutions for specific purposes, and that any attempt to do so would seriously prejudice the formulation of a scheme for re-classifying and otherwise dealing with the transferred institutions; but they are in agreement with the principle enunciated in section 5 as to the desirability of making arrangements for the full exercise of the powers under the special Acts at the earliest possible date. They have declared that all domiciliary assistance to blind persons shall be provided exclusively by virtue of the Blind Persons Act, 1920, and not by way of relief. They have also declared that it is their intention that, as soon as circumstances permit, all assistance, in addition to domiciliary assistance of the blind, which can be provided by way of relief or by virtue of any of the following Acts:—

(a) Local Government Act, 1888.

(b) Mental Deficiency Act, 1913.

(c) Blind Persons Act, 1920.

(d) Public Health (Tuberculosis) Act, 1921, and

(e) Education Act, 1921,

shall be provided exclusively by virtue of one or other of these Acts, and not by way of relief. It is provided that nothing in the scheme shall diminish or otherwise affect the duty of the council under section 34 of the Poor Law Act, 1927, to provide relief for the poor.

As regards the omission of the Maternity and Child Welfare Act, 1918, it should be pointed out that the position in London is complicated, owing to the fact that the metropolitan borough councils are the authorities under the Act. The county council will, however, have responsibility in cases in which assistance is sought from the poor law, and under section 18 (d) of the

Act of 1929, they will have power to make arrangements with the metropolitan borough councils for the provision by those authorities of any assistance which could be provided either by way of poor relief or under the Act of 1918. The county council propose to give further consideration to the question of the arrangements in connection with maternity and child welfare.

The scheme outlines the constitution of the public assistance committee and provides for the division of the County of London into ten administrative areas for public assistance purposes. At the present time, the county is divided into twenty-five separate parishes or unions. The ten areas have been made to conform to borough boundaries, so as to obviate administrative difficulties and inconvenience, and to facilitate working with local social agencies. In each area there will be two, three, or four boroughs, and the populations of the areas will vary from 247,000 to 819,000.

A local committee will be appointed for each area. It will consist of members of the public assistance committee, and co-opted members, and the number of persons serving will be not more than fifty or fewer than thirty-two. The local committee will exercise, or advise the public assistance committee as to the exercise of, functions relating to the supervision and co-ordination of the administration of relief by district sub-committees. It will consider reports from sub-committees, co-operate with voluntary agencies, and so on. The local committee may appoint district sub-committees of not more than ten, or fewer than eight, persons from among their members and persons selected from a panel of names approved by the county council. Each district sub-committee will investigate applications for relief, make orders for the granting of relief, and deal with such matters as may be referred to them by the local committee.

The arrangements for public assistance, whilst preserving to the county council the necessary measure of control, will provide a flexible system capable of adjustment to meet the varying needs of particular areas.

A very considerable part of the transferred work, more particularly with regard to the provision for the reception and treatment of the sick, will fall within the purview of the county council's public health committee. The additional work will undoubtedly necessitate the enlargement of the membership of the committee, which will, in future, be called the

Central Public Health Committee. This committee will deal with the provision, classification, maintenance and management of hospitals for the sick, and arrange for their visitation. Included in these hospitals will be those at present administered by the Metropolitan Asylums Board, and the infirmaries under the control of the guardians, but not the mental hospitals. The administration of the ambulance services of the Metropolitan Asylums Board and the guardians will fall within the duties of the Central Public Health Committee, which will also be charged with the transferred functions relating to the provision of local medical services and the institutional care of children under the age of three years, who are separated from their parents.

For the purposes of hospital administration, it is proposed to divide the county into five areas, each of which will be co-terminous with the boundaries of a group of metropolitan boroughs. It will be possible to make the same areas suitable for the purposes of the school medical service, thereby enabling the poor law medical service, the public health organisation of the metropolitan boroughs and the school medical service to be co-ordinated in each area.

DR. McMASTER.

The Local Government Act has fortunately imposed upon the county district comparatively minor duties, and my task is, therefore, a more simple one. There are only five points with which we county district medical officers are directly concerned.

In section 2 the Act entrusts to the autonomous maternity and child welfare county districts part I of the Children Act, to administer, though in a good many areas that is already being done.

Reference has already been made to section 5, and it seems to me that so far as county districts are concerned, the advantages to them under that section will only be derived and overlapping prevented if, in due time—and one realises that it will take time—the county councils delegate certain maternity and child welfare work to the autonomous maternity and child welfare authorities so as to combine all that work under the one authority. I see no difficulty in that being done.

Section 57 of the Act presents an entirely different problem. It will enable the medical officer of health to bring up to date sewage systems, and develop water supplies.

Section 60 gives the county district which is at present a part III education authority, but not a maternity and child welfare authority, the opportunity of requesting that they be made such an authority if the Minister decides in their favour, and it is only by their doing so that they come under section 62, which applies to the autonomous maternity and child welfare authorities, and gives them power to ask to become the supervising authority under the Midwives Act. It is the lack of that latter power that all who work in county districts have missed for so long.

When the review required under the Act comes along in 1932, it seems to me that unless the county councils review county district work and endeavour to see if it is possible to make the sanitary area and the poor law area co-terminous, the full benefit to local public health under the Act will not be obtained.

DISCUSSION.

The President (Dr. J. J. Buchan), in declaring the subject open for discussion, said that the Society was extremely fortunate in having as openers four members who were peculiarly well qualified to speak with regard to the Act, each having given careful and detailed study to it from the commencement. The problems presented were, however, by no means exhausted, and representatives from other areas might well have been invited to speak. The whole subject bristled with difficulties, and the views of other members present would be welcomed.

The ensuing discussion took the form of question and answer, and the opening speakers, more particularly Dr. Butterworth and Dr. Picken, used their best endeavours to reply to a large number of queries, of which mention may be made of the following:—

Where a non-county borough takes over the supervision of midwives, will the county council assist in the cost? Dr. Butterworth expressed the opinion that it appeared to make no difference whether or not the county council contributed to the cost, because in his own area, for instance, if another authority carried out such work, the service was excluded from the county rate, and the authority paid for its own.

Is it proposed to close down the smaller isolation hospitals, and, if so, how are the buildings to be utilised? Dr. Butterworth said that an attempt was to be made in Lancashire; in fact, several had already been closed down. The use of the buildings for

other purposes presented some difficulty, as they were usually rather out of the way.

What is the minimum standard of population in a strictly urban district which would be able, by combination or otherwise, to take over the whole of the duties that would fall on a county borough under the Act? The President replied that that was a matter of opinion, and each type of officer would hold a different view.

In reply to another question, Dr. Picken stated that it was desirable that the central school and child welfare clinics should be centralised at out-patient departments attached to the local authority hospitals.

A hearty vote of thanks to the speakers was proposed by Professor Kenwood, and seconded by Dr. Morley Mathieson (Birkenhead).

The President, supporting the motion, made reference to the future of the assistant medical officer of health, and expressed the opinion that the situation had become a difficult one. The future of the assistant medical officer was by no means certain, and by no sort of system could the future be assured in any profession. All that could be assured was the opportunity. Dr. Butterworth, added the President, had in his own county, shown others a model in that connection.

The vote of thanks was warmly accorded by the very large audience present.

Dr. Butterworth, in acknowledging, said that the point he had dealt with referred, not to the assistant medical officer of health, but to the full-time medical officer of health. He had foreseen the difficulty over twenty years ago.

Dr. Fenton expressed some regret that no questions had been raised in regard to the Act as it applied to London. On the subject of births and deaths registration he held the view that the work should be dealt with in the public health department.

Dr. Picken and Dr. McMaster also replied, the latter adding that the county district group would welcome an arrangement whereby the county district medical officers would act on behalf of the county medical officer of health in their area, and be enabled to take a fuller share in all the health work in their districts.

THE Council of the Royal Institute of Public Health have completed the purchase of a vacant freehold island site on the north side of Queen Square, Holborn, W.C.1, for the purpose of erecting thereon the new premises of the Institute.

Ut Ita Dicam.

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

Health Officers and the Health of the Workers.

Training for the special branch of medicine it was my desire to adorn, I was taught much with regard to industrial hygiene and occupational diseases; as a teacher I am called upon to give instruction on these subjects in order that the students may be in a position to return some sort of answer to the questions that, as an examiner, I may put to them on the diseases that may occur amongst persons employed in particular industries and what can be done about it. Curiously enough, however, in carrying out my duties as a health officer, of opportunity of practising what I have had to preach or of making use of the sometimes astonishing things the examinees have had to teach, there has been none. The industrially employed individual, it has been made clear to me, is no pigeon of mine, and his haunts are very definitely the preserves of somebody else, and so I am certain they will continue to be. This I say because I believe that, no matter how much and how often we of the health service may complain that we are cut off from contact with a very large section of the people whose health we are called upon to safeguard; no matter how often we may point out that the Ministry of Health Act intended that all health matters should be transferred to the Minister created by that measure, the door of the factory will forever remain closed between us and the worker. As the years go on the barrier will grow higher, and stronger bolts and bars and still more bolts and bars will be added, and bigger and bigger with menace will seem the notice: "Keep out: this means you," affixed to the gate. The signs of these things are to be found not only in the new Factory Bills that keep on cropping up year after year, but in the increasing importance attached to the medical side of the Factory Department and in the steady growth in numbers of the personnel of this side.

Industrial Diseases—The Factory Report.

In spite of the real regret that I feel at these happenings and the forebodings that fill me so far as the future is concerned, it is curious—and I know I am not alone in this—that I never find myself losing interest in the hygiene of and disease in industry and literature dealing with these subjects. Every year finds me looking forward to the Report of the Senior Medical

Inspector of the Factory Department and wondering what new processes and disorders he has been investigating and what progress he has made in the direction of elucidating mysteries and of devising methods of removing threats to the health of the workers. Dr. Bridge's report for 1928 I welcomed no less warmly than any of its predecessors. Perhaps I welcomed it even more warmly because it showed that the effects of industry and industrial conditions upon the health of the worker were receiving more and more of attention, and that the field of investigation was becoming wider and wider. During the year, in fact, investigation was made into several conditions in which the association between employment and injury to health had not hitherto been very definitely established. Amongst these special reference may be made to silicosis of an acute type and fibrosis of the lung produced by the dust of asbestos. So far as the former is concerned, the difficulties associated with prevention are fully discussed in such processes as the manufacture of scouring powders where the risk is very great. As regards asbestos, there appears still to be a great deal to be learned, and it is obviously the intention of Dr. Bridge to continue investigations in regard to it.

Lead and Anthrax.

Amongst the material relating to what Dr. Bridge calls "industrial diseases of a well-recognised type," there is so much that is interesting and attractive that choice is a real embarrassment. Lead poisoning becomes less common, the number of cases notified in 1928 being the lowest since 1923. Of 73 severe cases, nearly 50 per cent. affected painters of buildings, and though there appears to be an endeavour on the part of employers to comply with the regulations under the Lead Paint Act, it is the view of Dr. Bridge that no appreciable effect can be expected for some considerable time. Of anthrax cases, 45 were notified, a number which, having regard to the difficulty associated with preventing contact with materials from which infection is possible, cannot be regarded as high. Hides and skins are, of course, the most difficult and hazardous of all, and it is interesting to note that the Tanners' Federation in their Research Department are very anxiously engaged in an effort to discover a satisfactory method of disinfection of hides.

Dermatitis and Epitheliomatous Ulceration.

Dermatitis, which must be one of the most interesting conditions with which the department has to deal, receives very full consideration in the report. It is not notifiable, but yearly more and more cases are referred for consideration by the inspectorate, and its importance as a cause of lost time in industry is increasingly coming to be recognised. Many cases result from the careless use of substances such as alkalis, turpentine, etc., to cleanse the hands and arms after work, but others owe their occurrence to materials worked with, particularly if the workers are not alive to the need for care and cleanliness. The report records an increase in the number of cases among bakers and confectioners, these two contributing 8.8 per cent. of the total. The trade itself is instituting an enquiry as to the actual prevalence of the condition amongst persons engaged. The welfare order in the case of bakers appears to be doing good, but in the case of confectionery workers it is felt that an order is not yet called for. Epitheliomatous ulceration again receives particular attention, and it is noted that in the classification of the 175 cases notified according to the causative agents involved, more than half (101) occurred in relation to mule spinning, and were due to mineral oil. Early recognition of the disease and early treatment are described as the keynote of the measures necessary to prevent fatalities from occupational cancer, and medical examination of persons employed in the trades in which there is liability is recommended at intervals of six months. I have only touched upon a few of the matters dealt with in this extremely interesting and valuable report. Like its predecessors, it reveals that the field to be covered by Dr. Bridge and his colleagues is one of vast extent and importance. Probably they themselves would be the first to admit that no matter how hard they try they do not and cannot cover it. That it would be more adequately covered, and advantageously, if medical officers of health, as they should be, were called in to lend a hand is almost too obvious to mention.

Experiences of Industrial Maladies.

While I am on the subject of occupational diseases I must, I think, find space for at least a reference to an extremely interesting and useful brochure by Sir Thomas Legge, entitled "Thirty Years' Experience of Industrial Maladies," of which a copy has reached me. This consists of a series of lectures (the Shaw Lec-

tures) delivered at the Royal Society of Arts, in the course of which Sir Thomas managed to cover a vast amount of ground and detail a multitude of his experiences. As lectures they must have been most fascinating to listen to, and in printed form they are most pleasantly readable. In a way that is impossible in an official report, Sir Thomas Legge has made extremely attractive stories of a number of his investigations and in respect of discoveries that have been made, and has been enabled to illumine the human side of cases with which he has been concerned. The publication is a very useful one, and contains so much that is of real practical and abiding value that it is proper to thank Sir Thomas Legge for reproducing his lectures in a permanent form.

The Haunts of the Fomites.

The question set—or a part of it—was: "What methods may be safely used in the disinfection of bedding?" The reply it produced from one of the candidates helps so very definitely to show where we may expect to find fomites, and how we can get at them, that it deserves all the publicity that can be secured for it. "Hot air," it is explained, "only damages the fabric and takes longer (about four hours, if any of the blanket is left), whereas steam completely disinfects in about five minutes. Steam thoroughly penetrates the downy masses where the *fomites* dwell."

P.

THE Second International Congress of Malaria will be held at Algiers from May 19th to 21st, 1930, under the presidency of Dr. E. Marchoux. Further information can be obtained from the Secretary, Institut Pasteur, Algiers.

THE Reunion Committee of the 1st and 2nd London Sanitary Companies, R.A.M.C. (T.F.), has arranged a Dinner at the Hotel Imperial, Russell Square, London, W.C.1, on Saturday, February 8th, 1930, at 6.30 p.m. (for 7 p.m.). Tickets, seven shillings each: morning dress. Major Charles E. Goddard, O.B.E., will take the chair. The Committee is anxious to secure a large attendance, and members interested are invited to communicate with the Hon. Secretary, Mr. James W. Manser, c/o 8th London Hygiene Co., Duke of York's Headquarters, Kings Road, Chelsea, London, S.W.3.

The Society.

Reports, Proceedings and Announcements.

ANNUAL DINNER.

The Annual Dinner of the Society was held at the Piccadilly Hotel, London, on Thursday, November 14th, 1929, when the President (Dr. J. J. Buchan) and Mrs. Buchan received over 160 members and guests.

The President was supported by the following:

Past-Presidents.—Dr. W. G. Willoughby; Dr. F. J. Allan; Prof. H. R. Kenwood, C.M.G.; Dr. R. A. Lyster; Dr. E. H. Snell and Dr. J. Howard-Jones.

Members of the Council.—Dr. James Fenton; Dr. A. A. Turner; Dr. E. H. T. Nash; Prof. W. W. Jameson; Dr. H. B. Brackenbury (Chairman of Council, B.M.A.); Dr. Charles Porter (Hon. Editor); Dr. P. H. Stirk; Dr. R. M. F. Picken; Dr. W. Paterson; Dr. F. T. H. Wood, O.B.E.; Dr. R. H. Wilshaw; Prof. J. Johnstone Jervis; Dr. K. E. Tapper, O.B.E.; Dr. A. E. Baker; Dr. G. F. Buchan (Hon. Treasurer); and Lieut.-Col. G. S. Parkinson, D.S.O.

Branch and Group Presidents.—Dr. J. B. Howell (Metropolitan); and Dr. J. Sim Wallace (Dental).

Dr. Alfred Cox, O.B.E.; W. Leach, Esq., M.P.; Sir Robert Bolam, M.D., F.R.C.P.; Surg.-Vice-Adml. A. Gaskell, C.B., O.B.E. (D.G., Med. Dept., R.N.); Sir George Newman, K.C.B., M.D.; the Lord Bishop of Sodor and Man; Sir W. Arthur Robinson, G.C.B.; Mrs. Howard-Jones; Lieut.-Gen. H. B. Fawcus, C.B., C.M.G., D.S.O. (D.G., A.M.S.); Sir John Rose Bradford, K.C.M.G., F.R.C.P.; J. H. Palin, Esq., M.P.; Ald. H. T. Pullan, J.P. (Chairman Bradford Health Committee); Lady Smith, J.P.; Major-Gen. H. P. W. Barrow, C.B., C.M.G., D.S.O.; Mrs. Paterson; Dr. J. Tate, Mrs. Tate; Dr. Cyril Banks, Mrs. Banks; Mrs. Snell; Dr. Arthur Hawley, Mrs. Hawley; Dr. F. B. Skerrett; Dr. Alice Stalker; W. Lionel Jenkins, Esq.; Dr. Mildred Thierens; Dr. V. T. Thierens; Mrs. Clegg; Dr. Jessel, Mrs. Jessel; H. D. Bott, Esq.; Dr. Howell Barnes; A. G. Harvey, Esq.; Lieut.-Col. and Mrs. E. G. Anthonisz; Dr. F. Leonard Keith; A. Purkis, Esq.; Mrs. Fenton; Mrs. Charles Porter; Mrs. Howell; Dr. G. Quin Lennane, M.C.; W. H. Graham, Esq.; C. E. Newton, Esq.; A. Griffiths, Esq., O.B.E.; Dr. Ethel Cassie; H. Morley Lawson, Esq.; L. J. Gill, Esq.; Dr. N. M. Donnelly; Dr. Agnes Calderwood; Sir John Robertson, C.M.G., O.B.E.; Dr. John Robertson; Dr. W. A. Lethem, M.C., Mrs. Lethem; Dr. C. F. White, Mrs. White; Dr. T. S. McIntosh, Mrs. McIntosh; Dr. F. A. Sharpe; Mrs. Nash and guest; Dr. G. H. Pearce, Mrs. Pearce; T. Crew, Esq.; G. L. C. Elliston, Esq.; Dr. Mary Kidd; Dr. F. W. W.

Griffin (*British Medical Journal*); Ald. D. Walker, J.P.; Rev. Canon S. R. Elliston; Dr. E. C. Morland (*The Lancet*); Dr. Courtenay Lord; Dr. Isobel Wright; Dr. Eric Donaldson; Dr. Aileen Boyd-Mackay; Dr. Naomi Dancy; Dr. James Ferguson, Mrs. Ferguson; Dr. Ivor Aubrey, M.C., Dr. Olive Aubrey; Dr. D. M. Livingstone, Mrs. Livingstone; Dr. Stella Churchill, L.C.C.; George Churchill, Esq.; Dr. Gray Hill, Mrs. F. J. Allan; Miss Beryl Thurston; Dr. Jas. Mair; L. J. Packington, Esq.; Dr. A. G. G. Thompson, Mrs. Thompson; Osmond Cattlin, Esq., Mrs. Cattlin; Dr. May Clarke; Arnold Thorne, Esq., Mrs. Rosa Thorne, D.D.S.; Geo. Thomson, Esq., L.D.S.; Miss Lenanton; Mrs. Baker; Mrs. Bruce Penny; J. A. Inglis, Esq.; Miss Adam; Dr. Louisa C. Adam; F. Breese, Esq., L.D.S., Mrs. Breese; Miss Edith Powrie; Dr. Janette J. Powrie; Dr. H. L. Barker; Dr. Lydia Leney; Dr. R. J. Maule Horne; Dr. Carol Sims; Dr. H. M. C. Macaulay, Mrs. Macaulay; Dr. W. M. Ash, Mrs. Ash; Mrs. G. F. Buchan; Miss Eardley; Dr. F. N. Kay Menzies; Dr. Thos. Carnwath, D.S.O., Mrs. Carnwath; Dr. W. M. Willoughby, Mrs. Willoughby; Dr. Hugh Willoughby; Dr. Margaret Bergin; and Mr. G. S. Elliston (Executive Secretary).

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

SIR ARTHUR ROBINSON, G.C.B. (First Secretary to the Ministry of Health), in submitting the toast of "The Society," apologised for the absence of the Minister of Health owing to pressure of other business. Continuing, Sir Arthur said: "Your Society was founded in 1856, and therefore it has arrived at years of discretion: it may be said, in fact, to have entered a green and flourishing old age. It has branches in various countries abroad; committees dealing with the many aspects of public health work; and it has, I think, some 2,000 members. It produces literature of great interest and value, and equally valuable are the discussions organised centrally and locally. I suppose your Society includes persons whom their friends call idealists and their critics call cranks. Discussion is useful for the rubbing off of corners and the arriving at balanced and sound judgment on all those matters of which the Ministry of Health and the Society are in valuable partnership. May I refer first of all and shortly to what I may term the old general health services of which you as medical officers of health are in charge? In the development of those services this country admittedly stands first in the world. I remember when the question arose of the establishment of the School

of Hygiene I asked the Rockefeller Foundation why of all the possible places they had chosen this country. They replied that in public hygiene Great Britain stood first, and therefore Great Britain must have their bequest. Progress in general public health in this country has been very great and very remarkable, but even in that sphere the time has not come for us to rest on our oars. We have had published recently a report on refuse disposal in London which shows that even in the capital city of the British Empire the arrangements still lag behind the practice of provincial towns of certain size in this country and of certain foreign cities. It is true that that subject raises questions of the government of London, and anybody who has studied that problem knows the difficulty of it—which eventually goes back to the fact that you have to govern by means of local government machinery a population the size of that of many nations. It is hoped that the report of the Committee appointed by the Ministry to deal with the whole question will be published shortly, and that energetic and effective action will follow. If you take, again as an instance, the old question of foods, what strikes me as a layman is that in recent years tremendous advances in research in regard to food have been recorded, but very few indeed in carrying the results of those researches into the practice of the people of the country. This is a matter to which the attention of medical officers of health should be directed, and in this connection the Ministry hope to be able to lend considerable aid.

"One outstanding fact to which I must refer is that this is the year of the passage of the epoch-making Local Government Act. In this country you have a process of public discussion and public opinion which goes on for some years and finally consolidates itself in some great parliamentary result. Before the passing of the Public Health Act of 1875 you had that process. You had the great pioneers—your Chadwick, your Simon—and you had a steady accumulation of public opinion which in the fullness of years produced the Act of 1875, which was the first provision for a general public health organisation in this country. You go on for fifty more years, and you do not bother about general reorganisation. Something goes wrong somewhere, and you pass an Act that amends one section of the Act and then another, and in due course you get things into an awful mess. The time comes when you have to tackle the whole problem. That time has come. You have now an Act which covers every single sphere of the activ-

ities of local government. The primary thing which that Act does is to provide that on April 1st next, new authorities will have to take over the responsibility for the poor law. The whole of the Act is conditioned by that first part. On April 1st, 1930, there have to be efficient arrangements for carrying on throughout the country the work which has been done with ability and devotion by boards of guardians for the last hundred years. Some of us think that the Act might have been more drastic. It might, so to speak, have broken up the poor law at one blow. I would ask you to realise the difficulties of such a process, and the way in which these great reforms take place in this country. You have to proceed gradually. I am sure that in due time you will get, under the Local Government Act, the break up of the poor law and the taking out from the poor law of the health functions of the poor law, and the handling of them by the health authorities; but the scheme must develop of itself. Take it slowly, systematically and gradually, remembering all the time that that is the inevitable result, but that you will not get that result by endeavouring to hurry it.

"A few other points I may mention. What does the Act do in respect of the relations between the Ministry of Health and local authorities? Take the grant in aid services. Though comparatively young in the service of the Ministry of Health, I had not been there long before I came to the conclusion that there was no sense in the arrangement under which, when a medical officer of health had done his best with the preparation of plans for maternity or for tuberculosis institutions, and so on, the whole of the ground should be gone over again by my colleagues at the Ministry of Health. That is what I call overlapping and duplicating work. That passes away under the Act. You will get a different relationship between the Ministry of Health and the local health services. Under the Act we at the Ministry will have to make comprehensive surveys of the general provisions in the areas because there is a clause in the Act which provides that a reasonable comparative standard shall be attained by the authority. As a result there will be available at the Ministry very full information as to the health services and their development, and the whole of that information will readily be put at the disposal of the local authorities and the medical officers of health by the Ministry. We issue periodically papers on public health questions, the object of which is to sum up the

knowledge obtained. That process I hope will be extended still further, because that seems to me from the point of view of propaganda to be the appropriate task of the central health department. What the Ministry has to do is to ascertain the facts, make deductions from the facts, and leave it to the voluntary associations and the health departments to impart the information in the form of public propaganda which will appeal to the people.

"There is another part of the Act which I would commend to your Society because I find that its importance is not at all generally appreciated. It is that which provides for a re-survey of county areas. Till you get sound areas of local government it is an absolute impossibility to distribute the functions properly. You will never get system or order or principle in the distribution of functions of local government—and that includes health functions—until you get a proper re-survey of the areas of local government in this country. That re-survey is provided for in the Act, and sometimes I think that medical officers of health do not appreciate its importance. In future, medical officers of health have not only to be administrators, but clinicians as well. What the Act does in county boroughs is to put the health committee in the position of being in charge of the whole of the health services of the area. In counties it adds to the curative functions the poor law functions. Time will show the enormous importance of that step, and from the point of view of good administration and research and, indeed, from every point of view, that I believe is the biggest advance to be recorded in the Local Government Act of 1929.

"Then there is the question of institutional provision. The standard of this under the poor law varies enormously; some are mixed work-houses, and others first-class institutions. Local health authorities will improve these institutions gradually and get an approximation to the standard set by the best hospitals. There one touches, of course, on difficult points. It has been said that one result of the Local Government Act will be a threat to the voluntary hospitals, but observation has shown that there is no great risk of that. Free consultation between the health committee of the local authority and the voluntary hospitals in the area is essential, and until that is brought about you will never approach to the proper organisation of the hospital accommodation for the country. Under the Local Government Act the great local authorities and their medical officers of health have the opportunity of providing for

that systematic and continuous consultation, and I shall be disappointed if the fullest success does not attend it. Medical officers of health will realise that they can learn a great deal from the voluntary hospitals with their glorious traditions of service, and it is for them to see that full use is made of those hospitals in the health provision of the area so that there is ample and satisfactory hospital accommodation for anybody who needs it.

"The question of whole-time medical officers of health is referred to in one part of the Act, and I am extraordinarily interested to see how far you want to carry out the principle of whole-time service further down the scale. I do not pretend to solve that problem, but I am waiting to see how it is solved. This is a matter in respect of which the alliance between the Society of Medical Officers of Health and the British Medical Association, which has had gratifying results in other spheres, might fully be brought into use.

"Some medical officers of health have talked to me on the question of superannuation. It is an extremely important subject from the point of view of the proper organisation of the local government service. In the Ministry of Health we are never without Bills, and among them is one providing for a general superannuation scheme for local authorities. That Bill is very near the heart of the present Minister, and I know that he hopes at a very early date to introduce it and to try to get it put on the Statute Book. I wish the Society long life and prosperity, and a continuance of the closest possible relations and amity and co-operation between the Society and the Ministry of Health."

THE PRESIDENT, in returning thanks to Sir Arthur Robinson, expressed the regret of the company at the absence of the Minister of Health. "Sir Arthur," proceeded Dr. Buchan, "has proved himself an unsurpassed substitute, and he has given us a statesmanlike statement of the position of public health as it stands to-day. He has indicated clearly that for success in this work a measure of co-operation is necessary between the central authority and the local authorities. I can assure him that on the part of the Society, which represents 90 per cent. of the medical officers of health in England and Wales, he will have from them a hearty co-operation and earnest intention of carrying out the good work initiated at the Ministry of Health. There will be nothing lacking on our side in the taking of advantage of the circumstances which are now before the country, and the need for the various things to which Sir

Arthur has referred is appreciated quite fully—the need for unification in the service, for unification of hospital work, and for understanding as between the people and the health authorities. I am glad to think that this Society has taken such a large share in enabling the people of this country to understand the elementary principles and precepts of public health. All in the various districts are propagandists in public health—some with more success than others, those with least success often having the most difficult work to do. The task of propaganda in one district may be very different from that in another, but each and every member of the Society is working earnestly to the end of getting health maxims over to the people." In conclusion, the President humorously referred to an excellent speech he had prepared for the occasion, but which, in view of the important pronouncement of Sir Arthur Robinson, he had been willing to forego. Sir Arthur's words, he added, would not be forgotten, and every endeavour would be made to work along the lines he had indicated. In that way success would ultimately be assured.

PROFESSOR J. JOHNSTONE JERVIS (President, Yorkshire Branch), in a humorous and whimsical speech, proposed the toast of "The Guests," and welcomed the representatives of the many distinguished bodies present. He also conveyed to the President the greetings of the Yorkshire Branch, and expressed their pride in seeing Dr. Buchan occupying the highest office of the Society, and the hope that his year of office might be a very happy and successful one.

THE LORD BISHOP OF SODOR AND MAN, in reply, referred to his service in Bradford during the eight years he was vicar of the city, and voiced his appreciation of the work carried out there by Dr. Buchan. There ought, he said, to be a very real co-partnership between those connected with the Church and the members of the public health service. The great and ultimate aim was the public good, and behind a better social order was the deeper problem of the better man. Town planning was a big thing, but life planning was a bigger thing still.

SIR ROBERT BOLAM, M.D., LL.D., F.R.C.P. (Vice-President, British Medical Association), in returning grateful thanks to the Society for their hospitality, said he believed that the men and the women in the service had got, not the opportunity of a life-time, but the opportunity of several centuries in front of them, and he nourished the great hope that those who acted

as advisers would so order the minds of the legislators throughout the country that the work of the profession at large would be rendered more fully in the service of the community than it had ever been before.

SIR JOHN ROSE BRADFORD, K.C.M.G., C.B., M.D., F.R.S. (President of the Royal College of Physicians), and Mr. J. H. PALIN, M.P., also responded to the toast.

ALDERMAN H. THORNTON PULLAN, J.P., who has served on the Health Committee of the Bradford Corporation for twenty-three years, and has been Chairman for ten years, proposed the health of the President in generous terms. Dr. Buchan, he said, was everything that a medical officer of health ought to be, and the possessor of a magnificently progressive spirit.

The toast was accorded with musical honours, the President briefly returning thanks, and calling upon Dr. R. A. Lyster, a Past-President of the Society, to propose a toast not included in the list.

DR. LYSTER said that recently the Council of the Society had learned with a considerable amount of dismay that they were likely to lose the services of their Executive Secretary before long, and that meant that the present occasion was probably the last annual dinner at which there would be an opportunity of drinking the health of Mr. Elliston. "The Society," continued Dr. Lyster, "is in a flourishing condition, and is able to exert considerable power in many directions. A good deal of that success is due to Elliston. We all know him, and we know that without Elliston much of our work would have been in vain. Many of us are proud to include him among our personal friends, and all of us know he is a jolly good fellow. I ask you to drink the health of our Secretary."

MR. ELLISTON, who, on rising to reply was greeted with enthusiasm, protested that this additional toast was quite out of order. This was the eleventh occasion on which he had been responsible for the arrangement of the annual dinner, and he felt that the time had come for somebody with fresh ideas and fresh energies to take over the secretarial duties. He was sure that whoever followed him would see the Society proceed from strength to strength as representing that body of men and women who were ensuring the great future of preventive medicine.

During the evening a fine series of songs rendered by Mr. Norman Williams was greatly appreciated.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, November 15th, 1929. The President (Dr. J. J. Buchan) was in the chair, and there were present: Drs. Jolly, Snell, Picken, G. F. Buchan, Wood, Lyster, Fenton, Howard-Jones, Pearce, Jervis, Thomas, Cameron, Puddicombe, Linton, Stirk, Ernest Ward, Turner, Nash, Wilshaw, Porter, Barlow, Sharpe, Eustace Hill, and Brackenbury; Lieut.-Col. F. E. Fremantle, M.P.; Profs. Kerr, Kenwood and Jameson; Lieut.-Col. G. S. Parkinson.

The minutes of the last meeting having been approved and signed, apologies for absence were received from Drs. Milligan, Eustace Hill, Mussen, Paterson, Joseph, Pringle, Stella Churchill, Baker and Gibbons Ward.

Removal of Tonsils and Adenoids.—An enquiry from the Maternity and Child Welfare Sub-Committee of the British Medical Association regarding the after-care of operation cases of tonsils and adenoids was referred for consideration and report by the School Medical Group.

Representation of the Society.—In place of Dr. T. P. Puddicombe, resigned, it was agreed to nominate the representative of the M. and C.W. Group (election pending) for service on the M. and C.W. Sub-Committee of the B.M.A. The election of four representatives of the Society on the Central Council for District Nursing in London was referred to the Metropolitan Branch. Dr. J. J. Buchan was re-elected to the Court of Governors of the London School of Hygiene and Tropical Medicine for the period commencing January 1st, 1930.

Annual Provincial Meeting.—An invitation from the Eastern Branch for a provincial meeting of the Society to be held in East Anglia during the current session was referred to the General Purposes Committee for favourable consideration.

Delayed Notifications.—A reply was received from the Postmaster-General regarding the delayed delivery of notifications, etc., posted at the printed paper rate after regulation hours. (See Proceedings of Council, October 25th, 1929.) The reply stated:

The arrangement by which such packets if posted after the specified hour are held over for treatment until after the despatch of the night mails has resulted in substantial economies and improvements in staffing. The Postmaster-General regrets that it would not be practicable to select for special treatment any particular class of matter despatched at the halfpenny rate. Urgent packets which require early delivery and which

cannot be posted before the specified hour are not delayed if prepaid at the minimum rate of one penny.

School Medical Service.—Following a prolonged discussion, opened by Dr. R. M. F. Picken, it was resolved:

"That the British Medical Association be asked to consider what further action can profitably be taken, in co-operation with the Society, to bring about the incorporation of the school medical with the other medical services of Local Authorities, including the promotion of such legislation as may be necessary."

Registration of Births and Deaths.—On behalf of the Metropolitan Branch, Dr. J. Fenton moved:

"That in the interests of efficient administration it is desirable that, on April 1st, 1930, the duties in connection with the registration of births and deaths should be delegated to Medical Officers of Health and their departments."

In the course of the discussion the opinion was expressed that many Medical Officers of Health had no desire to be made responsible for registration duties, and that with the transfer of that work to the Town Clerk's office, all necessary information would be sufficiently available for the Health Department. The Council therefore decided to take no action in the matter.

The Council then adjourned.

ORDINARY MEETING.

An Ordinary Meeting was held at the house of the Society on Friday, November 15th, 1929. The President (Dr. J. J. Buchan) was in the chair, and there was an attendance of upwards of seventy members.

The minutes of the last meeting having been approved and signed, the following candidates were elected to the Society:—

AS FELLOWS

BROTHWOOD, WILFRED CYRIL VERNON, M.B., CH.B., Manch. M.M.S.A., D.P.H.; CADMAN, DONAL D. ARTHUR, M.B., CH.B. Edin., D.P.H.; CLARKE, MARIE BEATRICE, M.B., CH.B., Liverpool, D.P.H.; COXON, THOMAS LESLIE JOHN, M.B., B.S. Durham, B.H.Y., D.P.H.; PIERCE, EDWARD ROWLEY, M.R.C.S., L.R.C.P., D.P.H., D.T.M.; PORTEUS, EDWARD, M.B., B.S. Durham; SAUNDERS, WILLIAM ERIC ROPER, M.R.C.S., L.R.C.P., D.P.H.; SELLAR, JAMES ALEXANDER, M.B., CH.B., Aberd., D.P.H.; WILLOUGHBY, HUGH MASON, M.R.C.S., L.R.C.P., D.T.M. AND H.

A number of nominations were received for the next election.

There followed a discussion on "The Local Government Act, 1929," opened by Dr. J. J. Butterworth (M.O.H., Lancs. C.C.); Dr.

R. M. F. Picken (M.O.H., Cardiff); Dr. James Fenton (M.O.H., Kensington); and Dr. A. B. McMaster (M.O.H., Dover).

A full report of the discussion appears in this number.

The proceedings closed with a vote of thanks to the speakers, proposed by Prof. H. R. Kenwood, and carried by acclamation.

THE METROPOLITAN BRANCH.

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

A meeting of the Council of this Branch was held at the house of the Society on October 11th, 1929, the President occupying the chair. Fifteen members of the Branch Council were present.

Mr. J. Mackenzie, Secretary of the Industrial Health Education Society, gave an outline of the work of that body and asked the members of the Branch Council to bring the work of the Society to the notice of their respective authorities and to recommend the giving of financial assistance in order to enable it to continue and extend its work. Several members supported the statement made by Mr. Mackenzie and others suggested that the work could be more appropriately supported by insurance societies than by the metropolitan borough councils. A vote of thanks to Mr. Mackenzie was unanimously accorded by the Branch Council.

Dr. J. A. H. Brincker, London County Council, opened a discussion upon the steps which should be taken in dealing with the biennial epidemic of measles which is expected to occur during the coming winter. At the termination of the discussion it was resolved that the metropolitan borough councils be informed of the opinion of the Branch Council that the scheme for securing closer co-operation between borough health visitors and the county council's school nurses (outlined on page 5 of the Report of the London County Council on the Measles Epidemic of 1927-28) should be put into operation throughout London in any epidemic of measles which may occur during the coming winter.

Dr. W. A. Lethem, M.C., Ministry of Health, who had been invited by the President to be present at the meeting and to take part in the discussion opened by Dr. Brincker, addressed the Branch Council upon the use

of convalescent measles serum, and a sub-committee was appointed to consider as to the desirability of framing a scheme under which the serum would become available to medical practitioners in the metropolis.

Further consideration was given to the question of the transfer from the boards of guardians to the metropolitan borough councils of the duties in connection with the registration of births and deaths, and it was agreed to inform the Council of the Society of the opinion of the Branch Council that this work should be performed in the public health departments.

Attention was given to a letter from the Metropolitan Boroughs' Standing Joint Committee in which the Branch Council were invited to submit to the Standing Joint Committee a statement of the duties which the Branch Council consider should be transferred or delegated to the metropolitan borough councils under Section 64 of the Local Government Act, 1929. The Branch Council were further invited to nominate two of their members to assist the special sub-committee of the Standing Joint Committee appointed in this matter. The Branch Council appointed a sub-committee to prepare the desired statement and authorised their President and Hon. Secretary to assist the special sub-committee of the Standing Joint Committee.

The Branch Council gave further consideration to a communication from the British Social Hygiene Council in which the views of the Branch Council were invited upon various points. It was resolved to inform the British Social Hygiene Council that the Branch Council (a) recognise the valuable work which is performed by the British Social Hygiene Council in co-operation with public health authorities; (b) favour the promotion in each metropolitan borough of a local propaganda committee; (c) are of the opinion that the question of including the subject of social hygiene and venereal disease in Health Weeks is one for the consideration of individual medical officers of health and the local propaganda committees; (d) are of the opinion that the subject of social hygiene and venereal disease is adequately dealt with by the teaching staffs of infant welfare centres; (e) do not favour the invariable inclusion of a venereal disease section in health exhibitions; and (f) are not in agreement with the proposal that they should indicate to the London County Council that the Public Health and Education Committees

of that authority should collaborate with the British Social Hygiene Council in the framing of a comprehensive programme of public enlightenment.

A further meeting of the Council of this Branch was held on November 1st, 1929, the President occupying the chair. Eighteen members were present.

The Hon. Secretary submitted a draft report upon the suggested scheme drawn up by the Ministry of Health under Section 101 (6) of the Local Government Act, 1929 (draft Memorandum L.G.A.25). The report was adopted and it was agreed that the views expressed therein should be communicated to the Ministry of Health and the Metropolitan Boroughs' Standing Joint Committee.

The Branch Council also had before them a letter from the Metropolitan Boroughs' Standing Joint Committee, in which the views of the Branch Council were requested upon the letter addressed by the London County Council to the metropolitan borough councils in regard to the financial arrangements for the dispensary treatment of tuberculosis after March 31st next. It was agreed that the Standing Joint Committee be informed that, in view of a suggested re-arrangement of health services under the Local Government Act, 1929, which is now under consideration, the Branch Council are of the opinion that it would be inadvisable to make representations at the present time on the question of securing an alteration in the temporary arrangements under which the borough councils receive grants from the County Council in regard to tuberculosis dispensary services.

A request was received from the Metropolitan Boroughs' Standing Joint Committee that they might be supplied with evidence of specific cases in London where ice cream is manufactured and stored in unsuitable surroundings. The President and Dr. Barnes and Dr. D. L. Thomas were invited to supply the desired information.

Dr. F. L. Keith submitted a report of the views of the Sub-Committee appointed to consider the question of the use of convalescent measles serum and, in view of the importance of this matter, it was agreed that the report of the Sub-Committee and the material placed at its disposal should be circulated to the members of the Branch Council and the matter placed upon the agenda for consideration at the next meeting.

The Hon. Secretary reported the request of the Society to be supplied with the views of the Branch Council upon the Report of the Departmental Committee on the Training and Employment of Midwives and the British Medical Association Memorandum outlining a National Maternity Scheme. It was agreed that these items should be placed upon the agenda for the next meeting of the Branch Council.

Attention was drawn to the desire of the Society that special efforts should be made to secure the enrolment of those medical men engaged in the public health service who have not yet become members of the Society. It was decided that a note should be added to the agenda for the next meeting of the Branch calling the attention of members to this matter and asking them to make an effort to secure the enrolment of their colleagues or assistants.

THE WEST OF ENGLAND BRANCH.

President: Dr. E. Ward, T.O., South Devon.
Hon. Secretary: Dr. P. H. Stirk, M.O.H., Exeter.

A meeting of this Branch was held at Bristol on October 11th, 1929.

Members lunched together at the Royal Hotel, College Green, and proceeded by char-a-banc to the Bristol Cold Storage and Docks at Avonmouth, where they were conducted over the undertaking by a representative who explained fully the working of both the Cold Storage and Docks. The visit proved most profitable and interesting.

A business meeting was subsequently held in the Board Room of the Bristol Dock and Cold Storage Co. Eleven members were present. Apologies for absence were received from seven members.

The retiring President, after a graceful speech of welcome to the incoming President, vacated the chair, which was taken by Dr. E. Ward, President for the session 1929-30.

Dr. Ward proposed a hearty vote of thanks to Dr. Blackett for his conduct in the Chair and the keen interest he had taken in the activities of the Branch during his term of office. This was carried unanimously.

The Hon. Secretary read a letter from the Executive Secretary containing references to the Branches from the Council of the Society.

Sympathetic reference was made to the lamented death of Dr. Heaven, a valued member of the Branch, and the Hon. Secretary

was instructed to write to Mrs. Heaven expressing the sympathy of the Branch in her bereavement.

The President gave his Presidential Address, entitled "The Campaign Against Tuberculosis," which will appear in PUBLIC HEALTH in due course.

At the conclusion of the meeting, votes of thanks were passed to the Bristol Dock and Cold Storage Company for the interesting visit arranged; for the use of their Board Room for the meeting, and for tea which they kindly provided; to Alderman Dyer for officially welcoming the Society, and to Dr. Askins who made all the arrangements for the very successful meeting.

THE YORKSHIRE BRANCH.

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

A meeting of this Branch was held at the Education Offices, Calverley Street, Leeds, on November 1st, 1929, when the following were present: Dr. J. J. Buchan, President of the Society of Medical Officers of Health; Dr. J. J. Jervis, President of the Yorkshire Branch of the Society; Alderman Dr. D. Walker, Drs. F. Allardice, H. Angus, H. A. Channon, D. W. Heynemann, G. W. Fleming, T. Gibson, W. Bertram Hill, E. K. MacDonald, J. Mair, P. R. McNaught, M. N. Miller, J. Moore, J. Morrison, B. R. Nisbet, L. Pickering-Pick, J. C. Pickup, Gladys J. C. Russell, W. Scatterty, N. Tattersall, R. Weaver, J. Yule, Major J. A. Dixon, M.R.C.V.S., Mr. E. F. McCleery, M.R.C.V.S., and the Hon. Secretary. Apologies for absence were received from Drs. Banks, Frazer, Kaye, Massey, Thornley and Major D. S. Rabagliati, F.R.C.V.S.

The Branch President was installed by Dr. J. J. Buchan, who himself received a hearty welcome on his first appearance at the Branch meeting after assuming the important office of President of the Society. Dr. Buchan congratulated Professor Jervis on having attained the highest position in the power of his colleagues of the Yorkshire Branch to confer upon him. Professor Jervis, in reply, expressed thanks to Dr. Buchan and all present, and gave an assurance that during his year of office he would use every endeavour to promote the interests of the Society, and particularly those of the Yorkshire Branch.

Letters resigning their membership of the

Branch were read from Dr. Daley (who stated he would always read the minutes of the Yorkshire Branch appearing in PUBLIC HEALTH with much interest); and Mr. A. B. Kerr, M.R.C.V.S., who has been appointed a Veterinary Inspector under the Cumberland County Council.

Letters were read from Dr. J. J. Buchan replying to the resolution of the Branch congratulating him on his election as President of the Society; and from Dr. J. R. Kaye, in reply to a letter expressing the regret of the Branch on his leaving the district.

Consideration was given to the desirability of a special local appeal being issued to medical officers of health to press for the enrolment within the Society of their assistants. It was decided that each Fellow and Associate should be requested to act as a recruiting officer in his own area. They were also asked to give personal invitations to part-time medical officers to seek nomination.

The following extract from a letter by the Executive Secretary was considered:—

"We should be glad if you would consult your Branch in reference to the possible formation of a new Branch to serve the North-East Midlands. Hitherto members at Notts., Derby and Leicester have found it very difficult to attend Branch meetings, the railway connections being very bad. It is therefore proposed that Dr. Killick Millard and others in that area should organise a new Branch, subject to a friendly agreement with the present Midland Branch."

The Hon. Secretary reminded the meeting that this was no new proposal, it having been considered some ten years ago when Dr. Coleman, at that time Medical Officer of Health for the City of Lincoln, pressed for action of this nature. After discussion it was agreed that the proposed formation of a North Midland Branch was desirable in the interests of the Society as a whole, and the Yorkshire Branch would raise no objection thereto provided that no alteration of boundaries was contemplated so far as this Branch is concerned. Each member of the Society is at liberty to attach himself to whatever Branch he desires, irrespective of domicile; therefore it was felt that no occasion for territorial interference need arise.

A most interesting Presidential Address entitled "Random Reflections on the Population Question" was delivered by Dr. J. Jervis. The manuscript has been forwarded to the Hon. Editor of PUBLIC HEALTH. A vote of thanks to the Branch President for his address, proposed by Dr. Gibson, Medical

Officer of Health, Wakefield, and seconded by Dr. MacDonald, Medical Officer of Health, Barnsley, was cordially agreed to.

Dr. W. Bertram Hill moved a resolution that a Non-County Group be formed within the Yorkshire Branch. This was seconded by Dr. J. J. Buchan, and carried. The Hon. Secretary was instructed to call a meeting of medical officers of county districts previous to the next Branch meeting.

Congratulations of the Branch were extended to Dr. A. Massey, Chief Assistant Medical Officer of Health, Leeds, and a member of the Council of the Yorkshire Branch, on his appointment as Medical Officer of Health to the City of Coventry; and to Dr. E. K. MacDonald, Medical Officer of Health, Keighley, on his appointment to Barnsley.

The paragraph in the published minutes of the Executive Committee of the Association of Education Committees (July 26th, 1929), in which appear the words "Where he (the school medical officer) exercises functions under the Education Committee he takes his instructions from their Chief Executive Officer and reports through him to the Education Committee," was discussed. It was understood that the statement was not one of fact but simply a personal opinion of two people who drafted the appendix to the Minutes, and that the subject was receiving adequate attention from the British Medical Association.

Owing to pressure of time it was impossible to consider the following items on the Agenda:—

5.—British Medical Association Memorandum outlining a National Maternity Service Scheme.

6.—Report of Departmental Committee on the Training and Employment of Midwives. These were adjourned until the next meeting.

The Council of the Branch met prior to the ordinary meeting.

THE WELSH BRANCH.

President: Dr. R. M. F. Picken, M.O.H., Cardiff.
Hon. Secretary: Dr. D. J. Thomas, Deputy M.O.H. Rhondda.

The first meeting of this Branch for the session 1929-30 was held at the City Hall, Cardiff, on November 2nd, 1929, nineteen members being present.

In the temporary absence of Dr. Duncan, the retiring President, Dr. T. Evans was voted to the chair. The members who had served

thereon during the previous session were re-elected as members of the Branch Council for the current session, and Dr. T. Evans was elected as an additional member.

A brief report was given of the matters discussed at a meeting of the Branch Council held a short time previously, and these subjects were further considered.

On his arrival, Dr. Duncan assumed the chair and in a brief appropriate speech installed Dr. Picken as President for the session.

After taking the Presidential chair, Dr. Picken thanked the members of the Branch for the honour thus conferred upon him and mentioned that he was succeeding a fellow countryman who had graduated from the same university. In choosing the subject of an address from the chair, Dr. Picken stated that he had purposely refrained from discussing the Local Government Act, and consequently the meeting had the pleasure of listening to a thoughtful and stimulating address, worthy of a larger audience, on "The Present State of the Public Health Service." A hearty vote of thanks, proposed by Dr. Howard Jones, seconded by Dr. Duncan and supported by Drs. T. Evans, Colston Williams, Pole, Prichard and Powell, was carried unanimously, and the suggestion of the proposer that the address be forwarded to the Editor of PUBLIC HEALTH for early publication was heartily endorsed.

Dr. Picken responded and took the opportunity of proposing a vote of thanks to Dr. Duncan for his services as President during the previous session. This was seconded by Dr. Evans and unanimously carried, Dr. Duncan suitably replying.

THE HOME COUNTIES BRANCH.

President: Dr. E. H. T. Nash, M.O.H., Heston and Isleworth.
Hon. Secretary: Dr. A. A. Turner, M.C., M.O.H., Finchley.

The first meeting of the 1929-30 session of this Branch was held at the house of the Society on November 1st, 1929, Dr. Linton presiding.

Dr. Linton called upon Dr. E. H. T. Nash to assume the Presidency for the session and invested him with the badge of office.

Dr. A. E. Porter, the Hon. Treasurer, submitted the financial statement and balance sheet for the year ended September 30th, 1929. Drs. Dupont and Garrow were appointed

auditors, and the statement was approved and adopted. On the motion of Dr. Muir the Hon. Treasurer was thanked for his services during the year.

Dr. McMaster proposed a vote of thanks to Dr. Linton and Dr. Muir for their services during the past year. This was seconded by Dr. Buchan and carried unanimously.

Dr. Nash delivered his Presidential Address on "The Present Position of our Society and its Future." Dr. Nash traced the growth in the numbers of whole-time public health officers and pointed out that this was largely due to the fact that general practitioners did not like to see some of their colleagues appointed to part-time posts under the school medical or maternity and child welfare schemes. The remuneration of the average public health officer, he held, was less than that prevailing in the services, and it was a common practice for local authorities to pay their medical officer of health on a scale lower than that applicable to their technical officers, such as the surveyor. In some respects he thought the new salary scale was an improvement on the old one, but a good deal more ought to be done for assistants. Dr. Nash strongly advised all public health officers, not only to join the British Medical Association but to take an active interest in their local divisional meetings. He further suggested that a really accurate census of all public health officers should be undertaken by the Council of the Society.

On the motion of Dr. A. E. Porter, seconded by Dr. G. F. Buchan, the President was heartily thanked for his address.

THE MIDLAND BRANCH.

President: Dr. W. D. Carruthers, County M.O.H., Staffordshire.
Hon. Secretary: Dr. R. H. H. Jolly, M.O.H., Wolverhampton.

The second meeting of the session of this Branch was held at the Medical Institute, 154, Great Charles Street, Birmingham, on November 7th, 1929. The President and twenty-one members were present. Apologies for absence were received from Sir John Robertson, Dr. Auden, Dr. Clendinnen and Dr. Newsholme.

The Hon. Treasurer (Dr. E. H. Snell) presented his Annual Report and Balance Sheet for the year. These were received and adopted.

A discussion on (a) the British Medical Association Memorandum on a National Maternity Service Scheme and (b) the Report of the Departmental Committee on the Training and Employment of Midwives, was opened by Dr. Wyndham Parker and Dr. J. A. Fairer.

A lengthy debate on these two subjects followed in which the President and many of the members took part. A letter from Sir John Robertson dealing with the same subject was also read.

At the conclusion of the meeting Dr. Wyndham Parker moved certain recommendations with regard to the two items discussed. One of these recommendations was lost and the remainder were carried by a large majority. Two further recommendations were also passed and it was decided to submit them to the Council of the Society in the form of a report.

THE NORTH-WESTERN BRANCH.

President: Dr. F. A. Sharpe, M.O.H., Preston.
Hon. Secretary: Dr. G. W. N. Joseph, M.O.H., Warrington.

A meeting of this Branch was held in Manchester on November 8th, 1929, the President occupying the chair. Twenty-three members were present.

A paper on "Heredity and Public Health" was read by Dr. J. S. Manson, Medical Officer of Health, Runcorn R.D. He pointed out that whilst the efforts of the public health service might be perfectly successful in preventing blindness, deafness and other defects the result of disease, they failed to have any effect on hereditary defects. That these latter occur in large numbers he showed from the incidence amongst 25,500 men he had examined during the War for military service. He dealt with such defects as congenital cataract, deaf mutism, crippling defects of the lower limb (excluding infantile paralysis), mental defect and epilepsy. The incidence found was contrasted with Tredgold's figures for mental defect with which they corresponded to a large extent. He argued that the total affected throughout Great Britain must exceed 1 per cent. of the 42,000,000 population, and that these were affected to such a degree as to minimise permanently their capacity to earn their living. After defining the difference between a congenital and an hereditary defect, he dealt with the various theories which had been advanced as regards heredity, and the methods

used in studying this branch of science. He considered that the study of heredity should be considered a part, and an important part, of state medicine in order that medical officers of health should be in a position to offer definite facts, if required, on such important problems as the increase in mentally defectives and the sterilization of the unfit. There were abundant opportunities for observing and recording characters in human beings through two, three or more generations by means of our school medical, maternity and child welfare and other services. An institution similar to the College of Heralds which investigated family pedigrees from the social or historical point of view might study the people from the biological and psychological standpoints. In this way it would be possible in future years to judge whether the population was improving or deteriorating. There is some evidence that there has been a decline in the mental characters of the nation, for the recent investigations of the Joint Mental Deficiency Committee show an increase of 3.4 per 1,000 in mental defectives during a period of 20 years.

Dr. C. O. Stallybrass, in proposing a vote of thanks to Dr. Manson for his paper, said that as the effects of evil environment are removed hereditary and congenital defects will stand out more markedly. As time goes on, too, this subject will become more prominent when we deal directly with the poor law institutions.

The paper had shown evidence from two sources of the importance of physical and mental defects.

(1) As the result of medical examinations of men during the War. In this connection he would like to know whether these were a fair sample of the population at large from 1916 onwards, as the flower of the youth of England had already gone.

(2) The proportion of mentally defectives reported in the findings of the Royal Commission. We must satisfy ourselves that the marked increase shown was real and that ascertainment in the first series was as perfect as in the later. If it was correct then this increase in mental deficiency was one of the most disquieting features ever disclosed as regards the public health.

It is not known to what extent mental deficiency is due to a defect in the germ cell. Not only mentally defectives but a much larger body of citizens are responsible for propagating degenerates. The sterilisation of defec-

tives, therefore, would not solve the problem but at the same time we should support the recommendation of the Board of Control that marriages of mentally defectives should be prohibited. It was increasingly important that bad citizens should not be produced now that the birth-rate was so low.

Dr. J. E. Spence, in seconding, thought the paper should stimulate thought on a very difficult subject. We were a mixed race going back some two or three thousand years which makes it difficult to apply Mendelian principles to the people we meet as characteristics blend and it is not easy to recognise the blending. Although there may be definite characters in parents they do not always crop up in the children, some being recessive, while others are dominant.

It might be useful to establish some national organisation to keep records of heredity which might prove serviceable after some 200 years.

Dr. Naylor Barlow considered that the medical officer of health was concerned with so many sciences that his business was to take accepted facts and apply them in practical measures. For the time being there were not enough facts to enable us to suggest useful measures. He had often thought that enough use had not been made of the medical officer of health in the province of research. The compilation of information was often of extreme value and by that means we could sometimes, at any rate, get useful evidence of a negative kind. The vista of public health was always changing and enlarging. The day might come when the problems of heredity would be an outstanding feature, but we must tackle first the things of most importance at the moment.

Dr. Beggs asked whether attempts at abortion affected the germ cell or not and what result intermarriage had upon it.

Dr. Williamson said we had been discussing effect of inheritance of marked factors without alluding to minor points resulting from heredity. All the while the increase of population was chiefly amongst the lower strata of society, although not unfit. Did not the question of birth control enter into this?

Dr. Milligan asked whether lists could be given of characters or defects which are transmitted by the mother and those transmitted by the father.

Dr. Sharpe also questioned whether the increase in the proportion of mentally defectives in the population had been as rapid as

stated in the Report of the Commission. There was, however, plenty of direct evidence of the enormous scope for work by the medical officer of health in the field of heredity. There was a great difference in intelligence in human beings ranging from the idiot to the superman. He was not sure that any process for suppressing all defects would not also bring about a condition of general mediocrity.

THE TUBERCULOSIS GROUP.

President: Dr. F. J. C. Blackmore, T.O., Woolwich.
Hon. Secretary: Dr. Ernest Ward, T.O., South Devon.

A meeting of the Group Committee was held on November 15th, 1929, Dr. Blackmore occupying the chair. Fifteen members were present.

(1) The Research Committee would report to the Joint Tuberculosis Council that they had considered the correspondence with Dr. Tippet and did not think that any useful purpose would be served by pursuing the matter further. Concerning the correspondence of Dr. Camac Wilkinson and Colonel Fremantle they thought that there was nothing to add to the thoughtful letter of Sir George Newman to Colonel Fremantle in March last in which he pointed out that there were many different methods of using tuberculin in treatment, and that tuberculosis officers were able to employ this remedy if they so wished by any means that seemed best to them. A Committee of the Medical Research Council had already reported on Dr. Camac Wilkinson's methods.

(2) The Council Representative reported:—

(a) That Associations of Local Authorities had not yet accepted the Salaries Scale, and in any case revision at the end of a five-year period had to be remembered, so that constant vigilance was still necessary and he hopes that any difficulties with the application of the scale or any objections thereto would be reported to him at once.

(b) The present position of the fifty Sun Life Scholarships was narrated. There will be fifty scholarships of £100, and the tour planned will cost £200 plus special individual expenses. He was trying to arrange a shorter tour to cost £100 for those who so desired.

(c) The recent Congress of Health Propaganda Organisations and Friendly Societies arranged under the auspices of the Central Council for Health Education was described.

(d) An account of a meeting of the Central

Council for the Care of Cripples was also given, at which the training of cripples had been discussed.

(5) Friday, January 17th, 1930, at 10.30 a.m., was the date and time fixed for the next Committee meeting.

The annual general meeting of the Group followed the Committee meeting. Seventeen members were present.

(1) Dr. Blackmore was elected President of the Group for the session 1929-30, and Drs. Crossley and T. R. Elliott, Vice-Presidents. Dr. Ernest Ward was elected Hon. Secretary and Council Representative. A hearty vote of thanks was passed to Dr. Vallow, the retiring President, and to Dr. Ward for their services during the past year.

(2) Drs. Crossley, E. Ward, and Gordon Smith were re-elected to represent the Group on the Joint Tuberculosis Council.

(3) The Hon. Secretary gave an account of the history and work of the Tuberculosis Group. He was asked to publish this in the medical press.

(4) A Memorandum on the Examination of Contacts, which had been circulated, was discussed and adopted after amendment. The Hon. Secretary was asked to submit it to the Council of the Society.

(5) The question of the utilisation of sanatoria and the employment of tuberculous doctors and nurses was referred for the consideration of the Committee at their next meeting.

THE HISTORY AND WORK OF THE TUBERCULOSIS GROUP OF THE SOCIETY OF MEDICAL OFFICERS OF HEALTH. BY THE COUNCIL REPRESENTATIVE.

It was during the Presidency of Professor Kenwood, now ten years ago, and by Professor Kenwood himself, that the formation of Groups within the Society was first suggested, and a scheme prepared for their organisation. The formation of the Tuberculosis Group took place at a meeting called by Dr. Menzies and held on May 31st, 1920, at which twenty tuberculosis workers and Mr. Elliston were present. Professor Benjamin Moore was the first President. Your representative first attended in December, 1920, was elected to the Committee in 1921, and appointed Secretary and Council Representative in 1923. We were first of all a Council,

but became a Committee about the middle of 1921. During the first year there were nine meetings, but some were sparsely attended.

Professor Leonard Hill read a paper to the Group at Mount Vernon Medical Research Centre on October 23rd, 1920, Dr. Vere Pearson in December, 1920, at the house of the Society, and Professor Collis in January, 1921. Dr. Hyslop Thompson addressed the Group in April, 1921, and Professor Moore read his Presidential Address to the whole Society in May, 1921.

Most of the early meetings were devoted to discussing the rules and constitution of the Group and the Salaries Scale. A librarian was appointed in July, 1922, but has never functioned, and I am uncertain if he was informed of his election. We were in low water in 1922-23, and for practically a whole year no quorum was obtained. Since then our meetings have gradually become better and better attended, and we are now a genuinely representative body. There are 180 members of the Group. The majority of the Committee members are elected by local tuberculosis organisations, some by the Branches concerned, and one or two are co-opted.

Minutes have always been published in *PUBLIC HEALTH* and *Tubercle*, and sometimes in other journals.

Many minor medico-political or ethical difficulties have been settled.

In 1924 the foundations of the Joint Tuberculosis Council were laid and later to it have been referred questions of disinfection, and memoranda on Notification and the Improvement of the Tuberculosis Service. A memorandum on the Factory Acts was prepared by Dr. Vallow, who also took part in a deputation to the Ministry of Health.

With the able assistance of our local secretaries an exhaustive enquiry into the working of After-Care Committees was completed in 1926.

A Memorandum on the Prevention of Tuberculosis in Children was also prepared and received considerable publicity. The Salaries Scale and salaries generally had been a constant pre-occupation, and will continue to be so in the future.

THE COUNTY DISTRICT GROUP.

Chairman: Dr. A. B. McMaster, M.O.H., Dover.
Hon. Secretary: Dr. K. E. Tapper, O.B.E., M.O.H., Bromley, Kent.

A meeting of this Group was held at the

house of the Society on November 1st, 1929. The chairman and seventeen other members were present. Apologies for absence were received from four members.

The Report of the Departmental Committee on the Training and Employment of Midwives was discussed, especially with reference to (1) inspection of midwives by medical staff; (2) the supervising authority under the Midwives Acts, and (3) medical officers' representation on the Central Midwives Board. The Group decided that no action be taken at present pending the decision of the Minister of Health on applications made to him under Section 62 of the Local Government Act, 1929.

The British Medical Association's memorandum outlining a National Maternity Scheme was accepted as a contribution towards the subject.

The meeting finally gave its attention to the Salary Scheme of Whole-time Medical Officers submitted from the Conference held at the Ministry of Health recently, and it was resolved that the Council of the Society be informed that in the opinion of the Group the Scale of Salaries is framed on too low a basis.

THE NAVAL, MILITARY AND ROYAL AIR FORCE HYGIENE GROUP.

President: Surg.-Cdr. S. F. Dudley, O.B.E., R.N.
Hon. Secretary: Lt.-Col. G. S. Parkinson, D.S.O.

The annual general meeting of this Group was held at the London School of Hygiene and Tropical Medicine on November 8th, 1929.

The President, before vacating the chair, made reference to the papers read during the past year and thanked those who had been kind enough to read them.

He then referred to the new President and said that he knew that the Group was particularly fortunate in obtaining the services of Wing-Commander Grant.

Wing-Commander Grant then took the chair, and, having thanked the meeting for their kind reception, called on Dr. G. P. Crowden to read a paper entitled "Recent Advances in some First-Aid Measures as applied to Gas Poisoning, Electrocution and Burns." A most interesting contribution then followed upon which there was a good discussion. Dr. Crowden replied, after which a vote of thanks was carried with acclamation.

The Literature of Preventive Medicine.

THE HYGIENE OF THE SCHOOL. Based on the Author's "School Hygiene." By ROBERT A. LYSTER, M.D., CH.B., B.SC., Lond., D.P.H., Lecturer in Public Health, and Lecturer in Forensic Medicine, St. Bartholomew's Hospital, London; Examiner in State Medicine (M.D.), University of London; formerly County Medical Officer of Health, Hampshire. London: W. B. Clive, University Tutorial Press, Ltd., 1929. pp. 338. Price 5s. 6d. net.

Twenty years' experience have more than proved the worth of school hygiene, and even the sceptic, the cynic and the Philistine are, to a large extent, silent. Indeed, many people take a real interest in this work; and to help them in obtaining some exact and definite knowledge of the subject, Dr. Lyster has written a very useful book. This is based on the author's "School Hygiene" and, indeed, includes a very comprehensive mass of information without being too difficult or too detailed for the average reader.

That the book is thoroughly up-to-date can readily be seen from such examples, taken at random, as the description of the new Derbyshire type of school, the references to recent Acts and Departmental Committees, and the complete summary of vitamins as at present known. The chapter on Posture is well-written and very aptly and usefully illustrated, and this with the section on Physical and Remedial Exercises should prove of great practical value, while it is most welcome to see the subject of Fatigue and Overstrain treated in such an able way; too little consideration is given as a rule to this important aspect of adolescent welfare.

It is, however, somewhat unfortunate that in Ventilation, a large amount of space is given to the consideration and estimation of the carbon dioxide content of air; while there is even mention of the heresy of respiratory pollution and of concentrating on measuring the carbon dioxide percentage as an index of this. By comparison the Kata thermometer gets scanty enough consideration, and those who have had practical experience in schools of both the old and the new methods will regret that the very great proved value of Leonard Hill's recent work on Ventilation does not receive the prominence it deserves.

On questions as to the sterilisation of mentally defectives the even balance is not too well maintained; but apart from these points, the book as a whole is a worthy contribution and will prove of undoubted value to a large number of teachers, educationalists and social workers.

LOW BLOOD PRESSURE—ITS CAUSES AND SIGNIFICANCE. By J. F. HALLS DALLY, M.A., M.D. (Cantab.), M.R.C.P. (Lond.), Physician, Mount Vernon Hospital; Senior Physician, St. Marylebone General Dispensary, and Director, Children's Supervisory Centre for Prevention and Control of Rheumatism and Rheumatic Heart Disease, etc. London: William Heinemann (Medical Books), Ltd., 1928. pp. 257. Price 15s. net.

The author of this book remarks that the subject of high blood pressure (as compared with low blood pressure) has up to now not only been the predominant partner but has actually monopolised the literature of medicine. Little is therefore known of the conditions under which low blood pressure occur and their causes.

Studied from the biological aspect, Dr. Dally comes to the conclusion that low blood pressure is invariably due to low individual vitality, and that as it is capable both of prevention and control it becomes an important problem in preventive medicine and therefore the concern also of public health officials.

For these reasons the twelfth or last chapter of this book is of more especial interest to medical officers of health for here the author shows how *Hypopiesia* is capable of co-ordinated control both by general and special measures. Amongst the former he discusses such topics as habits of life, diet, rest, exercise, sunshine and change of climate; in the latter, healthy relaxation, resistance exercises, massage, irradiation, hydrotherapy, etc. Other aspects of the subject that will interest the medical officer of health are the causes of *stHypopiesia* attributable to shock, anaphylaxis, poisoning by anaesthetics, vagotonia, acute circulatory and gastric disorders, acute specific infections and endocrine insufficiency.

The book will, however, appeal more to the clinician for, after a detailed consideration of the subject of mechanism of blood pressure,

the author gives a full account of the etiology, symptomatology, diagnosis, prognosis and treatment of the condition.

Quoting Dr. McCrae, the author states that "high or low blood pressure is not a disease in itself, but only a symptom due to a disease somewhere."

In the Annual Reports.

THE WASSERMANN TEST AT ANTE-NATAL CLINICS.—Since June, 1925, pregnant women attending the ante-natal clinics have been subjected to a blood examination for syphilis. The usual technique has been considerably simplified, the Wassermann reaction being done with 1 c.c. of blood serum only. The specimen is collected in a Wright's capsule after applying a tourniquet below the knuckle and pricking the patient's thumb near the nail bed. The operation is simple, easy to perform, and not alarming to the patients, who readily consent to it. The results to the end of 1928 show that of 1,967 such routine tests, 61, or 3.1 per cent., were positive. Patients found at the ante-natal clinics to be suffering from syphilis are referred for treatment to the auxiliary treatment centre for women and children, which is conducted in close co-operation with the maternity and child welfare section of the department.—*Dr. R. M. F. Picken, Cardiff.*

VENEREAL DISEASE—THE VALUE OF PROPAGANDA.—Syphilis is a disease which is obviously decreasing; whilst gonorrhœa is on the increase, and it is particularly gonorrhœa in women which forms the problem of the present day. A good deal has been said and written about the compulsory notification of venereal disease, but when one realises that this would tend more for concealment of the disease than at present obtains, education of the public on lines of prevention is of more value than legislation. Films such as "The Dangers of Ignorance," which was shown in the borough in October, 1928, have a definite value as a method of propaganda and the spread of information on the subject of these two diseases. The lectures to teachers and parents on social hygiene, which took place at the beginning of the year, provided another useful method for the spread of information.—*Dr. A. Stuart Hebblethwaite, Sunderland.*

THE CLOTHING AND FOOTGEAR OF SCHOOL CHILDREN.—It is rather remarkable to find that with the slight but steady improvement in the clothing of the children in the elementary schools there is a steady deterioration in the quality of the boots and shoes worn. The clothing is better in quality and simpler and more hygienic in character, the improvement being more noticeable among the girls. The footgear, on the other hand, is of very inferior quality, in many instances soles being worn completely through in about three weeks. To provide a family of children with good shoes must constitute a formidable drain upon the family resources. Dr. Gurney has pointed out the fact that in some areas boot clubs are formed in the schools to meet this, and the consideration of some movement in this direction is strongly recommended as a matter worthy of serious attention.—*Dr. Andrew J. Laird, Cambridge.*

ALCOHOL.—It is still gratifying to note that the deaths due to or accelerated by drink continue to remain low. Improved habits and conditions, wider educational influences and other agencies, including those associated with the welfare of motherhood and infancy, have all played their part in promoting a more temperate use of alcoholic drinks with results which are eminently satisfactory. Housing operations have unquestionably contributed towards improving the general conditions of life and social habits of the people formerly living in insanitary surroundings in slum areas. The improved conditions of the children is especially noticeable; the reports in connection with medical inspection of school children in the poorer localities show welcome improvement.—*Dr. A. A. Mussen, Liverpool.*

DIPHTHERIA—SWABBING AND DELAYED DIAGNOSIS.—By the taking of swabs from the throats of children with definite exudate and awaiting a report before a diagnosis is made, valuable time is wasted and the chances of recovery are lessened. If in doubt, the general practitioner should call on us for a consultation, give the child a small dose of antitoxin (2,000 to 4,000 units) or if the exudate on the throat is extensive, send the child into hospital. It might be asked, why, under the circumstances stated, should we not stop examining swabs in acute cases with exudate in children? In our return of results to doctors advice to this effect is given in bold type as follows:—

Swab Results of Doubtful Value.

Swabbing should not be relied on for diagnosis except in adults or in children showing no exudate. Many fatalities in children are due to the time lost in awaiting the result of the swab and in relying on a negative result as excluding diphtheria, which it does not; again and again true cases have given negative results prior to admission.

PUBLIC HEALTH

THE JOURNAL OF
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rial.

resistible style. Indeed, what is written seems to live with the real work, which even to the unimaginative is seen expanding and developing year by year.

The record for 1928* indicates steady progress, although in most areas the provision for medical treatment still falls short of the completeness to be one day achieved; and several phases of the organisation show that sufficient attention and effort are as yet not forthcoming. The problem of the pre-school child is still far from solution, with the result

* THE HEALTH OF THE SCHOOL CHILD.—Annual Report of the Chief Medical Officer of the Board of Education for the Year 1928. London: H.M. Stationery Office, 1929. Price 1s. 6d. net.

The summary is full of interest. As evidence of the pioneer spirit, reference may be made to the establishment as long ago as the early part of 1908 of an infant welfare centre in Nottingham, which though originated by a voluntary society was provided, equipped and partly staffed by the Corporation. Overlooking the pioneer work done in this connection in St. Marylebone, Dr. Boobbyer claims that this was the second of its kind in this country, being preceded only, as he says, by the St. Pancras centre, opened the previous autumn.

Among the special reports appended to the summary is one on pail-closets, dated 1912, when Nottingham was still burdened with these structures. The table showing the incidence of enteric fever upon houses with pail-closets, midden-prives and water-closets, was built up between 1887 and 1910 and has already become classical, and rightly so. It should be in the hands of all medical officers who are still struggling with the pail-closet and privy nuisance.

Throughout the series of observations it is shown that cases of enteric fever were enormously more frequent in houses provided with midden-prives than in others, while houses with pail-closets were invaded by the disease much more commonly than those with water-closets. Factors other than the nature of the closets may have operated, but the figures appear condemnatory enough.

A report on small-pox, dated 1922, deals with the nature of the modern mild type of the disease; Dr. Boobbyer, with his vast experience, has no hesitation in calling it small-pox.

ys: "I have utilized the same diagnostic criteria for dealing with this outbreak as used for ordinary small-pox since the eighties of the last century, and they led me."

Department activities in Nottingham reveals, are not in all cases nodox. For instance, the local unmarried mothers and their child-conducted by a voluntary society, health committee; the venereal clinic is held in a building used for no purpose, and not in the out-patient department of a hospital (under Dr. J. C. immediate control it has been a success also an ultra-violet-ray clinic is held, to which the public is sent under medical supervision conducted by the health

Like so many of the older generation of medical officers of health, Dr. Boobbyer has always shown a scholarly style in his writing, but never has it appeared so effective as in this, presumably, the last of the reports he will prepare for the authority he served so faithfully and well. Just for the reason that it gives those who are of a younger generation an opportunity of seeing how the writing of reports was done in the day of their elders, it may be regarded as a fortunate circumstance that the City Council of Nottingham decided that a summary of the unpublished reports for the years 1916 to 1928 should be made by Dr. Boobbyer for issue in 1929.

Obituary.

THE death of Dr. D. L. Thomas of Stepney came as a cause of real regret to the very wide circle of his friends, but to none more than his metropolitan colleagues in the service. The doyen of London health officers, Dr. Thomas, as Medical Officer of Health of Stepney, had one of the most difficult districts in London, probably in the whole country, to deal with. The success which attended his efforts was outstanding and has been widely testified to by all sorts and conditions of men, amongst them Lord Knutsford, Chairman of the London Hospital, and the many who stood by the side of his grave or attended the beautiful service held at the Jewin Welsh Church, Fann Street, Aldersgate, on the borders of Stepney. Thanks are due to Dr. J. B. Howell of Hammersmith (President of the Metropolitan Branch of the Society) for the following appreciation for which there is an echo in the heart of everyone who, knowing Dr. D. L. Thomas, had for him therefore a real affection.

"The Society of Medical Officers of Health has suffered a great loss by the lamented death of Dr. D. L. Thomas, who first fell ill about November 19th with what was diagnosed at the time as influenza. As the high temperature continued and he appeared to be getting worse, he was removed to the London Hospital on November 30th. It was there found that he had a septicæmia of doubtful origin, and he died with complications of broncho-pneumonia in the early morning of December 10th.

Dr. Daniel Lewis Thomas was born in that part of Newcastle Emlyn which lies on the Cardigan side of the River Teify. He came to London in 1887 and became a student at the London Hospital. Qualifying in

1892, he was for a short time in practice in Mile End.

Dr. Thomas was appointed Medical Officer of Health for the Limehouse District soon after and, upon the amalgamation of certain districts into what is known now as the Borough of Stepney, was appointed its first Medical Officer of Health in 1900. A few years later he was called to the Bar as a Member of Grays Inn.

His work as Medical Officer of Health in such a densely populated borough as Stepney is too well known to need recapitulation, and it may be said that his annual reports for upwards of thirty years have been of great value, containing always some fresh food for thought and being always worth reading.

He was, I think, the first, many years ago to draw attention not only to the high mortality of measles, but also to what has been found to be equally important—the risk of permanent damage to those children who survive.

Probably some of his greatest work has been in connection with smallpox. Whenever an epidemic of smallpox visited London it rarely missed Stepney and, in my opinion, there was no medical officer who had greater experience in its diagnosis and the control of the epidemic. His experience was always at the service of practitioners in Stepney and he gave willing help to them in difficult cases of this disease.

His services were especially of great value in the many institutions in his area, particularly his old hospital, The London. A more fitting tribute to his work could not have been paid than that of Lord Knutsford in *The Times* of December 12th. As Lord Knutsford said, he carried out his work cheerfully and with a smile.

After his work his favourite interest lay in Freemasonry, in which he was for long prominent. He was P.A.G.D.C. of the Grand Lodge of England and Founder and P.M. of the London Welsh and Cardigan Lodges. He was also in great request as Consecrating Officer in many Lodges, and the Masonic charities had no greater friend.

He was a keen musician and a lover of good music; a Member of the Council of the Honourable Society of Cymmordoriun and a great supporter of its interests.

He was a good shot, a keen follower of Rugby football and was a past-President of the London Welsh Football Club.

His death will mean a great loss to the Metropolitan Branch of the Society of Medical Officers of Health, of which he was a past-President and Senior Member.

His opinions, strongly held and expressed, were always worth listening to and his counsel was constantly sought. Perhaps his principal characteristic was loyalty to his friends, and possibly no one will miss his cheery smile and kind heart more than the writer of this brief memoir who owed so much to him."

With great regret the death of Dr. Thomas Finlayson Dewar, C.B., a Medical Officer of the Department of Health for Scotland, has to be recorded. He was appointed Medical Officer of Health for the Burgh of Monifieth in 1895, subsequently for the County of Forfar, and later still for the Counties of Fife and Kinross. In 1905 he became Medical Inspector under the Local Government Board for Scotland and served in this capacity until the absorption of that body into the Scottish Board of Health in 1919. Dr. Dewar had a distinguished military service in both the South African War and the Great War, and will be remembered with affection by a host of friends in the Public Health Service who held him in high esteem. He was sixty-three years of age and unmarried. 69273

The Society also mourns the death of Dr. James Gillon Ross, Medical Officer of Health for the Whitby Urban District Council. He received his medical education in Edinburgh, where he graduated M.B., C.M., in 1898. In 1902 he commenced practice in Whitby, and later, in addition to his appointment of medical officer of health, held a number of public medical posts in the district. He took an active interest in the work of the British Red Cross Society, of which he was an honorary life member, and during the Great War held a commission in the Royal Army Medical Corps. Dr. Ross was in his sixtieth year.

DR. R. A. Lyster, formerly Medical Officer of Health to the Hampshire County Council, has been elected a member of Bourne Borough Council.

DR. MATTHEW BURN, M.C., Health Officer for Birmingham Health Department, has been elected to be Senior Assistant Medical Officer of Health for the City of Birmingham, to examine and report on the health of the people, and to take such action as may be necessary.

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The Medical Examination of Food Handlers.

By CHARLES V. CRASTER, M.D., D.P.H., Health Officer, Newark, New Jersey, U.S.A.

The question of the necessity for providing for the medical examination of food handlers is one that has been discussed frequently by health officers in this country. This description of a method which has proved successful by the officer who introduced it and made it a success is deserving of the fullest and most careful consideration. When Dr. Craster read his paper at a combined meeting of the Metropolitan and Home Counties Branches held in London on September 27th, 1929, it was received with every sign of appreciation. It will be found no less deserving of appreciation by those who, deprived of the advantage of hearing Dr. Craster, are given here the opportunity of reading what he had to say on the subject.

THE fundamental principle upon which organised society is based is the effort to insure the welfare of the group. This means that the individual was required to relinquish somewhat of his personal liberties or inclinations that his fellows might benefit. It thus may be said that the modern ideals and standards adopted for sanitation and hygiene are based to some extent upon an inherited tendency towards self-defence. Epictetus, the famous stoic and moralist, writing in the first century A.D., said "The natural instincts of animated life to which man also is originally subject are self-preservation and self-interest. But men are so ordered and constituted that the individual cannot secure his own safety unless he contributes to the common welfare." This is even truer of modern life than in the case of the older civilisations. In fact, so intimate are the associations of each man with his neighbours that the far-seeing citizen may only hope to secure his own comfort and welfare, and to protect himself and his household from untimely disease and even death, by seeing that the same protection is afforded to all those with whom he comes into contact. Thus it comes about that the prevention of communicable diseases in whatever form this can be carried out, like the provision of a clean water supply, or an efficient sewerage system, must of necessity be community efforts.

In the production of good food there are three definite points that are basic in their nature: first, that the foodstuff shall be of good quality, free from adulteration, substitution, and absence of spoilage; secondly, that the food shall be prepared in a clean, well-built, well-lighted kitchen and for premises, where the food is stored, shall be free from dust, dirt, and vermin; and thirdly, that the food shall be prepared by persons who are free from communicable disease and whose methods shall be directed towards as little contamination of the food as possible, consistent with modern methods. Two of these requirements are covered efficiently by suitable laws nearly throughout the whole United States of America. The third, which can only be secured by a routine medical examination at stated periods of the year, is not as yet universally employed and still would seem to be the logical sequel to the other two. The knowledge that dangerous diseases are possible of conveyance by food served in public kitchens and restaurants does not require proof here, and shows the need for concerted action to preserve the health of the consumer.

The striking story of "Typhoid Mary" and those of the other well-known typhoid carriers, including our own "Typhoid Tony," a man who had to his credit thirty-five cases of typhoid fever and three deaths in the City of Newark, and seventy-two cases and three deaths in the State of New Jersey, before he was finally rounded up and segregated, are still fresh in our memory and have done more than anything else to focus the attention of the public upon the common hazard of the ambulatory carrier of disease germs in his relationship to foods served in restaurants, lunch rooms and hotels.

The physical examination of food handlers was, therefore, the logical reply to the query of health experts and the public as to what should be done about this new danger to community safety. That the examinations of food handlers passed from the realms of theory to those of accomplished facts was due to the efforts of the New York City Health Department. This municipal enterprise was inaugurated some fourteen years ago in New York under the direction of Dr. Louis Harris, who

stated the results of the first two years in the following words: "It is only a beginning, but one whose significance and ultimate possibilities may well be called impressive. The manifold benefits that may ultimately accrue from this system must be left to the imagination of those who have glimpsed the possibility of preventive medicine and especially of adult hygiene and periodical medical examination."

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The work so well begun was naturally at first tentative, with the hope that experience would demonstrate the best procedures to serve so great a venture in disease prevention. Difficulties in the form of medical service soon arose, partly due, no doubt, to the inexperience of the private physicians who were called upon to assist the health department in making the physical examination. The occupation clinics conducted by the department were handicapped by their limited staff, and yet the work done was clearly more satisfactory than that of the private physician. In one year the occupation clinics conducted by Harris made 23,386 medical examinations to 59,000 by the private physicians. Yet out of 127 cases of active tuberculosis found, 118 were diagnosed at the occupation clinics. This result clearly indicated either faulty knowledge on the part of the private physicians or methods so lax as to show complete indifference to the importance of the procedure.

In the New York experiment a very complete medical examination was attempted, which raised the important question as to whether the true reason for food handler examinations had been met in this way. Is it desirable or necessary in such a procedure for a municipality to undertake to look for all physical defects or only for the presence of contagious diseases? This question is important from the point of view of the expense of the service that shall be rendered, and the quality of the expert advice needed. From the aspect of the spread of communicable diseases, the sanitary examination embracing that for contagion alone may be clearly differentiated from the form of examination required by insurance companies and life extension institutes. On the other hand, the physical examination of food handlers described by Gloyne (*Jour. Amer. Med. Assn.*, May 13th, 1922), as carried out in Kansas City, Kansas, is apparently directed towards contagious conditions alone, and in this respect principally

venereal diseases, although the desirability of a mental examination is suggested by the health commissioner.

It is clear that the medical examination of food handlers as a health measure need not be so comprehensive nor directed toward the finding of physical defects of a non-contagious nature which, although informing and perhaps remediable upon a broad scale, do not affect the usefulness or desirability of the food handler as an employee.

It is thus virtually immaterial to the health administration whether the food handler under its jurisdiction be suffering from flat foot or spinal curvature, whereas it is very vital to know of the existence of tuberculosis or diphtheria in such employees.

In the main, public health authorities must necessarily take a broad-minded attitude with regard to the prevention of disabling diseases and, indeed, toward the maintenance of health itself as a community asset. This view, however, must give way to the more pressing need of determining the necessary freedom from contagion of those who are doing work in such intimate contact with the public as that of serving food and drink.

In the case of the City of Newark the necessity for such an activity had been clearly brought to our attention by the repeated reports of tuberculosis and venereal infection among the cooks and waiters of the city. The examination planned covered only the elementary steps to determine the presence of the common infections. Thus, a thorough chest examination to be made for tuberculosis, an examination for skin diseases or eruptions, a routine throat swab, a Widal test for typhoid fever, and in males the examination of the external genitals for venereal diseases. Such an examination would, at least, provide the minimum safeguards against infection by food. Sufficient authority for such an examination existed in the New Jersey sanitary code which, in regulation 37, states "Any waiter, cook, or other person employed in any hotel, restaurant, boarding-house or other place where cooked food is offered for sale, who handles or prepares food, may be required to submit to a physical examination by a medical inspector of any local board of health, or the State Department of Health for the purpose of ascertaining whether or not he is affected by any communicable disease. The people ever in the judgment of the health officer, in such cases an examination may be necessary."

To further extend the requirement of physical examination, and to authorize the use of private physicians if the department so wished, an additional city ordinance was passed in 1918 which brought all food handlers under its provisions.

Under this authority the examination of food handlers was started in 1920. The food handlers coming most intimately into contact with cooked foods, such as employees of restaurants and hotels, were required to appear at the department of health clinics for examination. Where food handlers, such as milk dealers, soda fountain operators, etc., could present a certificate from a reputable physician, they were accepted. For the guidance of the latter, and to standardise this examination, a letter of instruction was issued to all physicians making such examinations, giving the minimum requirements of the medical examination.

The following is an outline of the instructions sent to the private physicians who may be authorized to make these examinations, and describes the general routine of the examination in the health department clinics:—

DEPARTMENT OF HEALTH, NEWARK, N.J.
Division of Food and Drugs.

INSTRUCTIONS FOR PHYSICIANS MAKING PHYSICAL EXAMINATION OF FOOD HANDLERS.

External Examination of Body.—The examination of the skin should be directed to detect the presence of skin diseases such as eczema, psoriasis, abscesses, cuts, wounds or abrasions. The presence of any skin disease is sufficient to cause rejection of the applicant. The attention of the examiner is called to the probable association of skin diseases with syphilis. Where such is suspected a Wassermann blood test will be required.

Chest and Lungs.—The physical examination of the chest must include all known procedures for the determination of chronic pulmonary diseases. Percussion and auscultation must be accompanied by direct measurements with estimation of chest expansion. Any abnormal chest condition found is sufficient cause for rejecting the applicant, pending further examination, including the taking of a sputum specimen for laboratory observation. Where there is doubt of pulmonary conditions, an X-ray should be required of the applicant. Where cough, emaciation, temperature or other clinical conditions indicate an active or suspicious condition, the suspect must be required to submit to an examination by an expert from the Department of Health.

Nose, Mouth, Throat, etc.—The examination of the nose, mouth, teeth, throat, ears and eyes must be directed towards the discovery of acute or chronic conditions of an infective nature, especially where pus or discharge is present. Where there is a discharge, universal be taken for examination.

Short-attention must be directed to the presence and as to

of sore throat, enlarged tonsils, or other chronic throat conditions. Chronic discharges of the nose, ears or eyes, chronic conditions of teeth, pyorrhoea or foul breath, must not be passed. Such cases shall be refused certificates until the condition has been cleared up.

Contagious Disease.—The examination shall cover the thorough examination of the skin of the body for rashes and desquamation as well as possible discharges from the nose, ears or eyes.

A Widal blood test will be required where there is evidence of exposure to typhoid fever or a history of a previous attack of the disease. Where there is no evidence of vaccination as shown by a well-marked scar, or where no revaccination has been carried out within a period of seven years; revaccination will be required.

Venereal Disease.—The examination for venereal disease will, in case of males, require a routine inspection of the organs. Where suspicious sores or discharges are present, swabs shall be taken and where syphilis is suspected a Wassermann blood test must be made. For women, the examination for venereal diseases will not require the physical examination of special organs except where symptoms or statements indicate probable infection. Refusal to allow such further examination will be sufficient cause for denial of a certificate.

General Instructions.—All laboratory tests taken by physicians from applicants for food handlers' certificate shall be sent immediately to the Food and Drugs Division, Department of Health, William and Plane Streets, Newark, New Jersey.

All such laboratory material shall be properly checked and include a list of persons examined and their number as designated on the card. No entry shall be made on the space marked "Serial Number."

If at any time the Department of Health has reason to believe that an additional examination is needed, it reserves the right to refuse any health certificate until convinced that proper and complete examination has been carried out and the applicant is free from suspicion.

CHARLES V. CRASTER, M.D., D.P.H.,
Health Officer.

P.S.—All defects found, are required to be reported forthwith to the Department of Health.

Food handlers now being brought in for examination include restaurant waiters, waitresses and kitchen helps; soda fountain assistants, grocery and delicatessen helpers; food factory employees, including bakers, confection and candy makers, dairy workers and milk wagon drivers, ice cream makers and vendors. It is intended to cover all food handlers as soon as facilities are available. At the present time 90 per cent. of all examinations are made in our own clinics. The medical facilities are provided in our health department building with its various special clinics, and is in immediate charge of the director of the tuberculosis division, the staff carrying on the work numbering four paid part-time

doctors and one full-time and one half-time nurse. Examination hours are from 10-11 a.m. and 3-4 p.m. daily. The applicants histories are taken in duplicate, one retained by the tuberculosis division and the other taken by food handlers to the various clinics where the examination is made for lungs, skin, venereal disease and any other evidence of contagion. A specially careful examination is made of the mouth for bad teeth, pyorrhoea and bad tonsils or lesions of the mucus membrane, with special reference to discharge from the ears, nose and eyes. A routine swab is not taken unless throat and nose conditions are suspicious. Where indications call for blood specimens, Wassermann or Widal, smear or culture, these are taken. Each special clinic doctor O.K's the history card. The male is required to have an examination of the external genitals for venereal disease by a physician attached to the venereal disease bureau; the females are required to affirm that they are free from venereal infection. The applicant, after examination, if approved, takes the history card to the division of food and drugs where a food handler's card is issued together with printed advice as to personal hygiene. Where there is doubt as to positive diagnosis for any reason whatsoever, the applicant is given a re-examination slip and a temporary card is issued; this is usually for a week or a month according to the wishes of the examin-

ing physician. When an applicant is rejected, the doctor notifies the food and drug division, which in turn notifies the employer and employee in writing. The cause for the rejection is never given to the employer.

The food handler's card is good for six months. In order to prevent too great a number of applicants appearing for examination at one time a "stagger" system has been adopted. Restaurant workers' cards expire in January and July; milk and grocery cards in March and September, etc. Various coloured cards are used for different occupations, and each contains a complete description of the applicant, colour, weight, height, eyes, hair, etc., to prevent its use by another. Food handlers are required to retain the cards in their possession at all times and be able to show them to the visiting inspector. Any employee found working, who has been rejected, or any employer permitting a food handler to work without a card, is liable to a penalty which includes both a fine and a gaol sentence.

Since August, 1920, there have been 81,892 examinations of food handlers made in the city clinics. The number has increased yearly from the 2,314 examinations made in 1920. As stated before, no special effort was made at this examination to determine physical defects, so that the analyses of figures were of interest only where contagion was discovered. The following conditions were found:—

Year.	No. of Exam-inations.	No. of Re-exam-inations.	Positive for Tuber-culosis.	Sus-picious for Venereal Disease.	Positive for Venereal Disease.	Referred to Skin Clinic.	Typhoid Carrier.	Tem-porary Cards Issued.	Referred to Asthma Clinic.	No. of Vaccina-tions.	No. of Cul-tures.	No. of Widal's.
1920	2,314	—	26	—	10	42	—	—	—	—	—	—
1921	4,525	625	48	—	18	12	—	—	—	—	—	—
1922	6,213	712	24	75	8	—	—	—	—	—	—	—
1923	6,585	751	20	44	3	—	—	—	—	—	—	—
1924	7,589	796	20	18	4	—	1	10	—	—	—	—
1925	9,865	938	17	42	10	—	—	14	—	—	—	—
1926	14,910	1,148	9	98	34	10	—	93	1	57	2	15
1927	13,112	447	8	67	32	2	—	67	2	96	1	8
1928	16,779	356	3	123	54	10	—	56	—	30	4	12
Totals	81,892	5,773	175	467	173	76	1	240	3	183	7	35

Tuberculosis.—Inasmuch as by far the greater number of the re-examinations made were for chest conditions, we will consider these in relation to the positive tuberculosis found. The number of positive tuberculosis cases found in this period (175 out of 5,775 re-examinations made—0.3 per cent.) is apparently a low one. It is explained partly by the fact that many of these conditions were due to common colds, and that in other cases the

food handler discontinued his work after the preliminary examination, preferring to seek other employment rather than be discharged as a result of physical disability. Others put under special treatment and advised to rest at subsequent examinations had no clinical symptoms. Some of these cases were observed for many weeks and every effort consistent with public safety was made to keep these people at their jobs. The positive tuberculous cases

to the thousand examined each year was as follows:—

1920	9.0	per thousand examinations
1921	9.0	" " " "
1922	6.0	" " " "
1923	3.3	" " " "
1924	2.6	" " " "
1925	1.7	" " " "
1926	0.6	" " " "
1927	0.6	" " " "
1928	0.3	" " " "

This is a comparatively low incidence for the disease among a special group of industrial workers and very much below that assumed to be existing in the general population. The large number of suspicious cases required repeated examinations and observations with laboratory controls such as sputum and X-ray findings. No definite diagnosis of tuberculosis was made without such confirmatory evidence being at hand. The positive cases were, of course, immediately rejected and refused food handling cards. Many of the rejected applicants were unaware of their condition and expressed surprise at their rejection. One of the most gratifying results of this examination was that the actual cases of tuberculosis were put under proper medical treatment and the early cases given an opportunity for immediate sanatorium treatment.

Venereal Diseases.—Among the 81,892 examinations made to date, 173 positive cases of venereal disease were found out of 467 held as suspicious. This group of workers was, therefore, remarkably free from such infections, the percentage being 0.2 of the whole number examined. Under this head no diagnosis of venereal disease was made without a positive smear showing the specific organism in gonorrhoea and a positive Wassermann; or a positive dark field diagnosis in the case of syphilis. These results were in contrast with the findings of Gloyne, who apparently found venereal diseases extremely common among the food handlers of Kansas City. His examination, however included a routine vaginal examination and smear from an unusual group of women food handlers. Gloyne very rightly rejected all venereally infected persons from handling food. This stand has been criticised by Ashburn (*Jour. Amer. Med. Assn.*, June 3rd, 1922) and Iovine (*Jour. Amer. Med. Assn.*, June 24th, 1922). There can be, in my opinion, little said in favour of allowing venereally infected persons to carry on in this line of business. In the case of gonorrhoea

there is always the possibility of the spread of ophthalmia among the employees. The associated pus condition in these cases cannot be regarded as free from danger to the public. In the case of syphilis, at least with active lesions in the mouth and throat, the employee may spread infection by tasting food or by way of glasses and cups. In any case, although actual cases of such accidental infection may be infrequent, it is none the less our duty to prevent as far as possible in our power so abhorrent a possibility. The case of the syphilitic with no open lesion, with perhaps even a four plus Wassermann, is different. Such a person may conceivably be allowed to handle food provided that proper anti-syphilitic treatment is being received and the medical care checked up by the bureau of venereal disease.

Skin Diseases.—Only 76 cases of skin disease were noted at these examinations. It is noteworthy that 54 of these were in the first two years of the procedure. In the succeeding four years there were no such lesions found. This is a signal result of the educational work accomplished by the examination. It indicates to us that the employees go under immediate treatment for such conditions and also that the restaurant or other employer refuses to engage individuals suffering from skin eruptions for this class of work. Although some skin diseases were diagnosed as non-contagious, the position taken with regard to such infection was that it was undesirable to have individuals so afflicted handling foodstuffs. Although it is conceded that many types of streptococci are found normally upon the skin, it was considered that the contagion of boils and carbuncles was especially virulent and capable of being conveyed to food. The virulence of such germs found in milk during epidemics of sore throat must not be forgotten in this regard.

Vaccination.—A satisfactory evidence of vaccination was required to be shown and, when this was over seven years, re-vaccination was required. The 240 vaccinations carried out in this period show a high degree of protection among these people against smallpox.

Typhoid Fever and Diphtheria.—It is noteworthy that among this large number of examinations of food handlers only one typhoid carrier was found. Although a routine Widal test was taken during the first four years not a case was discovered by this means. The carrier was found among a group of

waiters as a result of infecting a fellow employee and only after a stool culture had been taken. Similarly, among the thousands of throat cultures taken during these years not a single case of diphtheria was detected. This result was mainly due to the special laboratory efforts made to establish the identity of suspicious organisms. Any positive Widal test was followed up by a special investigation of the suspected individual. Special tests for virulence were done in the positive throat cultures. The results of this intensive follow-up clarified in a surprising way conditions which were at times disconcerting. The routine Widal blood test and throat cultures have now been abandoned, and are only carried out when clinical observation shows their necessity.

Cost of Operation.—An estimation of the cost of this work can only be approximate, inasmuch as the employees concerned have other duties besides that of the food handler work. Giving half of the time of the director and four clinic physicians of the division of tuberculosis to this work, as well as the full-time and half-time of two nurses, three-quarters of the time of one clerk, half of the time of another and a quarter the time of a third, we can state the expense as follows annually.

	\$
Director of Tuberculosis Division, half-time ...	1,750
Four Clinic Physicians, half-time ...	1,860
One whole-time and one half-time nurse ...	3,000
Three clerks; three-quarters, one-half and one-quarter time ...	2,430
	\$9,040

This does not include, of course, heat, light and use of building nor the service for laboratory investigation. With this expenditure, the total cost for 16,779 food handlers in 1928 was fifty-three cents for each examination made.

Summary.—During the eight years the examinations have been carried on by the Department, there has been little or no opposition to the examinations by the owners of restaurants and eating places; and we have received full co-operation of the various labour unions, and even from among the employees themselves. It is not considered a hardship as the law is enforced all round. It acts as a bar to the employment of the sick and diseased who would compete by accepting lower wages and longer hours.

It has been asked: "Is the physical examination of food handlers possible for small communities in the light of its cost for specialised

assistance?" The answer will depend upon the point of view and whether a medical or a sanitary inspection is contemplated. If the latter, the necessary examinations may be made by any well-equipped physician employed by a local board of health, assisted by a good laboratory to carry out any special tests required for diphtheria, typhoid fever and venereal disease. On the other hand, a complete medical examination means the employment of many experts.

Granted that the expense for this special activity can be met, are the results worth while? Although the findings of the examinations for a period of eight years in the City of Newark indicate that contagion is not more prevalent among food handlers than among any other body of industrial workers, the evidence gathered showed in the first few years that many were being employed though in the advanced stages of tuberculosis. That this condition has been almost entirely eliminated is due undoubtedly to the semi-annual examination. Skin diseases are rarely found now among applicants, while venereal diseases in the contagious state are frequently detected. These results indicate the value of the routine examination inasmuch as in no other business is there so much danger of spreading infection as between infected food handlers and the consumer. The safeguarding of the public in this way is well worth while. There was observed even in the first few months of the procedure a remarkable effect upon the general appearance of the food handlers. There was a sprucer, healthier, more wide-awake and intelligent appearance among all of them. There was an evident elimination from among this group of workers of the cheap labour of diseased persons from other occupations who might seek the lighter and more elastic hours of restaurants and lunch counters. This is particularly important among the food handling class for the reason that many are part-time workers, being frequently recruited from the married women and mothers of families who have some of their day at their disposal.

From the point of view of preventive medicine, there can be little doubt that the physical examination of food handlers has come to stay, taking its place with the supervision of mother and baby, and the medical inspection of school children, as a community effort to control disease and prolong the span of life, which the public can justly demand as a necessary municipal undertaking.

Ut Ita Dicam.

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

The December Council Meeting.

So little of any moment happened at the December meeting of the Council of the Society that the President might very well have called it off and saved himself a cold journey in the early hours of the morning. Had he done so, however, we should have missed the pleasure of welcoming Sir Humphry Rolleston on his first appearance at the Council this session. It was very largely because Sir Humphry was present that I regretted the absence of imposing items from our agenda. As things went, we behaved rather like a debating society, a few people delivering longish speeches, *apropos* a motion to appoint a special committee, to an accompaniment of appeals on points of order. The fact that the General Purposes Committee, recently created mainly with the object of discovering how the business of the Council may be simplified and expedited, reported for the first time may be regarded as a noteworthy feature of a rather dull and uneventful meeting. Another, perhaps, is that not once was the salary scale mentioned.

The Ordinary Meeting.

Very handsomely, however, was this omission made good at the ordinary meeting—rather thinly attended, but interesting because it included, amongst others, Dr. Shadick Higgins, home on leave from Capetown; Dr. Willoughby of Eastbourne, the President-Elect of the British Medical Association; Sir Thomas Legge; Dr. Andrew Balfour; and a few jaded members of Council, who had been engaged on committee work since half-past ten. The subject for discussion—"The Public Health Service and its Future"—was opened by Professor Kenwood and Professor Jameson, and provided, or so one might have supposed, an infinity of opportunity for optimistic talk, for getting away from ourselves and the hardness of the lot of some of us, and the possibility and wisdom of fitting in or freezing out the private practitioner. But did it? It did not. The practitioner was there, sometimes winged as the angel of hope, sometimes deprived of saintly trappings, menacing and awful, threatening to upset the whole apple-cart of progress in preventive medicine. Criticism, too, was there of those who failed to get better than £500 rising to £700 for the assistants, with Dr. E. H. T. Nash figuring

as their champion, suggesting that nobody gave a thought to their position or future, urging that "something will have to be done," and basing high hopes on his questionnaire and a list showing the exact number of individuals occupying junior posts.

The Service and the Future.

Also there was Sir Thomas Legge, who worked in a health department forty years ago and sees things now as they were then, whispering his opinion, so very adverse, of the medical officer of health and commiseration of Lord Dawson of Penn, so hardly used by this and other journals. "Why," he breathed, "did the openers of the discussion say nothing of industrial hygiene and occupational diseases, and why, in any case, being, as he was, sensitive, grasping, overworked, incapable of research and generally, in fact, no good at all, even at his own job of directing dustmen and supervising plumbers' work, should the medical officer of health believe himself fit to enter a factory or have contact with the workers there, or even to carry out or supervise the work of the certifying factory surgeon?" All this there was and more in the same vein from Sir Thomas Legge, and much more from other speakers who misread the title of the discussion to be "Six Hundred a Year" and found in it, or in some sentence or two in the opening papers, an excuse for weeping and wailing and for a wringing of hands over the awful condition of the service. All through there was never a note struck that had not self sounding within it. Until the President spoke, there was no word of why we were working, what we were working for, of pleasure in the work. No one stood aside, even for a moment, from himself and strained his eyes and his imagination to see the brightness that we ourselves can make with the increased scope and opportunities that will arrive in the New Year. Not one single person, following the example of an old friend of mine, before he sat down said, "Well, anyhow, thank God there's plenty of work to be done." On the contrary, each having arisen in gloom, gloomed through his speech and subsided in a cloud of gloom. Exactly the line to be followed in the discussion I am not sure that I definitely anticipated, but that it was not the line in fact followed is certain; and that no doubt is why I was so con-

scious of a feeling of disappointment when I left the meeting.

"The Spectator" on Dust-Carts.

After all, however, life is full of disappointments, and for one that at the time was most bitter I am indebted to the *Spectator*. At the urgent request of the proprietors of that organ, who assured me that the issue dated December 14th would contain "an important article on the Dust-Carts of Great Britain," I purchased a copy and, carrying it so that everyone might see the title and some might mistake me for a member of the intelligentsia, I sought that solitude in which alone it is possible, I am told, to study the *Spectator*. I looked at the table of contents (I may as well confess at once that this is one of the periodicals I always avoid because it makes me think of dentists' waiting-rooms and places in which smoking is forbidden): I found the page on which the "important article" appeared: I concentrated and generally prepared myself for what is called a "real solid bit of reading," and set about it. It was an easier task than I had supposed and feared, the reading of that so-called "important article." To begin with, it was short: so short as scarcely to deserve the title of article, and in my opinion it did not really warrant the description "important." Also it did not deal with the dust-carts of Great Britain, but with the refuse receptacles of the rate-payers and a type of refuse removal vehicle and system that a certain society, on totally insufficient evidence and after a completely inadequate test with the kind of material that constitutes house refuse in this country generally and in London in particular, believes to be suitable. As an aid to the efforts of those who are really trying to solve the problem of refuse removal and disposal—and there are many, including quite a number of health authorities and officers—the contribution of the *Spectator* does not appear to me to possess much value; not sufficient certainly to justify them in urging me on a postcard to spend sixpence at one hang on the paper. To be perfectly frank, I have read articles just as good in the morning and evening papers for a penny, and if I was not too modest I might say that I know dozens of municipal officers who could write, and have written, far better articles on the same subject. Only they do not and would not say, as the *Spectator* says, that if some particular system was introduced "the health of the community would immediately

benefit thereby and the initial expense be saved in other directions," the reason for this omission being that they would be called upon to produce evidence in support of the statement, and they could not.

The British Red Cross Manual.

I seem to have been entirely on disappointments so far. By way of a change let me refer to some things that I have not found disappointing. The first of these is the British Red Cross Society Hygiene and Sanitation Manual No. 4: second edition, by Lieut.-Colonel G. S. Parkinson,* which appeared just about a month ago. In it I find nothing at all to give rise to disappointment but very much that gives me pleasure. To my mind it is a wonderful production. It makes me feel, indeed, like the person of whom it was said in the old rhyme: "Still he gazed and still his wonder grew, that one small head could carry all he knew." For in truth I do not know how so much information could have been compressed into such a small compass. Including the index pages there are only 246 in all, yet in this space, small as it is, without sacrifice of words or accuracy, Col. Parkinson exposes the foundations of sanitation and hygiene and provides sufficiently detailed instruction on a variety of practical matters. Primarily intended, of course, for persons concerned to deal with hygiene and sanitation from the military point of view, the book should be of the utmost value. To these it need not be commended since its appeal is obvious. Others, those interested in the civil side, may read it, too, with advantage. They will like it because it is so simple, so straightforward, so attractively put together and so fully provided with well selected illustrations. In his preface Col. Parkinson endeavours to suggest that he is indebted to a great many writers and to official publications for the bulk of the information given. In spite of what he says, however, that all that is best is what he himself put into it will be the view of his readers just as it is mine. It is for that they will be most indebted to him and on that I congratulate him most.

Rifts in the Clouds of Disappointment.

Other things that I have not found disappointing include the reply alleged to have been sent by Sir Oliver Lodge to a factory manager who enquired as to the best method of consuming smoke: "Don't be such a fool

*London: Cassell & Co., Ltd. Price 2s. net.

as to produce any." Also the speeches of Dr. Wood of Bootle and the Bishop of Manchester at the North-Western Branch Annual Dinner, in toasting the City and Corporation of Manchester. The former, in proposing, sought inspiration in a book called "The Soul of Manchester" and found it in these two entries in the index: "Manchester, Rainfall of" and "Manchester, Need of bright objects in:" a proceeding which led the Bishop to enquire as to "the nature of the man who would read a book by the index, and would look for the soul in the appendix." Also, and lastly, this from

Health News, the bulletin of the New York State Health Department, quoting from an examination paper submitted by an applicant for an undertaker's licence:

Q. Aside from embalming, what use has the embalmer for germicidal agents?

A. This question I am not able to answer. Some of these answers will no doubt sound as dumb as hell, but I don't believe I am dumber than a hell of a lot more. I know I have been with a good firm for six years and can take a funeral with any one.

Which reminds me that we have just begun a New Year, and I hope it will be a happy and prosperous one for all of us.

P.

Smallpox.

By G. G. WRAY, M.D., Ch.B., D.P.H., Assistant Medical Officer of Health, Lancashire County Council.

This practical paper on a subject of perennial concern led to an extremely interesting discussion when it was submitted at a meeting of the North-Western Branch.

PRIOR to the conclusion of the European War, this country for a number of years had enjoyed a period of comparative immunity from smallpox, but since then the number of cases occurring annually has shown a steady and progressive increase.

Outbreaks of this disease have occurred all over England and Wales, the more industrial areas being particularly selected, whilst the rural areas have remained comparatively free.

Lancashire, with which I am more particularly concerned, as one of those industrial areas, has had many outbreaks, the first one of note being at Middleton, with slight involvement of Manchester, in 1921. Since then the disease has appeared in different areas of the county, and as each outbreak has been brought under control and finally determined, a fresh outbreak has occurred in some different part within a comparatively short time.

In most of these outbreaks it has been possible to trace the probable source of infection, but in others this was impossible owing to the time which had elapsed and the number of cases which had occurred before the disease was definitely diagnosed. I, personally, had to deal with two extensive epidemics where the disease had been present in the area for two or three months before any suspicion was aroused that the cases might be smallpox.

That such a state of affairs can arise will

not be a matter for surprise when it is remembered that up to recent years the majority of practitioners in this country, including medical officers of health, had never seen a case of smallpox, and even at the present time there are large numbers of practitioners who have never seen one. (A local medical officer of health confessed to me within the last month that he had never seen a case.) Again, many of the older practitioners who have had experience of the eastern type of smallpox are unable to recognise, as such, the milder cases which now occur.

We are aware that one of the most important factors in the control of infectious disease is early and accurate diagnosis, and in no disease is this more important than in smallpox. Therefore I shall not apologise if I devote most of this paper to the question of diagnosis.

We are, however, dealing particularly with smallpox of the western type now mainly prevalent, which admittedly is very much milder than the eastern, but conforms in many respects in type to the text-book description of discrete smallpox.

The disease itself, however, is so mild that certain variations from type occur in each outbreak and, therefore, I propose to take each stage of the disease in more detail.

The Incubation Period is usually twelve days in unvaccinated persons, but in persons who

have been vaccinated but whose protection is not recent, fourteen to sixteen days is not unusual. I have found a definite incubation period of eighteen days in several cases and in one case twenty-one days. (It is my impression that vaccination of even a remote date lengthens the period of incubation by producing an increased resistance to the growth of the organism responsible.) I have also seen cases with an incubation period of eleven days but these are unusual.

Preliminary Symptoms.—These vary considerably in different age groups:—

In older people:—Backache, headache, aching in the limbs, rigors, anorexia, rise of temperature, an intense feeling of depression and, in men, inability to smoke, are almost invariably the symptoms present.

In young adults:—Headache, general malaise, slight backache, rise of temperature, limb ache, and depression of spirits.

In children:—Headache, feverishness, slight aches and pains, and shivering.

In babies:—Anorexia, feverishness, restlessness and vomiting.

It is an important sign in all patients seen in this stage that they exhibit depression, sometimes are even profoundly depressed. They are sluggish in their movements and as a rule are reluctant to move about in bed for examination.

The most common statement patients make about their experience of this stage is that they have had a bad attack of influenza or a bad feverish cold.

In young children or babies it is often difficult to obtain a reliable history of this stage from the parents, but a few judicious questions will generally provide the required information.

The Rash.—This generally appears on the third day of illness, but I have known it to appear on the second, or again be delayed as long as the fifth day. In contacts who have been vaccinated late (after the fourth day) where concurrent vaccination and variola occur, the appearance of the rash is frequently delayed and maturation is rapid or it may even abort.

The rash is always papular at its inception and the papules are frequently surrounded by a red areola.

The distribution of the rash is the most important diagnostic feature. It first appears on the forehead at the roots of the hair and frequently just above the eyebrows. It then invades other parts of the face, a favourite site

being the junction of the cartilaginous and bony parts of the nose. Unless the rash is profuse the scalp is not usually involved nor the mucous membranes.

The extremities are speedily affected, the arms in advance of the legs. The extensor surfaces are more extensively involved than the flexor, and the distal parts of the limbs more than the proximal. The wrists are early affected and it is common to find the rash following the lines of the extensor tendons there. A similar condition is found at the ankle and on the dorsum of the foot.

The rash also appears on the scapular regions of the back, on the lumbar regions, and on the buttocks.

The rash is sparse on the chest and frequently the abdomen is quite free. The axillæ are free of rash, but there may be spots on the axillary folds.

The rash is nearly always less extensive on the trunk than on the extremities when the skin area is mapped out, and the spots are all in the same stage of development, although I have seen cases which did not strictly conform to one or other of these rules.

It is well to remember that the rash which usually presents a bilaterally symmetrical appearance may be affected by points of pressure or exposure or points of irritation.

I once saw a woman who worked with her sleeves tightly rolled up on the upper arms have a ring of rash there.

I saw another case, a tramp, who spent a night sleeping with his back against a hot brick oven, with an extremely extensive rash on the parts of back which rested against the warm bricks.

Patients frequently apply plasters or liniments to relieve the pain in their backs and such have usually an extensive rash in the lumbar region.

Pressure points caused by the top of the clog, the boot top, garters, corsets, braces, etc., are usually picked out by the rash.

The character of the spot is important. Where discrete it is always circular in outline (except on the face where irregular spots frequently appear). It is placed deep in the skin and is shotty when pressed upon, but it is well to confirm this shotty feel by picking up individual spots between the fingers and thumb.

Vesiculation is usually rapid, taking place twenty-four to thirty-six hours after the appearance of the papule but it may take two days.

Umbilication is not a prominent feature but

can usually be detected by a magnifying lens.

The vesicles are perfectly circular in outline (the face again being excepted). Spots with a long axis do not occur unless two spots have coalesced.

Vesiculation is quickly followed by pustulation which is usually complete on the fifth day of the rash, and may be complete on the fourth.

This maturation of the rash occurs from above downwards starting on the forehead.

When the skin is thick or horny, pustulation may be delayed and slow maturation of the rash is sometimes found in people who have been vaccinated within twenty years.

The pustules vary much in size. They are usually small in young children and increase in size with the age of the patient, but the size of the pustule is also regulated by the vaccinal state of the patient. I have seen very large pustules in young unvaccinated adults.

The pustule has a characteristic appearance. It is circular in outline, raised to a rounded point in the centre and it appears to be filled with honey which is just beginning to crystallise. It is surrounded by a well-marked areola.

Scabbing takes place quickly, especially on the face, and it is not unusual for the face in this stage to present an impetiginous appearance. Itching is rarely complained of.

There is one very important feature of this disease which is a frequent cause of the extension of the outbreak, and it is this: when the rash comes out, the temperature falls, the patient physically feels better but mentally still feels depressed, with the result that he frequently visits the cinema, the theatre, the public-house or his club in order to cheer himself up, or he may go back to work.

When pustulation is complete, secondary fever occurs in about 15 per cent. of the cases but is rarer in young children than in older people. Secondary fever may cause temporary heart weakness. It generally shows itself about the eighth or tenth day after the appearance of the rash.

"Seeds" appear in the palms of the hands and the soles of the feet and on the fingers and toes, on the seventh or eighth day of the rash.

Where, however, the rash is very extensive, "seeds" appear sooner, or they may be considerably delayed where the epidermis is very thick. They mature slowly in comparison with the rash on other parts of the body.

After the spots have scabbed, the scabs dry

and drop off leaving a reddened raised area which gradually subsides. The colour of this raised area changes to brown and a small white point appears in the centre of the brown staining.

The whole spot becomes white about two months after the first appearance of the rash.

In tracing sources of infection it is important to have a knowledge of the characters of the pits, and to be able to date from this the possible date of the original illness.

Variola Sine Eruptione.—I have seen three cases in infected houses where patients have had, after an incubation period of twelve to fourteen days, an attack which in every particular was similar to the preliminary sickness of smallpox. Two of these never developed any rash but the third showed two or three papules which aborted in twenty-four hours. This latter patient subsequently was negative to vaccination.

Infectivity.—I have found not the slightest evidence in favour of aerial convection.

Close contacts of the patients are the most likely to be infected. Casual contacts sometimes are infected, especially when they are unvaccinated persons, but, as a rule, the disease spreads through close contact and more particularly contact within doors.

The extensiveness of the rash is not a measure of its power of infectivity. Patients with extensive rash and really ill, and who might reasonably be expected to be very infectious, quite frequently never give rise to any further cases. On the contrary, patients with a minimum of rash and little or no discomfort have been found to be very infectious.

I have had experience of one person, who had an extremely mild attack, who subsequently infected thirteen people. Another one, a schoolboy, gave rise to outbreaks in four neighbouring areas.

The most infectious period is the first week after the rash appears, and the patient remains infectious till all the seeds have come out.

One experienced observer told me that he thought that there was one definite day in the rash which was most infectious. I have not experienced such a definite limitation of infectivity.

Differential Diagnosis.—I lay the greatest possible stress on the importance of examining every part of the patient in a good light. The rash should always be observed as a whole, and never judged on a part, or mistakes are certain to be made.

In children and young adults, chicken-pox, of course, is the disease most likely to be confused with smallpox. In chicken-pox, the rash follows very quickly on the initial sickness, the rash is distributed mainly on the trunk and affects parts which are usually free in smallpox. The mucous membranes, axillæ and abdomen usually show rash. Oval spots are found, the vesicles are superficial when picked up between finger and thumb, and spots in all stages of development are present. Cropping occurs over two weeks or more.

Chicken-pox in adults is frequently profuse in rash and often proves more difficult, but all the facts must be considered and weighed. Chicken-pox is not common in persons over thirty. The vaccinal state in doubtful cases is of considerable assistance.

Urticaria, teething and food rashes in babies often present difficulties, but these rashes often are pleomorphic in character and if watched for twenty-four hours develop differently from smallpox. Impetigo and small boils are sometimes difficult in school children, but it is usual in these to find irregular spots and the history will also be of value.

In miners, boils, and in mill workers, the so-called "oil grubs," occur extensively and these prove very difficult particularly in the early stages. Boils usually have a central black spot (comedo) but it is well to remember that smallpox in miners also presents a similar spot due to the impregnation of the pores with coal dust.

Industrial rashes may also simulate smallpox. Secondary syphilis should present no difficulty if the history is carefully obtained.

It is always better to err on the right side and isolate where any doubt remains after all the facts have been considered.

Relation to Vaccination.—The minimum period of protection afforded by vaccination in my experience is ten years.

Vaccination in the case of contacts must be performed within two days of exposure to infection if immunity from attack is to be guaranteed. Vaccination within four days of exposure will protect quite a considerable portion of the susceptibles.

Concurrent vaccination and smallpox are not uncommon in persons who have been vaccinated late. In such persons the disease rash and the vaccinal vesicle are modified.

Control.—Immediate vaccination of all close contacts and as many casual contacts as can be obtained.

Obtain all possible information from the patient and his friends, and do not forget that fear of the disease and of the law will often produce the most definite variations of the truth.

It is often easier to get reliable information from neighbours. No avenue should be neglected to get information of the patients movements before and after developing the disease.

Visit your contacts daily, and towards the end of the incubation period see each one personally, as frequently a statement as to their state of health is very unreliable.

Do not close the schools. The examination of absentees from school, a list of whom should be obtained daily, at their homes gives a valuable entry into houses.

Absentees from works should also be watched.

THE National Baby Week Council, which awards annually two Silver Challenge Shields for the most effective local Baby Week campaign, has announced the results for this year. The "Lady Astor" Shield, reserved for competition among the great towns, has been won for the second time by the Kettering U.D.C. Ladies' Voluntary Committee for Infant Welfare. To the Northampton Maternity and Infant Welfare Voluntary Association goes the honour of securing the second place, which is to be recognised by a special trophy. Certificates of Merit have been awarded to the following:—Leicester Health and Baby Week Committee; Sunderland County Borough; Gloucester Voluntary Association for Infant Welfare; Wolverhampton County Borough; Glossop County Borough; Bilston U.D.C.; Esher and the Dittons Welfare Centre. The "William Hardy" Shield, reserved for smaller areas, has been won by the Welwyn Garden City Health Council. The Hill and Cakemore (Worcs.) Infant Welfare Centre has secured second place, which is to be recognised by a special trophy. Certificates of Merit have been awarded to the Titchfield Infant Welfare Centre; East and West Molesey Infant Welfare Centre; Bungay (Suffolk) Nursing Institute; Penryn (Cornwall) Infant Welfare Centre; and Lyvington (Hants) Infant Welfare Centre. These awards will be presented on the occasion of the Annual Meeting of the National Baby Week Council in March next.

The Society.

Reports, Proceedings and Announcements.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, December 20th, 1929. The President (Dr. J. J. Buchan), was in the chair and there were present Professors Sir Humphry Rolleston, H. R. Kenwood, H. Kerr, W. W. Jameson, J. J. Jervis, Lieut.-Colonel F. E. Fremantle, M.P., Drs. R. M. F. Picken, C. Porter, Eustace Hill, G. F. Buchan, E. H. Snell, E. Ward, R. H. H. Jolly, F. T. H. Wood, J. Howard-Jones, H. J. Milligan, E. H. T. Nash, R. H. Wilshaw, A. K. Chalmers, A. M. N. Pringle, F. C. Linton, K. E. Tapper, A. Turner, Stella Churchill, E. G. Annis, D. J. Thomas, F. A. Sharpe, H. Gibbons Ward, and G. H. Pearce.

The Minutes of the last meeting having been approved and signed, messages of apology were received from Professor A. Bostock Hill, Drs. Mussen, Baker, Puddicombe, Naylor Barlow, P. H. Stirk and Lieut.-Colonel G. S. Parkinson.

Election to Council.—The Maternity and Child Welfare Group notified the election of Dr. Stella Churchill, L.C.C., as their representative on the Council in place of Dr. Margaret Emslie, resigned.

Representation of the Society.—Dr. Charles Porter was nominated as a member of the Executive Council of the Industrial Health Education Society. Dr. Stella Churchill was elected to the Maternity and Child Welfare Sub-Committee, B.M.A., in place of Dr. Puddicombe, resigned. Dr. Thomas Orr was re-elected to the National Milk Publicity Council. Dr. James Fenton was elected to the National Safety First Association for organisation of National Safety Week, 1930.

The Local Government (Qualifications of Medical Officers and Health Visitors) Regulations, 1929.—The following letter was received from the Ministry of Health in reference to the Council's representation re above Regulations (see Proceedings of Council, October 25th, 1929):—

MINISTRY OF HEALTH,
WHITEHALL, S.W.1,
16th November, 1929.

SIR,

I am directed by the Minister of Health to refer to your letter of the 30th ultimo, relative to the Regu-

lations which he proposes to make under Section 59 of the Local Government Act, 1929, (prescribing the qualifications of certain Medical Officers and Health Visitors appointed by Local Authorities.

In reply I am to state that, while the Minister agrees generally with the principle of a single portal of entry for Health Visitors, he is advised that insistence on this principle at the present time, in the case of Tuberculosis Visitors, would probably lead to a serious shortage of such officers, with consequent detriment to the working of the tuberculosis schemes of Local Authorities. For the present, therefore, the Minister considers it necessary to retain in Article 9 of the Regulations the words quoted in your letter.

I am, Sir,

Your obedient Servant,
Z. L. PUXLEY.

The Executive Secretary,
The Society of Medical Officers of Health.

Age Limits for Appointments.—The Council considered protests from the Northern Branch and others in reference to the low age limit of forty enforced in connection with recent appointments at Coventry and Derby. It was agreed to bring the matter to the notice of the British Medical Association, and to forward a representation to the Ministry of Health submitting that such limitation of age was not in the public interest inasmuch as it might mean the unreasonable exclusion of the best candidates available for any particular post.

The Council's Procedure.—A report was received and adopted from the General Purposes Committee indicating matters now receiving attention which would be submitted to the Council in due course.

Examination of Tuberculosis Contacts.—A memorandum in this connection was submitted by the Tuberculosis Group. After discussion it was decided to ask the Group to consider the re-drafting of the Memorandum in the light of suggestions offered by members of the Council.

Midwives and National Maternity Services.—The following documents were submitted for discussion (a) Report of Departmental Committee on the Training and Employment of Midwives; (b) Memorandum and Observations thereon from the Central Midwives Board; (c) the B.M.A. Scheme for a National Maternity Service; (d) the Medical Womens' Federation's Scheme for a National Maternity Service. There were also awaiting discussion various observations forwarded by the

Society's Branches in reference to the above documents. On the motion of Professor J. Johnstone Jervis it was agreed that all these matters should be referred for consideration and report by the General Purposes Committee, with Drs. Churchill, Nash, Chalmers and Tapper, and others whom the Committee might desire to co-opt.

The Council then adjourned.

ORDINARY MEETING.

An Ordinary Meeting was held at the house of the Society on December 20th, 1929. Dr. J. J. Buchan (President) was in the chair.

The Minutes of the last meeting having been approved and signed, the following candidates, who had been duly nominated, were elected to the Society:—

As Fellows:—

Ainscow, Edith Mary, M.B., CH.B. BIRM., D.P.H.; Baird, Dorothea T., M.B., CH.B. ED., D.P.H.; Buchanan, David Sheret, M.B., B.S. DURH.; Cookson, Charles, M.D., CH.B. LIVERP., D.P.H.; Eldridge, Raymond William, M.D., B.SC., LIVERP., M.R.C.S., L.R.C.P., D.P.H.; Fry, Augustin Pownall, M.C., M.B., B.S. LOND.; Gardiner, Archibald, M.B., CH.B. GLASG., D.P.H.; Gaspey, Ernest Thomas, M.D. (BRUX.), M.R.C.S., L.R.C.P.; Geddes, John Erskine, M.B., CH.B. GLASG., Hall, Clifford, M.R.C.S., L.R.C.P.; Henzell, Linley I., M.D. LOND., M.R.G.S., L.R.C.P., B.SC., D.P.H.; Locke, Robert William, M.D., B.S. DURH.; Macbean, Daniel Steel, M.B., CH.B. GLAS.; McHenry, James Joseph, L.R.C.P.I., L.R.C.S.I., L.M., D.P.H.; Menzies, Hilda F., M.D., CH.B. ABERD., D.P.H.; Miller, Margaret McDonald, M.B., CH.B. ED., D.P.H.; Moore, William Brodie, M.B., CH.B. GLAS., D.P.H.; Newth, Alfred Arthur Edmund, M.B., B.S. LOND., L.M.S.S.A., D.P.H.; Picton, Lionel James, O.B.E., M.A., B.CH., OXON., M.R.C.S., L.R.C.P.; Pinkney, William Cecil, M.B., B.S. DURH.; Purcell, Frederick Walter Faure, M.R.C.S., L.R.C.P.; Richardson, Barbara, M.B., CH.B. ED., D.P.H.; Smith, William Harden; Sproul, Margaret, M.B., CH.B. GLAS., D.P.H.; Stobbs, Joseph Arnold, M.B., B.S. DURH.; Thompson, William Derwent Radcliffe; Wallace, Kathleen, Dorothea, B.A., M.B., CH.B., B.A.O. DUBL.; Warren, Stanley Herbert, M.R.C.S., L.R.C.P.; D.P.H.; Watt, Alexander J., M.B., B.CH., B.A.O. BELF., D.P.H.

As Associate:—

Hale, Richard Thomas, L.D.S., R.C.S.

A number of nominations were received for the next election. The President welcomed the presence of Dr. T. Shadick Higgins (M.O.H., City of Capetown), at present on leave in England, who attended to meet old friends and colleagues.

There followed a discussion on "The Public Health Service and its Future," opened by Professor H. R. Kenwood and Professor W. W. Jameson. Amongst those who

spoke were Drs. T. S. Higgins, A. K. Chalmers, G. F. Buchan, W. G. Booth, W. G. Willoughby, Andrew Balfour, E. H. T. Nash, and Sir Thomas Legge.

The proceedings closed with a vote of thanks to Professors Kenwood and Jameson.

THE METROPOLITAN BRANCH.

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

The Council of this Branch met at the house of the Society on November 22nd, 1929. The President occupied the chair and there were present twenty-one members.

It was learned with regret from the President that Dr. D. L. Thomas, of Stepney, was absent owing to illness, and the Hon. Secretary was asked to send an expression of sympathy to him.

As a result of a request from the Metropolitan Boroughs' Standing Joint Committee to prepare a statement of the duties which the Branch consider might be transferred or delegated to metropolitan borough councils by an order of the Minister of Health under Section 64 of the Local Government Act, 1929, a Sub-Committee of the Branch Council submitted a comprehensive report which was discussed at length and approved after various amendments had been made. The report will be forwarded to the Special Sub-Committee of the Metropolitan Boroughs' Standing Joint Committee, which will consider the question of recommending the transfer of certain powers under Section 64, in co-operation with representatives of the Branch, the London and Home Counties Branch of the Institute of Municipal Treasurers, the Association of Metropolitan Town Clerks, and the Metropolitan Branch of the Institute of Municipal and County Engineers. Instructions were given for the report to be printed and put on sale in due course.

The Sub-Committee set up to consider the question of serum prophylaxis in relation to measles reported that there is good evidence that the administration of serum from convalescent patients presents a possible method, at once safe and free from danger, by which an attack of measles may be temporarily postponed or considerably modified. The Sub-Committee realised that there may be difficulty in obtaining an adequate supply of convalescent serum at the present stage, and that it

might be necessary to restrict its use to very young children, particularly those who are delicate. The Sub-Committee recommended:—

(a) that each Metropolitan Borough Council should make its own arrangements, either alone or in combination with its neighbours, in regard to the collection and issue of serum; appoint an experienced clinician at a fee to draw off the blood; and select a laboratory in which to have the serum prepared, tested, bottled, etc. (In this connection attention is drawn to the offer of Dr. O'Brien of the Wellcome Research Laboratory to prepare serum free of charge):

(b) that each medical officer of health should endeavour to obtain the names of adult volunteers willing to give blood, by eliciting the support of general practitioners, hospital and institutional superintendents, health visitors, etc.:

(c) that the serum should be issued free of charge to practitioners and hospital and institutional superintendents at the discretion of the medical officer of health.

The report of the Sub-Committee was adopted by the Council.

A meeting of the Branch followed the Council meeting. The President was in the chair supported by twenty-eight members and several visitors.

Dr. Helena Wright gave an interesting address on the "Use of Contraceptives," and displayed samples of various contraceptive appliances. Dr. Charles Porter moved a hearty vote of thanks to Dr. Wright, which was seconded by Dr. Dart, supported by the President and unanimously accorded.

The Branch appointed a Sub-Committee of five members to consider and report upon "The Report of the Departmental Committee on the Training and Employment of Midwives" and the "British Medical Association Memorandum outlining a National Maternity Scheme for England and Wales."

Consideration was given to a proposal that legislation should be promoted to extend the scope of Part I of the Housing Act, 1925, in its application to London, so as to enable unsatisfactory basement rooms used for living purposes to be deemed to be so dangerous or injurious to health as to be unfit for human habitation, and consequently to submit these rooms to the provisions of that part of the Act in relation to closing orders, for living as well as sleeping purposes. The Branch came to the conclusion that, in view of the acuteness of the housing problem, the time is not opportune for the introduction of legislation of this nature.

The Hon. Secretary reported that the Postmaster-General could not see his way to accede to the request of the Branch to give immediate

attention to printed paper packets, posted at the halfpenny postal rate, if marked "Public Health—Urgent." The Branch decided to ask the County Medical Officer of Health to consider the advisability of recommending that teachers should be asked to affix penny stamps to notices dealing with school exclusions, etc., on account of infectious disease, in order that these may arrive at public health offices on the following morning and thus obviate the delay in preventive action which at present arises owing to the fact that these halfpenny packets are sometimes delivered at the offices after closing hours on the day following despatch.

At the request of the Council of the Society, the Branch nominated Drs. Charles Porter, G. Quin Lennane, A. Middleton Hewat, and A. G. G. Thompson as representatives of the Society on the Central Council for District Nursing in London for three years as from the 1st January, 1930.

A meeting of the Council of this Branch was held at the house of the Society on December 13th, 1929, the President occupying the chair. Seventeen members were present.

The President reported the death of Dr. D. L. Thomas, Medical Officer of Health of Stepney, on December 10th, 1929, after an illness of two weeks.

Some years ago, the Metropolitan Asylums Board, after consultation with the Branch Council, arranged for their removal staff to leave notices at the homes, upon removal of patients to hospital, indicating that the room and bedding should not be used until disinfection had been carried out by the local authority. These notices have proved of considerable value, but now that the Board are removing many cases of measles to hospital and in some areas there is no subsequent home disinfection by the local authority, the suggestion has been made that the notices should not be left after removing patients suffering from measles. Dr. F. Thomson, Chief Medical Officer of the Fever Hospitals Service of the Metropolitan Asylums Board, had been invited to attend the meeting in order to assist in the consideration of this matter. After full discussion the Branch Council came to the conclusion that it was desirable to continue the practice of leaving notices at the homes in all cases, including measles.

The Metropolitan Tuberculosis Sub-Group submitted the following proposals with the request that they might be supported by the

Branch Council:—

(1) That the status of the tuberculosis officer can be improved in the metropolitan area by:—

- (a) the appointment of tuberculosis officers as consultant chest specialists to municipal hospitals;
- (b) the provision of observation and other beds in municipal hospitals under the supervision of the tuberculosis officers;
- (c) the provision of facilities for artificial pneumothorax treatment or other specialised forms of treatment controlled by the tuberculosis officers.

(2) That any higher appointment in the tuberculosis service in the County of London should be filled by promotion from the ranks of tuberculosis officers with the object of improving the status and prospects of men in this service.

The Branch Council decided to adopt these proposals and to make an appropriate representation to the London County Council.

Dr. Clark Trotter and Dr. Maitland Radford submitted evidence as to the alleged inadequacy of the final awards made by the Ministry of Pensions to ex-service men suffering from tuberculosis. It was resolved to refer the evidence to the Metropolitan Tuberculosis Sub-Group with a request for their observations in the matter.

Discussion took place in regard to the question of the prevention of noise, a subject now under consideration by the Metropolitan Boroughs' Standing Joint Committee, and the Branch Council decided that in their opinion steps should be taken to deal with this nuisance, but that at the moment they were not prepared to offer any observations on the action proposed to be taken.

The Hon. Secretary reported that the Medical Superintendent of the London Fever Hospital had now undertaken to notify medical officers of health of the intended date of discharge of patients who had been under treatment for infectious diseases.

Visit to Mortlake Brewery.—After the Council meeting, some forty members of the Branch proceeded by motor coach from the headquarters of the Society to the Mortlake Brewery of Messrs. Watney, Combe, Reid, & Co., Ltd. Lunch was taken at the Mortlake Hotel, High Street, Mortlake, where the party was welcomed by Colonel O. P. Serocold, C.M.G., Deputy Chairman of the Company. Among the large number of members of the staff present were Mr. Warre Bradley, F.C.I.S., Controller of the Company; Mr. Ludlow, the Head Brewer; and Mr. Julian L.

Baker, F.I.C., the firm's Chief Analytical Chemist, who had prepared a valuable little brochure on "The Art of Brewing," for the guidance of the visitors.

Colonel Serocold briefly reviewed the activities of the Company, and made special reference to the welfare work carried out for the benefit of the staff and employees, the provision including a generous and comprehensive pensions scheme on a non-contributory basis; long service payments, grants to widows of employees, and a health visiting service. In addition, the war memorial set up by the firm takes the form of a convalescent home in Surrey. The efforts so successfully made by the Company to preserve the "human touch" in industry, and to ensure the well-being of their employees both inside the works and in other directions are ably dealt with in a paper read by Mr. Bradley, then Secretary of the Company, before the Royal Society of Arts (*Jour. Roy. Soc. Arts.*, No. 3865, Vol. LXXV, December 17th, 1926, p. 120).

During the proceedings sympathetic reference was made to the lamented death of Dr. D. L. Thomas, Medical Officer of Health of Stepney, and the whole company stood in silence as a mark of respect to his memory.

After luncheon the members were conducted over the various sections of the brewery, and a most interesting demonstration was given of the many processes involved in the manufacture of beer, including the malting of the barley, the mashing of the malt, the addition of hops to the wort and the boiling of the infusion, the fermentation of the wort by yeast, the filtering of the beer, and its final bottling by machinery.

At the conclusion of the tour the members returned to the hotel for tea, during which Dr. J. B. Howell (President of the Branch), conveyed the appreciation of the members to the Company for arranging a visit of such absorbing interest, and for their hospitality. Dr. Charles Porter supported the vote of thanks, which was carried by acclamation, and acknowledged by Colonel Serocold.

THE SOUTHERN BRANCH.

President: Dr. H. Gordon Smith, M.O.H., Bournemouth.
Hon. Secretary: Dr. H. D. Kelf, Assjt. M.O.H., Hants. County Council.

A meeting of this Branch was held in Winchester on November 1st, 1929. Fourteen members were present. Apology for absence

was read from the President (Dr. H. Gordon Smith), and the senior past-President present (Dr. Lockhart Livingston) was voted to the chair.

Dr. H. L. Cronk, the Hon. Treasurer, submitted the financial statement and balance sheet for the year ended June 30th, 1929 as prepared by Dr. R. A. Lyster. On the chairman's proposition, it was resolved that the best thanks of the Branch be accorded to Dr. R. A. Lyster, who had so ably and satisfactorily held the office of Hon. Treasurer for many years.

With reference to correspondence from the British Social Hygiene Council, the matter was deferred until after an interview between the representative of the Council and the County Medical Officer.

Dr. Percy Moxey gave a very interesting paper on "Albumin in the Sputum in Early Phthisis." He gave particulars of the test, illustrating his paper with notes on a large number of cases; pointing out the value of the test when tubercle bacilli were not found in the sputum, and also indicating the patients' progress.

Many questions were asked, and after a hearty vote of thanks had been accorded to Dr. Moxey, it was suggested that as the paper was such a valuable one it should be published in the medical press.

A further meeting of the Branch was held in Winchester on December 6th, 1929, the President occupying the chair. Fourteen members were present. Apologies for absence were received from four members.

Notes on clinical cases were given by Dr. Livingston, dealing especially with the treatment of cancer by Radon.

Mr. McClelland described an unusual case of hæmorrhage from the right nostril after the extraction of two lower molars with the administration of nitrous oxide.

A discussion on the Report on Rural Water Supplies was opened by Dr. M. Avent, who dealt with the three parts separately, with special reference to the conditions in his rural district. Although the financial considerations were not a matter for discussion by medical officers, they were the outstanding difficulties in almost all rural areas. He discussed the problem of dealing with existing wells and those sunk for newly erected houses where the rural district council's certificate was required.

Dr. Avent was surprised that so much emphasis was given to the storage of rain water,

in spite of the fact that hardly ever were precautions taken to clean roofs, gutters, etc., prior to storage.

Dr. Kelf also quoted the conditions in his rural area, where there were no piped supplies, the majority being shallow wells, with a small number of rain water tanks. He stated that although reports of analyses showed serious pollution, even where a number of houses were dependent on the one and only supply, there was no particular evidence of ill-health. Dr. Kelf also pointed out that the shortage of wholesome water was serious on farms for cleansing the utensils, coolers, etc., used in the production of milk and other dairy products, and gave instances of polluted water being used for the purpose as an everyday occurrence.

Dr. Avent proposed the following resolution to be sent to the Council of the Society:

That this meeting of the Southern Branch approves the recommendations in the Ministry of Health Advisory Committee's Report on Rural Water Supplies, and urges their early adoption by means of legislation or otherwise, as may be required.

THE SCOTTISH BRANCH.

President: Dr. Thomas Adam, County Medical Officer of Health, Stirling.

Hon. Secretary: Dr. G. V. T. McMichael, Medical Officer of Health, Paisley.

A meeting of the Council of this Branch was held in the Sanitary Chambers, Glasgow, on November 22nd, 1929. The President occupied the chair. Apologies for absence were intimated from four members.

It was unanimously agreed to nominate Dr. A. K. Chalmers as the Representative of the Branch on the Council of the Queen's Institute of District Nursing for the three years from January 1st, 1930.

Further consideration was given to the remits from the Central Council regarding the recent Report of the Departmental Committee on the Training of Midwives, and the British Medical Association Memorandum outlining a National Maternity Scheme. Dr. A. S. M. Macgregor submitted some notes which he had prepared on the Report of the Departmental Committee, and which had been circulated to members of the Council, and these proved of great assistance to members.

Report of Departmental Committee on the Training of Midwives.—After full consideration, it was agreed to forward to the Central Council the following observations on the

Summary of Conclusions and Recommendations:

Paragraphs 2 and 3.—Cordial approval is given to the suggestion that a comprehensive maternity scheme, related to National Health Insurance, be initiated, on the understanding that the benefits should extend to those who might not be eligible for inclusion in an insurance scheme and should cover the provision of essential maternity services referred to in paragraph 3, whether indoor or outdoor, the administration of the scheme to be in the hands of the local health authority.

It might be pointed out, however, that, at the present time, the majority of midwives have not the requisite knowledge of ante-natal work which they ought to possess if they are to be responsible during pregnancy.

Paragraphs 4, 5, and 6.—The special medical services under these paragraphs are comprehensive.

Further explanation, however, would appear to be necessary. Paragraph 6 appears to give mothers free choice of doctor, while paragraph 5A apparently limits that choice to doctors "conversant with modern ante-natal work," and who also "have special experience in its methods." As regards the latter paragraph it is pertinent to ask who is to be responsible for choosing a panel of doctors who are "conversant with modern ante-natal work," etc., and how exactly, and by whom, are steps to be taken to see "that ante-natal examinations are not perfunctory" etc.

Paragraphs 8-12.—The recommendations in these paragraphs involve substantial alterations in the conditions of service of midwives, and, if fully enforced, would probably raise the question of making their employment a whole-time local authority service.

Paragraphs 13-18.—These paragraphs deal with the provision of adequate maternity services by the local authorities for necessitous persons who would be outside the scope of an Insurance Scheme.

If the same standard of "necessity" were applied to Scotland, as in England, it is estimated that there would be fully 10,000 necessitous cases per annum in Scotland.

Paragraph 21.—It is considered that the profession of midwifery should ultimately be restricted to women who hold a statutory nursing qualification.

Paragraph 22.—If the length of training is increased, it is obvious that the extended curriculum should include more adequate instruc-

tion in the general principles of sick nursing.

Paragraph 36.—The progressive expansion of the work of nursing associations should be encouraged.

Paragraph 55.—The appointment of an independent legal assessor to advise the Central Midwives Board in connection with its judicial functions is approved.

Paragraph 57.—It is recommended that, in the event of an individual bringing a complaint before the Board directly, the complaint should be referred to the local supervising authority in the first instance, as many of the complaints might be of an unfounded or trivial character.

Paragraph 58.—After considerable discussion, the general opinion of the members appeared to be in favour of the proposal to transfer the approval and inspection of training institutions and teachers from the Central Midwives Board to the Ministry of Health.

Paragraph 59.—The Advisory Committee should include midwives appointed by nomination.

British Medical Association Memorandum Outlining a National Maternity Service Scheme.—The proposed scheme outlines a very comprehensive service to be carried on by the doctors and midwives now in practice, and it is not suggested that the choice of doctor or of midwife should be limited in any way.

It might be pointed out, however, that, at the present time, the majority of midwives are not capable of exercising efficient ante-natal supervision.

It was unanimously decided to disapprove of the proposal in the scheme that the practitioners sending cases into institutions should continue to be personally responsible for their treatment while in the institutions.

THE NORTHERN BRANCH.

President: Dr. G. C. M. M'Gonigle, M.O.H., Stockton-on-Tees.

Hon. Secretary: Prof. Harold Kerr, O.B.E., M.O.H., Newcastle-upon-Tyne.

A special meeting of this Branch was held at the Medical Institute, 7, Windsor Terrace, Newcastle-upon-Tyne, on November 22nd, 1929, the President occupying the chair. Thirty members were present. Apologies for absence were received from four members.

The following were elected members of the Branch:—

Coxon, Thomas L. J., Tuberculosis Medical

Assistant, Newcastle-upon-Tyne; Porteus, Edward, Resident Medical Assistant, City Hospital, Walker Gate, Newcastle-upon-Tyne; and Saunders, Wm. E. R., Medical Officer of Health, Chester-le-Street U.D.C., and District T.M.O. Durham C.C.

The Hon. Secretary stated that he had recently sent out fifty-eight special letters to whole-time and part-time members of the public health service in the Branch area who were not members of the Society of Medical Officers of Health. A certain amount of success had already followed this effort, but there was much need for strong assistance from the other members.

After a long discussion on the British Medical Association's Memorandum Outlining a National Maternity Service Scheme for England and Wales, it was agreed that the scheme on the whole was an excellent one, and might be welcomed as a genuine endeavour to meet an outstanding need.

The Hon. Secretary was instructed to forward to the Council of the Society the following points for consideration:—

1.—It was thought that one ante-natal examination was insufficient, and that there should be at least three. (Sec. 7).

2.—That 5 per cent. of all deliveries should be admitted to institutions is by far and away too low an estimate. (Sec. 32).

3.—There appears to be no provision made for laboratory facilities.

4.—That the persons covered by the Scheme do not appear to be a complete list, and it was suggested that the words "and other necessitous persons" be added. (Sec. 8).

5.—Additional emphasis should be laid on the importance of post-natal consultation, examination and treatment. (Sec. 20).

6.—That the scheme should be enlarged so as to include such conditions as miscarriages.

7.—That the scheme should be carried out by the local supervising authority.

Time did not permit of the Report of the Departmental Committee on the Training and Employment of Midwives being considered in detail, but, generally speaking, the Report was approved.

A further meeting of the Branch was held at the Central Station Hotel, Newcastle-upon-Tyne, on December 6th, 1929. The President of the Society (Dr. J. J. Buchan), the President of the Branch (Dr. G. C. M. M'Gonigle) and thirty-four members were present. Captain G. S. Elliston (Executive Secretary), also attended. Apologies for absence were received from twelve members.

Dr. A. S. Hebblethwaite gave notice that he would move the following resolution at the next meeting of the Branch:—

That Dr. James N. MacLachlan, ex-Medical Officer of Health, Blyth, be elected an Honorary Member of the Branch.

The Chairman welcomed the President of the Society and the Executive Secretary, and assured them that the members of the Northern Branch greatly appreciated their visit.

Dr. J. J. Buchan expressed his thanks to the members for their warm reception, and gave an address on "The Outlook in Preventive Medicine." He referred to the great advances that had taken place in that branch of work, and its greatly growing influence in modern life. He also sketched the outstanding considerations that would affect the course of its policy, and dealt with matters affecting the personnel of the service, such as the operation of the Local Government Act, and so forth. The address, given quite informally, was full of original ideas and useful hints.

Captain Elliston, in thanking the members for their welcome, said he was delighted to be with the Northern Branch again. In the course of his remarks Captain Elliston stated that the relations between the British Medical Association and the Society were becoming stronger every day, and that the Headquarters of the Association were in constant consultation with the Society in regard to public health appointments and other matters. He expressed the view that the British Medical Association would always be guided by the Society on matters relating to public health. With regard to school medical officers, tuberculosis medical officers and maternity and child welfare medical officers, Captain Elliston was emphatic that these appointments should be held by men and women of very excellent standing, and that this would eventually lead to better pay for their work. He said that he would have more sympathy for the assistant medical officers of health if, realising their overwhelming voting power, they would show more initiative and take a much more active part in the running of the Society. He felt certain that the senior members of the service would welcome such an attitude.

There followed numerous questions by members which Captain Elliston replied to in detail.

Dr. T. Eustace Hill, in proposing a vote of thanks to the two speakers, referred to the service that has been rendered to the Society

by both brothers Buchan, and, in his capacity as Secretary, by Captain Elliston. He emphasised the need for the continuance of that close co-operation with the British Medical Association which Captain Elliston more particularly had been the means of bringing about, and he hoped that Captain Elliston's connection with the Northern Branch would not cease with his retirement.

Dr. James Bannerman seconded, and the motion was carried by acclamation.

At seven o'clock there was an adjournment to the Banqueting Hall, where the Annual Dinner of the Branch was held. There were fifty-two diners, which is just one short of the highest number that had previously attended the function.

Dr. G. C. M. M'Gonigle, President of the Branch, presided.

After the loyal toast, proposed from the Chair, had been enthusiastically honoured, Sir Frank Fox, O.B.E., gave that of "Preventive Medicine." He referred particularly to its benefits in warfare, contrasting his experiences in the Balkan War of 1912-13, where the environmental conditions were good and yet mortality from epidemics was excessive, with those of the Great War, where the work of the troops was carried out in midden-like surroundings and yet the incidence of disease was relatively slight.

Dr. J. J. Buchan, President of the Society, replied, and quoted many pawky stories illustrating his points. One of the best was in reference to criticism of legislation which, while it might not meet our own desires, had to be made the best of and carried out loyally. He recounted how a Scottish Elder, who was bitterly opposed to the Union of the Churches, called on his Minister and told him that he disliked the Union, objected to it, felt that it was a wrong and altogether foolish thing, "but meenister, it is the wull of the Lord, and the Lord's wull maun be done."

Dr. W. E. Roper Saunders, Medical Officer of Health, Chester-le-Street, proposed the "British Medical Association," and emphasised the good that was to be obtained, as was well realised in the area of the Branch, by mutual confidence and close co-operation between the public health and practitioner services.

Sir Robert A. Bolam, O.B.E., Vice-President of the British Medical Association and a Fellow of the Society, responded. He

acknowledged the exceptionally happy relations that existed in the North between practitioners of all classes, and pointed out what an opportunity the present stage of social legislation gave to the public health service for increase of its influence, and urged that this should be exercised to the utmost for the promotion of the national welfare. In this the private practitioner had his part to play, and the closer the association and the less sharp the separation between the two Branches the better the result. Sir Robert gave some details of the recent negotiations upon the proposed salary scale, which showed them to have been a remarkable example of team work in which the British Medical Association and the Society operated together most effectually. Malcontents were assured that although the results had been by no means what was desired on our side, there was at least equal dissatisfaction among the negotiators on the other side.

Dr. James Hudson, direct general practitioner representative of the British Medical Association upon the Council of the Branch, in response to persistent calls, also replied briefly, and recounted a few racy incidents coming to his knowledge in the practice of the profession.

Dr. C. G. R. Goodwin, Medical Superintendent, Barrasford Sanatorium, expressed the pleasure of the hosts at being honoured by the presence of Dr. Buchan, Captain Elliston, Sir Frank Fox, and the other guests present. They all appreciated very much the opportunity of meeting these gentlemen and of hearing their stimulating and informative addresses. He hoped that this would be by no means Captain Elliston's last visit to Newcastle, and that it would be found possible for him to continue to be a regular guest of the Branch.

Dr. Harold Kerr, O.B.E., referred to a recent event extremely disturbing to all members of the service in the North, and very particularly to the older ones. This was the submission to the Durham County Council of Dr. T. Eustace Hill's resignation. Dr. Hill, who had spent almost the whole of his long career in the County of Durham, was retiring when physically he was still in his heyday. A unique force and a man of outstanding personality, he inspired confidence, respect and affection in an extraordinary degree among those with whom he came in contact, both medical and lay. He had been appointed to what was

one of the most backward and least promising of counties, and had transformed it into one of the most progressive areas in England. Dr. Hill had been one of the original founders and the first Hon. Secretary of the Northern Branch in 1891, and was associated very intimately with that outstanding figure among the earlier pioneers of preventive medicine—Henry E. Armstrong. Dr. Kerr wished him very many years of happy retirement, and hoped that his severance from the North would be as slight as possible.

Dr. Hill obviously considerably moved, responded. He touched upon some of his earlier associations with the Branch, and referred to his numerous and lifelong friendships. His retirement was already beginning to show that even its anticipation was not going to be all pleasure, and that it would prove a very severe wrench.

He then proceeded to propose the health of "The President of the Branch." He had known Dr. M'Gonigle prior to his entry into the public health service, and both before and after his service in the Army he had been a member of the Durham County Staff, on which he had rendered outstandingly excellent service. Since then, however, as Medical Officer of Health of Stockton-on-Tees, he had become a potentially predatory neighbour, Stockton's territorial ambitions requiring considerable vigilance and sometimes strong opposition on the part of the county.

Dr. M'Gonigle's brief acknowledgment concluded a very successful function.

THE YORKSHIRE BRANCH.

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

A meeting of this Branch was held at the Medical School, Leeds, on November 29th, 1929, with the President in the chair supported by twenty-two members and eight visitors. Apologies for absence were received from three members.

The Hon. Secretary submitted letters from Dr. S. Fox Linton and his reply thereto, which was approved. All present regretted to hear of the illness of Dr. Linton and his son, and the hope was expressed that both would soon be restored to health.

A vacant seat on the Branch Council will arise in the near future through the removal

of Dr. A. Massey from Leeds to Coventry. Due notice inviting nominations had been given on the circular calling this meeting but none had been received. It was particularly desired that an assistant colleague be elected to succeed Dr. Massey and the Council recommended the name of Dr. F. Allardice, Deputy Medical Officer of Health, City of Wakefield. No other name having been submitted the Branch President declared Dr. Allardice duly elected. The period of office will expire at the date of the Annual Meeting in 1930, but he will be eligible for re-election. It is worthy of note that this is the second occasion within five months that vacancies have arisen on the Council but no nominations have been received. Every Fellow of the Branch is eligible for election, which is by ballot, thereby making it possible for the government of the Branch, including the Presidency, to be in the hands of assistant colleagues should they utilise their votes. On each occasion when junior colleagues have been elected to the Branch Council their names have been proposed by medical officers of health and not by assistant colleagues.

An interesting address entitled "Asbestosis," illustrated by lantern slides, was given by Dr. N. Tattersall, Chief Clinical Tuberculosis Officer, Leeds, who dealt with the preventive side of the subject, whilst Professor M. J. Stewart of Leeds University explained the pathological aspect and the researches made thereon. Several specimens of lungs affected with the condition were exhibited. In view of the fact that an investigation on the part of the Home Office has been made and a report will be published in the near future, it is regretted that these gentlemen were unable to consent to any publication of the paper and remarks thereon at the present time. After discussion by Professors Jervis and McLeod and Drs. McNaught and Woodcock, a very hearty vote of thanks was proposed by Dr. Gibson, Medical Officer of Health, Wakefield, and seconded by Dr. Mair, Medical Officer of Health, Harrogate, to which Professor Stewart and Dr. Tattersall replied and also answered various questions.

Afternoon tea was kindly provided by the Branch President.

It was decided, owing to the Christmas holidays, that the next meeting be held on Friday, January 3rd, 1930, in Leeds, and not on Friday, December 27th, 1929, the usual date of meeting.

Owing to lack of time, discussion on the British Medical Association's Memorandum outlining a National Maternity Service Scheme and the Report of the Departmental Committee on the Training and Employment of Midwives was adjourned until next January.

A meeting of the Council of the Branch preceded that of the Branch.

A meeting of all Fellows and Associates of the Yorkshire Branch, other than those holding appointments under county councils or county boroughs, was held prior to the Branch meeting to consider procedure respecting the formation of a Non-County Group within the Yorkshire Branch, authorised by resolution of the Branch at the last meeting, when Dr. W. Bertram Hill was elected Chairman, and Dr. R. Weaver, Brighouse, Hon. Secretary. Future transactions of this Group will be reported to the Yorkshire Branch as and when necessary.

THE WELSH BRANCH.

President : Dr. R. M. F. Picken, M.O.H., Cardiff.
Hon. Secretary : Dr. D. J. Thomas, Deputy M.O.H., Rhondda.

A meeting of this Branch was held at the City Hall, Cardiff, on November 30th, 1929, when fourteen members attended. Mr. Howell E. James, Secretary of the Welsh Board of Health, was a welcome visitor.

It was resolved to defer consideration of the scale of contribution by local authorities towards the funds of the British Social Hygiene Council to a subsequent meeting.

In order to meet the request of junior members of the Branch, arrangements were made for convening a meeting, confined to junior members of the public health services within the area of the Branch, on December 13th, to be followed in the evening by an informal dinner.

A discussion on the Report of the Departmental Committee on the Training and Employment of Midwives and the British Medical Association Memorandum outlining a National Maternity Scheme, ensued. In introducing the discussion, Dr. T. Evans (Swansea) briefly summarised the Report with special reference to the sections dealing with training, conditions of employment and administration. The suggested introduction of post-examination experience was an improvement, but the arrangements for the pro-

vision of such experience in the smaller training centres were not quite clear. Very little guidance was given in the Report as to how the conditions of employment of midwives could be actually improved; these aspects of the midwifery service had been treated on the assumption that the midwife was to remain in independent practice, whilst if a municipal or state service was instituted many of the disadvantages attending upon midwifery practice could be more easily overcome. The Report did not introduce any valuable suggestions for the improvement of the midwifery service throughout the country, and in order to accomplish this it was essential that the quality of the recruits into the service should be improved and that the methods of supervision be modified and extended. Under the present system there was no effective supervision of the practice of midwifery, and for this purpose Dr. Evans strongly advocated the appointment of "sister midwives" who should be responsible for the quality of the work done; the qualifications of these officers would need careful consideration and their superior training and extended experience would prove of invaluable assistance to the midwives in their work, whilst an extra pair of trained hands at the doctor's disposal during an emergency would enhance their utility where the midwife has not undergone a course of general training as a nurse. The British Medical Association's national scheme provided no substantial improvement unless a panel of practitioners specially experienced in obstetric work could be formed and could be available in cases of emergency; and in view of their special experience whole-time medical officers employed in the maternity services of local authorities should not be debarred from rendering assistance on the call of a midwife. Emphasis was also laid on the incompleteness of any scheme which did not provide for post-natal treatment.

Dr. Colston Williams emphasised the fact that the midwifery service in this country compared unfavourably with that of many of our continental neighbours; in Sweden the midwife was a well-trained nurse, of good social status, in receipt of adequate pay and provided with a telephone and adequate means of transport. The present state of midwifery in this country was due to poor or inadequate training, and the present method of supervision could be relaxed if the midwives were well trained. In his advocacy of the appointment of "sister-midwives," Dr. Evans had not

clearly grasped the implications involved; their functions would be applied with difficulty in rural districts, and many well-trained midwives and also mothers would resent interference by a "sister-midwife." The most hopeful prospect for the reduction of maternal mortality and morbidity depended on an increase of hospital provision and specialist service for difficult cases detected in the ante-natal centres.

Dr. McSweeney (Cardiff), in reviewing the British Medical Association Scheme, emphasised the fact that, though the scheme envisaged their reduction, the municipal ante-natal clinics had proved of real value and the facilities provided therein should be retained, whilst the proposed staffing of such clinics by general medical practitioners would prove administratively impracticable. No scheme which did not provide facilities for research into the causative factors of maternal morbidity should receive the approval of any body interested in preventive medicine.

Dr. Pole (Llanelly) advocated the extension of hospital provision so that the work of the ante-natal clinics could be rendered more effective, and whilst midwives, who practised independently, could not compete with their colleagues who were subsidised by institutions or associations, the institution of a State midwifery service was necessary in order to raise the status of the midwife and render her prospects in life good.

Dr. Webster (Cardiff) noted the inadequacy of the number of ante-natal examinations included in the national scheme.

In summing up the discussion, the President expressed the opinion that a period of training extended over one year was inadequate. He had been greatly impressed, he said, by the thorough training, for periods of two or three years, undergone by midwives in Denmark, where they possessed a high social status and where their incomes were assured by assistance from the State. In the consideration of applications for free midwifery studentships there was extreme difficulty in obtaining persons of suitable education and mental capacity to apply, and the low grade of recruits resulted in a corresponding grade of service. The Society should fight for the retention of ante-natal clinics.

After an interesting discussion it was resolved that the preparation of a memorandum, expressing the views of the Branch, for the

consideration of the Council of the Society, be referred to the Branch Council.

On December 13th, 1929, a meeting, confined to assistant medical officers of health, school medical officers and dental officers, was held under the auspices of the Branch at the City Hall, Cardiff, and thirty-five attended. The President explained the purpose of the meeting and invited those present to appoint their own chairman; consequently, Dr. Helena G. Jones (Rhondda) was thereupon voted to the chair. A discussion on the proposed formation of a sub-group within the Branch, confined to junior members of the public health service, ensued. The proposal was approved, and it was resolved that the wishes of the members at the meeting be conveyed to the Branch Council for consideration and confirmation.

An interesting and instructive paper on "Some Ophthalmological Experiences" was read by Dr. M. Whelton (Glamorgan County Council). An account of the various aspects of the work done in connection with certification under the Blind Persons Act was given and the paper concluded with details of several episodes, amusing and otherwise, which had occurred during her experience in this work.

Mr. Fred. W. Williams (Swansea) subsequently opened a discussion on "Anæsthetics in Public Health Dental Work." In his paper the opener advocated the use of nitrous oxide and oxygen, whilst Miss Watterson (Glamorgan County Council), in a paper continuing the discussion, was a strong protagonist of local anæsthesia. The opening papers elicited further opinions and accounts of experiences from a large number of others who were present at the meeting.

On the evening of December 13th, 1929, a Branch Dinner was held at the Royal Hotel, Cardiff, when the Branch President, Dr. Ralph M. F. Picken, presided over an attendance of forty-seven members and guests, the latter including Mr. Howell E. James, Secretary of the Welsh Board of Health. Being of an informal nature, the function proved most enjoyable owing to the excellent repast provided, the appropriateness of the speeches and the varied selection of musical items rendered by three undergraduate members of the University College, Cardiff. It is hoped that the dinner will result in the admission of many recruits from the area of the Welsh Branch into the ranks of the Society.

THE MIDLAND BRANCH.

President: Dr. W. D. Carruthers, County M.O.H., Staffordshire.

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

On Thursday afternoon, December 5th, 1929, the members of this Branch paid a visit to the Cake and Biscuit Works of Messrs. Alfred Hughes & Sons, Adderley Park, Birmingham.

The party were received by the directors of the firm and were taken in small groups, each accompanied by a competent guide, for a tour of inspection of the entire factory. The visitors were much impressed by the measures taken to ensure the cleanliness of the finished products and the almost complete absence of handling of the foodstuffs during the processes of manufacture. Special note was taken of the up-to-date laboratories for the examination and testing of the raw materials for the presence of preservatives and adulterants, and of the methods employed to check the uniformity of samples. Favourable comments were passed on the cleanly appearance of all the workers and the ample provision of lavatory and washing accommodation at convenient places in the factory.

The visit concluded with tea and refreshments kindly provided by the firm, during the course of which the warm thanks of the visitors were expressed for the very interesting demonstration and for the hospitality accorded.

Apologies for absence were received from the President (Dr. Carruthers), Dr. Snell, Dr. Horsburgh, Dr. Wyndham Parker and Dr. Haller.

In view of the very interesting afternoon that had been spent those present felt it was a great pity that the attendance of members was so poor.

THE HOME COUNTIES BRANCH.

President: Dr. E. H. T. Nash, M.O.H., Heston and Isleworth.

Hon. Secretary: Dr. A. A. Turner, M.C., M.O.H., Finchley.

The second meeting of the 1929-30 session of this Branch was held at the house of the Society on December 6th, 1929, Dr. Nash presiding. Twenty-seven members were present. Apologies for absence were submitted from Professor Jameson, and Drs. McMaster, Muir and Paterson.

Drs. Greenwood and McMaster were nominated to serve as representatives of the Branch on the Kent Branch of the British Medical Association during the ensuing year.

The report of the Departmental Committee on the Training and Employment of Midwives was discussed, and the following resolutions, embodying the views of the Branch, were passed:—

(a) *Paragraph (2).*—That the authority responsible for maternity and child welfare should be the authority under any scheme as suggested in this paragraph.

(b) *Paragraph (6).*—That a mother should be at liberty to choose a doctor from a panel of doctors qualified in accordance with paragraph (5) (a).

(c) *Paragraph (19).*—That all candidates for the certificate of the Central Midwives Board should possess a certificate of general training.

(d) *Paragraph (53) et seq.*—That there should be one body responsible for the training, certification and disciplinary control of midwives.

The Memorandum of the British Medical Association outlining a National Maternity Service Scheme was also considered and, after considerable discussion, the following resolution was passed:—

This Branch views without disfavour the extension of the National Health Insurance Scheme to include ante-natal, natal and post-natal services on the lines indicated in this Memorandum, but considers that the Society should not agree to any scheme which excludes local authorities and their officers from taking part in carrying it out.

A lively discussion took place on the British Medical Association Scale of Salaries of Whole-Time Public Health Medical Officers, and many questions were answered by Dr. G. F. Buchan. It was obvious that few of those present were enthusiastic about the scale.

THE SCHOOL MEDICAL SERVICE GROUP.

President: Dr. W. J. M. Slowan, O.B.E., Asst. M.O., London County Council.

Hon. Secretary: Dr. Louisa C. Adam, Asst. M.O., London County Council.

The forty-first General Meeting of this Group was held at the Society's house on October 24th, 1929, eleven members and one visitor being present.

Following the disposal of business, a vote of thanks was proposed to Dr. Puddicombe for all the work done by him, both as President and Representative of the Group on the Council of the Society, to which Dr. Puddicombe briefly replied.

The Presidential Address was delivered by

Dr. W. J. M. Slowan, O.B.E., the newly-elected President, on the subject of the Open Air School.

An interesting discussion followed, in which the majority of the members present took part.

A hearty vote of thanks was passed to the President for his address, on the proposal of Dr. Puddicombe, seconded by Dr. Forbes.

A further meeting of the Group was held at the house of the Society on December 11th, 1929, the President occupying the chair. Nine members and one visitor were present, and apologies for absence were received from two members.

A discussion took place with reference to the Post-Operative Treatment of Tonsils and Adenoids, in connection with the letter received from the Executive Secretary enclosing a communication from the British Medical Association with reference to this subject, which had been referred to the School Medical

Service Group for observations and information. It was decided that the Hon. Secretary should proceed to gather information on the points in question.

The following resolution, proposed by Dr. Puddicombe and seconded by Dr. Gurney, was passed:—

That this Group considers that in subjecting school children to operation for tonsils and adenoids, they should be retained at the place of operation at least one night after operation.

Dr. William Moodie, Medical Director of the Child Guidance Clinic, gave an interesting account of the history and working of the child guidance movement, and described the work done at the clinic. An interesting discussion followed in which the majority of members present took part.

A hearty vote of thanks to Dr. Moodie for his kindness in coming to speak at the meeting was proposed by Dr. Puddicombe, seconded by Dr. Wylie, and carried by acclamation.

The Literature of Preventive Medicine.

NAVAL HYGIENE. By THOMAS BROWN SHAW, M.B., CH.B. (Edin.), Surgeon Captain, Royal Navy; Professor of Hygiene and Director of Medical Studies, Naval Medical School, R.N. College, Greenwich; Fellow and Past-President, Naval, Military and Royal Air Force Hygiene Group, Society of Medical Officers of Health. London: Humphrey Milford, Oxford University Press, 1929. pp. 365. Price 21s. net.

All those who know something of the work of the Royal Naval Medical School at Greenwich will welcome a manual on Naval Hygiene by Surgeon Captain Shaw. Such a manual fills a gap in the literature of preventive medicine and fills it admirably. Although intended primarily for officers of the Royal Navy, the book will be of great interest to everyone concerned with the welfare of the personnel of our Mercantile Marine.

All the problems discussed are treated in their particular application to conditions on board ship, and no attempt has been made by the author to produce a publication that would be a substitute for the ordinary manuals on general hygiene. While particularly comprehensive chapters are included on ventilation,

water supply and food, other subjects which receive special attention are recruiting, individual hygiene, prevention of communicable disease and methods of dealing with vermin and insects.

The book is well produced and satisfactorily indexed. It is thoroughly to be recommended.

A DIET SUMMARY IN AVERAGE SERVINGS FOR DIABETICS AND OTHERS SUFFERING FROM DISORDERS OF METABOLISM. By P. J. CAMMIDGE, M.D. (Lond.). London: Ballière, Tindall & Cox, 1929. pp. 8. Price 1s. net (6s. per doz.).

In this little brochure on food values, the method of calculation and the arrangement of dietaries, Dr. Cammidge has dealt with a difficult and complex subject in a simple and practical manner. He has accomplished this by recognising that, in the first place, in the general run of cases requiring dietetic precautions, extraordinary accuracy is not necessary, except for certain foods like bread, oatmeal, etc.; secondly, that the requisite amounts of the various foodstuffs can be gauged sufficiently accurately by the eye after a little practice with the balance; and thirdly, that

the range of foods taken is so small that, once the relative bulk and food values of the average servings have been learned, there is little difficulty in arranging a diet from the ordinary household menu.

The description is clear and the method of calculation, etc., should be mastered easily by anyone interested in the subject.

KER'S INFECTIOUS DISEASES. A Practical Textbook. Revised by CLAUDE RUNDLE, O.B.E., M.D. (Lond.), M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.P.H., Medical Superintendent, City Hospitals and Sanatorium, Fazakerly, Liverpool; Lecturer on Infectious Diseases, University of Liverpool. Third Edition. Humphrey Milford, Oxford University Press, 1929. Illustrated, pp. 614. Price £1 10 0 net.

One of the fears that assailed the very many of his friends who lamented the death of Dr. Claude B. Ker was that this, amongst others of the very valuable works on infectious diseases that he had produced, might be allowed to disappear.

That the publishers were amongst those who appreciated the value of Ker's text-books on fevers, and were determined that so far as they were concerned they should not be lost, and that no effort should be wanting to find some other authority competent to keep them going, is matter for real congratulation.

It is matter for congratulation also that they have been so successful in their selection and in their efforts to induce Dr. Rundle to accept the responsibility for carrying out such revision and enlargement as increase in knowledge of the infections necessitates.

The task could not have been an easy one, but there can be nothing but praise for the manner in which it has been carried out. The utmost respect has been shown for the clinical descriptions of Dr. Ker, which Dr. Rundle himself classifies as "admirable," and all the additions and alterations that have been made have been so planned as to ensure adherence to the scheme of the book originally laid down.

At its first appearance, so long ago as 1907, the book was hailed as a contribution of outstanding value to the literature on the infectious diseases. The reception accorded to this the third edition will be no less warm, and untinged with fear that the book is likely ever to lose the position it originally secured as a standard on the subject.

GRUNDZUGE DER HYGIENE. Von Dr. med. et phil. MAX EUGLING, a.o. Professor für Hygiene an der Universität in Wien. Berlin: Urban & Schwarzenberg, 1929. pp. 426. Price Mk. 14—Mk. 16.40.

This is a comprehensive text-book of 407 closely-written illustrated pages dealing with the elements of hygiene and sanitation which, in character and in make-up, reminds one very much of the text-book on Hygiene by Notter and Firth which was the *fons et origo* of public health study of the past generation. This does not imply that the book under review is a Germanised edition of Notter and Firth; far from it, for it deals with sanitary matters from the German point of view; refers to many topics not discussed in Notter and Firth, and, moreover, is quite up-to-date.

Advances in preventive medicine, revision of the laws of biology and changing processes in social life and industry have made a second edition of this book necessary. The first section of the volume deals in general terms with the factors which influence the hygiene of the person and the place, namely, air, weather and climate, body heat, clothing, bathing, the soil, hygiene of water and water supplies, food and nutrition, hygiene of home and buildings, heating, ventilation, lighting, sanitation and sewage disposal and disinfection, with hospitals, prisons, school buildings and community housing occupying very interesting chapters.

Section two describes in detail the principles of bacteriology, including the isolation and recognition of bacteria and their relation to soil, air and animals. This is followed by a chapter on infection, the principles of immunity, and the micro-organisms known or suspected to be associated with the communicable diseases also described in this book.

Section three deals with social, medical and industrial hygiene, and includes in its consideration the care of the infant, the school child, the poor, the old and infirm. There is a section specially devoted to exercises and games, and a special chapter each on the control of tuberculosis, venereal diseases, alcohol and insanity.

Section four is devoted to a short *résumé* of the principles of eugenics in which the author treats of such subjects as inheritance, declining birth-rate, the influence on man, physically and mentally, of war, social poisons, chronic infection, etc.

Although this is a text-book essentially written for the student, it will well repay the

public health officer who is conversant with German to study it. It is very clearly and pleasantly written and contains many points of view which are quite new to English public health administration.

In the Annual Reports.

DYSENTERY AND THE NEWCASTLE BACILLUS.—Summer diarrhoea is no longer the annually recurring scourge that it used to be, nor does Rachael have to weep for her children that are not, on account of this. One of the problems of the year has arisen through the discovery of a number of cases of bacillary dysentery scattered throughout the city. There is little doubt that many of these have in the past been diagnosed as simple diarrhoea. The disease is similar to, or the same as, that which is common enough in tropical countries, and is readily conveyable to other persons. The medical practitioners were circularised, asking them to notify any cases presenting acute gastrointestinal symptoms, particularly when the generally accepted signs of dysentery, namely, blood and mucus in the stools, were also in evidence. Out of 227 cases brought to notice, 66 in all, of whom 60 belonged to the city, were confirmed. Forty-two were admitted to the city hospital, where two died. Careful enquiry was made with a view to the possible existence of "carriers," who might have acquired the disease while on foreign service, but no definite evidence was obtainable. The disease was commonest in children from 1 to 5, and most dangerous between 5 and 15, while boys were more frequently and more severely affected than girls. The disease appeared to find lodgment preferably where there was over-crowding. Bacteriologically there were found to be six definite types of the characteristic causative bacillus, one of which appears to be a new organism which its discoverers have named the *Newcastle bacillus*. Every discovered case is carefully investigated with a view to finding the best means of preventing its spread.—*Dr. Harold Kerr, O.B.E., Newcastle-upon-Tyne.*

VENEREAL DISEASE INCREASING.—What is the reason for this large increase in venereal disease during the last three years? Is it because the general morals of the town are retrogressing, due to a lack of parental control together with an increase in dancing halls and motor bicycles? Is it because the "1928 Miss" has been given more rope than her elder sisters, and has galloped at such a rate that she could not check herself when danger loomed ahead? Late hours seem to be the order of the day—second houses at pictures, dance halls after midnight and motor rides up to all hours. I certainly think that that has a great deal to answer for in regard to the number of cases. Some years ago when questioning men on the source of their infection the common reply was that they were under the influence of alcohol at the time, and did not remember very much about it, but now one seldom hears of alcohol being given as the excuse. Another reason for the figures being so high is that they may be more apparent than real. It may mean that people are beginning more and more to realise the subsequent dangers to health from neglected or improperly treated venereal disease, and that they find that they receive as

much secrecy and better treatment by going to a medical man than they would do by leaving themselves in the hands of quacks and charlatans. One or two facts tend to support these views. In the first place we have had a large number of men and women who have attended the clinic in order to find out if they were suffering from venereal disease, and we were fortunately able to tell them that their suspicions were groundless. That is a step in the right direction. Secondly, one enterprising picture house manager showed a film—"The Dangers of Ignorance"—for a week to crowded houses in the town, and this was repeated by another proprietor in the rural district. Following both of these pictures, which dealt almost entirely with the subject of venereal disease, we had an increase in the number of new cases attending the clinic.—*Dr. Gordon Lilico, West Hartlepool.*

DR. MALCOLM BARKER, an Assistant Medical Officer of Health for Essex, has been appointed Deputy Medical Officer of Health for the County Borough of West Ham.

THE Joint Tuberculosis Council announce a post-graduate course in relation to tuberculosis, to be held in the X-ray Department of the Hospital for Consumption and Diseases of the Chest, Brompton, London, S.W.3, from Monday, January 27th, to Saturday, February 1st, 1930. Approval has been secured from the Ministry of Health in regard to the course, the fee for which is three guineas. Full details may be obtained from Dr. William Brand, Hon. Secretary, Post-Graduate Courses, Joint Tuberculosis Council, Tavistock House North, Tavistock Square, London, W.C.1.

THE RIGHT HON. LORD CORNWALLIS, C.B.E., T.D., J.P., D.L., Chairman of the Kent County Council, has consented to act as President of the Forty-first Congress and Health Exhibition of the Royal Sanitary Institute, to be held at Margate from June 21st to 28th, 1930, and the following as Presidents of Sections and Conferences:—**Dr. Andrew Balfour, C.B., C.M.G., LL.D.**, Director of the London School of Hygiene and Tropical Medicine—Section A., Preventive Medicine: **Brig.-General Sir Henry Maybury, G.B.E., K.C.M.G., M. INST. C.E.**—Section B., Engineering and Architecture: **Lady Howard de Walden**—Section C., Maternity and Child Welfare, including School Hygiene: **Major-General Sir John Moore, K.C.M.G., C.B., F.R.C.V.S.**—Section F., Veterinary Hygiene: and **Sir Thomas Neill, J.P.**, Chairman of the National Conference of Industrial Assurance Approved Societies—Conference III, National Health Insurance Services.

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Editorial.

The Vaccination Order.

THE feeling is fairly general that amongst the many important changes that will follow the coming into operation of the Local Government Act, 1929, there is none more fraught with consequences likely to prove beneficial from the preventive point of view than that involving the transference of the functions of the boards of guardians in relation to vaccination to health authorities. The anomaly of the situation that deprived these latter of any real control in a procedure of so definitely a preventive character has long been a subject of adverse comment, and that it is now to be ended must bring a feeling of relief

to anyone who has been, or may be, called upon to support the claim that the health organisation of this country is the most complete, logical and perfect imaginable. The change that is about to occur has presented a number of opportunities for amending and simplifying procedures, and these the Minister and his officers and advisers have shewn themselves ready to seize. As evidence there have been issued several memoranda with which local authorities and their medical officers of health will find it necessary to make themselves acquainted, in order that they may arrive at a proper understanding of the duties of various officers about to be added to their

staff and for whom they must accept responsibility. In addition, the opportunity has been used for the purpose of consolidating and amending the multitude of orders, some of them dating back to 1898, which now govern procedure and will continue to do so till the new order, the Vaccination Order, 1930, comes into operation on April 1st. In the main consolidating, the order limits itself so far as amendments are concerned to varying terminology to suit the new conditions and extending the powers of those concerned with the appointment, remuneration and dismissal of officers so as to dispense with the detailed control of the Minister of Health in regard to the appointment and remuneration of vaccination officers. That transference of vaccination to local health authorities is something in the nature of a casting of the whole question into the melting-pot is a hope that all of those in the service really interested must have nourished, and to that hope encouragement is given by certain statements contained in the circular (1068) accompanying the order. One of these, to the effect that the Minister has it in mind at a later stage to discuss with local authorities, amongst other matters, the powers embodied in the order, suggests that there is recognition at the Ministry of a need for review and that those to whom the duties are to be transferred will quickly discover where the needs are greatest. The temporary nature of the order is more strongly emphasised by the further statement that the various documents relating to vaccination now issued have as their sole object the assisting towards smooth transfer of the functions, and that the Minister reserves for later and more mature consideration the general question of the policy to be adopted in regard to the Vaccination Acts themselves. At the moment there are views on this subject in many minds in the health service and a strong desire to see such action taken as will bring about the taking of a more reasonable attitude towards vaccination against small-pox and a wider outlook upon the whole question of immunity procedures. Doubtless as a result of experience of operating the Acts and the Order, these views will be clarified, and the right to speak with greater authority and confidence will be acquired by local authorities and their officers, and they will be enabled the more usefully to assist the Minister in the discussions referred to, when actually he comes to consider the question of the general policy to be adopted by the Government.

The Society and the New Year Honours.

THE New Year Honours List, though no richer than the average of such lists in distinctions conferred upon Fellows of the Society, has this by way of consolation, that the single honour that has come is in every sense appropriate, and has given extreme pleasure throughout the whole service. Amongst those who are working for health protection and preservation and for the prevention of disease, no matter where they are engaged, there is probably no one who, by reason of services rendered, is more deserving of recognition than is Sir Andrew Balfour. This it is safe to believe is a general view, as it is a view no less generally held that though honours on a minor scale may have been conferred upon him, this that has now been given was long ago earned and might properly have been bestowed before. Most deeply interested in what for convenience is called tropical hygiene and medicine, Balfour is perhaps best known for the contributions he has made in this branch. His interest and activities have not been limited to it, however, and since the days when, as the first medical officer of health of Khartoum, he showed skill as organiser and director of a health department, these have been regarded as entitling him to a place in the fellowship of executive health officers. The services rendered to the nation by Balfour in the years he has specialised in public health have been real, and will be of lasting value. To some extent, doubtless, it was because of these he was selected to fill the position he now occupies as Director of the London School of Hygiene and Tropical Medicine, those who made the choice believing that the same boundless energy, skill and ability which had been employed in rendering these services, would be employed in making a success of the new undertaking. That there is certainty of success for the new school everybody who knows it is convinced, as they are convinced also that it will be increasingly successful and grow in influence throughout the world as the years go on. All these are agreed that it is largely to Sir Andrew Balfour that much of the success of to-day is due, and that in the future the fact that his name is associated with it will add to the prestige it will enjoy.

Because it is believed that he has thoroughly well earned and deserved the honour conferred, and because, on account of the esteem and regard in which he is held, they are glad he

has received it, his fellows in the Society of Medical Officers of Health will desire to congratulate Andrew Balfour and approve that the congratulations should be publicly expressed in the journal of the Society.

* * * * *

The Tannic Acid Treatment of Burns.

THE recent publication by the Medical Research Council of Dr. W. C. Wilson's report on the Tannic Acid Treatment of Burns* establishes this line of treatment as the best at present available for such cases, and absolutely confirms, for children, the results achieved on adults by Dr. E. C. Davidson, of the Henry Ford Hospital, Detroit, who introduced the method to the medical profession in a paper published in 1925 in which he described the treatment of twenty-five cases of severe burns in adults. Tannic acid diminishes the pain and reduces the grave danger of toxæmia and secondary shock. Wilson states that when sepsis occurs it is probably of a milder degree than in other methods of treatment. Acute toxæmia is rarely a prominent feature and never occurs in a fulminating form if the tannic acid treatment is employed. In Wilson's cases the death-rate from all causes in 105 children under ten years of age was 10.5 per cent., as compared with 38.7 per cent. in a series of comparable cases treated by other methods. The involvement of 30 per cent. of the body surface in adults was formerly regarded as almost certain to lead to a fatal result. Davidson placed on record cases in which 40 to 50 per cent. of the body surface was burnt and yet complete recovery followed tannic acid treatment. In children the prognosis was formerly considered grave if one-eighth (12.5 per cent.) of the body surface was involved. Wilson states that with tannic acid treatment the outlook in children is favourable if less than 35 per cent. of the total body surface is involved, and though serious, is not hopeless, even if between 35 per cent. and 60 per cent. of the surface of the body is affected. In hospital the method of employing tannic acid is as follows: All epithelium which is loose or raised by blistering is removed, usually under an anæsthetic, and the area gently cleansed with some antiseptic agent. Ether has been found to be most convenient as it exerts a drying as well as a purifying effect and also helps to remove oily or greasy substances

* Special Report Series, No. 141. H.M. Stationery Office. Price 1s. net.

which may have been applied as a first-aid measure. The patient is kept warm by radiant heat in a bedcage and the burned area is sprayed with a warm aqueous solution of 2.5 per cent. tannic acid. A nasal spray atomiser is suitable for the purpose. After each spraying the area is dried and the spraying is repeated hourly until a thin brown layer of coagulated tissue forms over the wound. Usually eight or twelve applications suffice for burns of the second or third degree.

Tannic acid coagulates the damaged tissue and exudates at the site of injury and it appears that its beneficial action is due to this actual fixation, within the scab that it forms, of the toxic agent or agents which cause the all too well-known symptoms of secondary shock if they be allowed to diffuse into the blood stream. In some of the very early cases treated by this method in America, attempts were made to soak off the scab, and symptoms of toxæmia and shock developed, due to the absorption of toxins into the blood stream. Now the scab is left on until healing is complete. Tannic acid also acts as an analgesic. It is of the utmost importance to the patient that pain be alleviated as early as possible, and if this can be done by the same means as will render the danger of toxæmia less it is all to the good. The question naturally arises: How soon can the tannic acid method of treatment be commenced; is it to be adopted as a first-aid measure? Certainly the elaborate methods and care given to all severe cases of burning admitted to hospital, whether the tannic acid or any other method of treatment be employed, cannot be attempted by first-aid personnel, and therefore judgment on the practicability of employing tannic acid as a first-aid dressing must not be based on what is regarded as necessary in hospital practice. At Henry Ford's Works at Detroit, situated some eight miles from the hospital where Davidson worked out the hospital method, tannic acid is used as a first-aid dressing in the following way. A 2 per cent. solution of tannic acid in sterile (boiled) water is made up. Sterile gauze soaked in this solution is put on the burn and covered with a light bandage. The patient is then sent to hospital as soon as possible, great care being taken to keep him warm. It is not at all clear why some people regard this equally simple first-aid measure more difficult or more in need of medical supervision than the use of carron oil or other greasy applications which in themselves may hinder or prejudice the success

of the tannic acid treatment which, they agree, is the best to adopt in hospital practice.

The Registrar-General's Statistics shew that every year, in England and Wales, approximately 1,500 deaths occur from burns and scalds. Of this number more than 800 occur in children under ten years of age. It is fervently to be hoped that all cases of severe burns or scalds are being dealt with by this new method—the tannic acid method—which alleviates pain, minimises disfigurement, and saves lives in such measure that it has been described as "one of the most important advances that have been made in modern therapeutics."

* * * * *

Recent Advances in Preventive Medicine.

WITHOUT thinking about it the answer of most people to a question put as to who would be the most appropriate person to describe and discuss recent advances in preventive medicine would be, an individual actually engaged in works of preventive medicine; in fact, a medical officer of health. On more mature consideration, however, there is a very real probability that views would change and the conclusion reached would be that the rôle of the health officer should be to read about the advances and to try them out in practice. A proper and suitable combination in the writer would be someone who has been engaged in looking out for advances, noting the work of those engaged in making them, and possessed of such knowledge, experience and ability as would enable him to distinguish between the false and the true, and to assess the value of the advances claimed or realised. If such an individual could be found, and if he should be willing and able to write about the advances he had noted so that the health officer would enjoy the reading and would be enthused to the point of applying the information provided, the absolute ideal would be attained. These words by way of introduction to what is to be said with regard to the volume in the "Recent Advances" series on Preventive Medicine, are necessary, since the author, Dr. Haslam, appears to feel that some sort of apology for or explanation of his appearance in this rôle is called for. As a fact, no better choice could have been made, and publishers and readers alike may congratulate themselves that Dr. Haslam undertook the task of producing the

book.* Until it appeared, in the literature available for the student and practitioner of public health there was nothing like it, and, recognising that it was needed, these individuals had to go without or hunt for themselves amongst a mass of publications for such matter as they considered might be given a place in the book they wanted. Dr. Haslam admits that he himself had opportunities of seeing and studying current literature on the subject denied to most others. But something more than mere leave to roam over the field was wanted. The real need was ability to select and to communicate the results of the selection with comment knowledgeable, just and critical. That Dr. Haslam has supplied this need and possesses the ability necessary, the book itself proves. The table of contents astonishes because of the extraordinary rightness of the choice made, and the order followed in setting out the subjects chosen. Clearly the first thing everyone would desire to hear about would be eugenics, and here it is in the first place. Maternal mortality, wastage of young life and childhood have been matters of real concern upon which much work has been done and much written, and there they are, second, third and fourth in the series of sections. Then comes milk, with a long list of sub-sections, and follows a *résumé* of views and activities *vis-à-vis* the vitamins, with chapters on atmospheric conditions, hygiene in industry and active immunisation succeeding it. The contents themselves astonish no less than the table that tells of them, and for the same reason; the rightness of them. Dr. Haslam has soaked himself in the subjects, and has done so in the character of one engaged in the practice of preventive medicine; one who is faced with problems, wants to know how to solve them and how others are moving in the direction of solution. Much of the matter consists, inevitably, of quotation, but Dr. Haslam is a writer of skill and knows how to quote attractively and how to incorporate quotations and how to link them with shrewd and informed comment. Knowing these things he has made of each section and of the book as

* RECENT ADVANCES IN PREVENTIVE MEDICINE. By J. F. C. HASLAM, M.C., M.D. (EDIN.), M.R.C.P. (EDIN.), D.P.H., Assistant Director, Bureau of Hygiene and Tropical Diseases; Director of Library Services, London School of Hygiene and Tropical Medicine; formerly Government Medical Officer of Health, British Guiana. With a Chapter on the Vitamins by S. J. Cowell, M.A., M.B., M.R.C.P., Professor of Dietetics in the University of London. London: J. and A. Churchill, 1930. pp. 328, illustrated. Price 12s. 6d. net.

a whole something that is eminently readable, so readable indeed that it can be and will be read with pleasure, and re-read for pleasure. That profit will come with the reading is not insisted upon, because it is obvious that there must be profit in the study of all that is salient in up-to-date views and works, and all the greater because the salients are marked by an explorer capable of recognising them and giving his reasons for so regarding them.

* * * * *

Resuscitation after Coal Gas Poisoning.

THE Registrar-General's statistics shew that in 1928 there were no less than 1,224 deaths from coal gas poisoning in England and Wales. In 1921, there were less than 400 deaths from gas poisoning, so that during the last seven years there has been an increase of more than 300 per cent. in deaths from this cause. A parallel situation has arisen in the United States, and some few years ago a special commission was appointed to investigate the problem of carbon monoxide poisoning. This commission, under the chairmanship of Dr. Cecil K. Drinker, Professor of Physiology, Harvard School of Public Health, instituted investigations into the nature and treatment of carbon monoxide asphyxia, with the result that improvements in the methods of resuscitation have been made; at the same time, the organisation of local first-aid services has been rendered remarkably efficient. The commission recommended that the use of positive pressure respiration apparatus, such as the pulmotor should be discontinued. It shewed that the Schafer prone pressure method of artificial respiration is the best to adopt, and took active steps to educate special personnel and the public in the technique. The work of Professor Yandell Henderson and Dr. Haggard, of Yale University shewed that a mixture of 5 per cent. carbon dioxide and 95 per cent. oxygen used for inhalation was a very effective method of treatment for carbon monoxide poisoning, the carbon dioxide acting as a stimulant to increase the pulmonary ventilation and so expedite the removal of carbon monoxide from the blood. In New York, at the present time, the would-be suicide by coal gas must take into account the fact that it is more likely that he will be resuscitated than that he will be successful. In 1927, out of 895 attempted suicides by gas in New York, 481 lives were saved; in 1928, 517 persons were resuscitated out of 950 cases. These are remarkable figures, especially in view of the fact that coal gas in

the United States commonly contains as much as 25 or 30 per cent. of carbon monoxide. In New York the organisation responsible for this public service is the Committee on Resuscitation and Related Activities, established by the Consolidated Gas Company and affiliated gas and electric companies of New York. This organisation has first-aid stations in various parts of the city where specially equipped motor vehicles staffed by proficient resuscitation personnel are always in readiness. In every case of fire, attempted suicide by gas, or other emergencies, this body receives a telephone call at the same time as the fire brigade or the police, and at once despatches one of its trained crews to the spot. The success of the New York organisation is due primarily to the realisation that the time factor is of the utmost importance in all cases of coal gas poisoning. Nothing deters these resuscitation men from starting artificial respiration at once, that is, as soon as they get the patient clear of the polluted atmosphere, and they continue artificial respiration, at the same time administering oxygen and carbon dioxide. This method of dealing with gassed cases has been adopted in industries, one reason being that in addition to benefiting the individual worker it has led to a great decrease in the compensation which gas companies and those concerned with blast furnaces and chemical works have to pay. A workman may be entirely overcome and unconscious from carbon monoxide, yet with immediate artificial respiration coupled with oxygen and carbon dioxide he may be back at work within an hour none the worse for his experience. It would be to the general advantage if the public could be brought to realise the increasing and insidious danger of carbon monoxide poisoning whether from coal gas or the exhaust fumes from motor cars; also that knowledge of how to deal with such cases in the most efficient manner at present known is being placed at the disposal of all those authorities and bodies to whose especial care this aspect of public safety is entrusted. The teaching of the Schafer prone pressure method of artificial respiration should be a matter of routine in all schools. Once, at least, in the life of almost everyone an emergency demanding the immediate treatment of a person or persons by artificial respiration is bound to occur, whether it be a case of coal gas poisoning, drowning, smoke suffocation, electric shock, drug poisoning, motor exhaust gas asphyxia or even the suffocation of an infant in its crib.

The Late Dr. Boobyer.

IN the last issue of PUBLIC HEALTH there appeared a note upon a report by Dr. Boobyer summarising the annual health reports of Nottingham for the years 1916 to 1928, in the course of which, in addition to much appreciation of Boobyer as a medical officer of health, there were expressions also of hope that he might be long spared to enjoy the rest he had so well earned. It is all the more melancholy that in almost the same space a month later there should be words chronicling his passing and seeking to express the reality of the regret felt that the end should have come so suddenly, and so soon after his retirement. The news that without warning death had taken Dr. Boobyer on the morning of January 21st, little more than a year after he gave up office, assuredly came as a distinct shock to the many in the service who knew him. It would not, however, appear surprising that death took him in the morning in the midst almost of the health ritual that he practised daily, and to which he attached so very much importance. What was surprising and the cause of the shock produced by the news of his death was that it should have occurred when he was barely seventy-three years of age. Aiming at health for others, he aimed at securing it and keeping it for himself, and all the signs were that he had succeeded. He seemed enormously strong and healthy, and to have a grip on life that it would take Time long to loosen. It may be that, knowing himself strong, he used his strength too continuously to the full. Over seventy when he retired, he had been in office and at work as a medical officer of health for over forty years, working hard all the time, not only in the district that he served, but in helping others in connection with smallpox, and taking his share in the activities of a number of the professional bodies to which he belonged. Strong, he appeared well able to carry on all these works, and gave also always, on account of his size and strength, the impression of reliability and genuineness that so often bigness and strength convey. So far as these were concerned in the case of Dr. Boobyer, his looks did not belie him. He was entirely reliable and genuine. Those who either in private or in public had to depend upon him never found him otherwise, and it was because of this that the Council of the City of Nottingham on his retirement felt themselves justified in putting on record their deep appreciation of his whole-hearted and magnificent ser-

vice. That it was magnificent service, and of immense value to the City, evidence is to be found in the extraordinary improvements made in the health conditions, and the many movements initiated with the object of securing these improvements and providing for the bettering and ensuring of the health of the citizens during the years he held office. Dr. Boobyer was a pioneer in many directions, and there can be no doubt that it was because of this, and the courage that he possessed and never hesitated to spend, that Nottingham so often found herself in the van of progress. His retirement from office was a very real loss to Nottingham, and a source of regret to his many friends there and interested and concerned in public health and preventive medicine elsewhere. To these, and amongst them there are many in the Society of Medical Officers of Health, his death will appear an irreparable loss, and they will mourn for him sincerely. By them, and by any who had any acquaintance or intimacy with Dr. Boobyer, deep sympathy will be felt for his family, to whom this bereavement, coming with such tragic suddenness, must have been a severe blow and a source of great grief.

The funeral took place at Nottingham on January 24th, and was attended by a very large number of mourners representative of municipal and medical life in the City. The Midland Branch of the Society of Medical Officers of Health was represented by Dr. W. H. Parkinson, Medical Officer of Health, Basford Rural District Council. Other Fellows of the Society present were:—Dr. Cyril Banks, Medical Officer of Health, Nottingham; Dr. W. Hunter, J.P., Medical Officer of Health, West Bridgford; and Dr. H. L. Oldershaw, Chief Administrative Assistant to the Medical Officer of Health, Nottinghamshire County Council (representing Dr. A. C. Tibbits, the County Medical Officer).

CORRECTION.—Owing to an agency error it was announced in the last number of the journal (p. 128) that Dr. Malcolm Barker had been appointed Deputy Medical Officer of Health for the County Borough of West Ham. The duties of this post, in fact, have since 1914 been undertaken by Dr. Frank B. Skerrett, the Assistant Medical Officer of Health and Chief Assistant School Medical Officer; and the notice of Dr. Barker's new appointment should have referred to the County Borough of East Ham.

Cancer—A Review of Recent Progress.

By C. O. STALLYBRASS, M.D., B.S., M.R.C.S., L.R.C.P., D.P.H.,
Assistant Medical Officer of Health, Liverpool.

For this paper, which was read before the North-Western Branch, Dr. Stallybrass claims no more than that it provides a review of recent knowledge on the subject of cancer. In preparing it he has rendered a service of extreme importance, and medical officers of health will be grateful for it as a contribution of real value to the literature of the subject.

AS a member of a team engaged in cancer research—the Liverpool Medical Research Organisation—I have endeavoured to make a survey of recent knowledge. I must start with a disclaimer. The study of cancer involves investigation in several branches of knowledge, such as cytology and radiology, of which I cannot claim any special knowledge.

Statistics.—Although a vast array of statistics have been amassed in relation to cancer, nevertheless the subject presents many peculiar difficulties and fallacies so that there are still many gaps in our knowledge. It is known that in most civilized countries the crude recorded cancer mortality is rising; that it is highest in some of the smaller European countries, *e.g.*, Denmark, Holland and England; but it is not so well known that in Switzerland, which has one of the highest cancer mortalities, the rate has been stationary for forty years past.

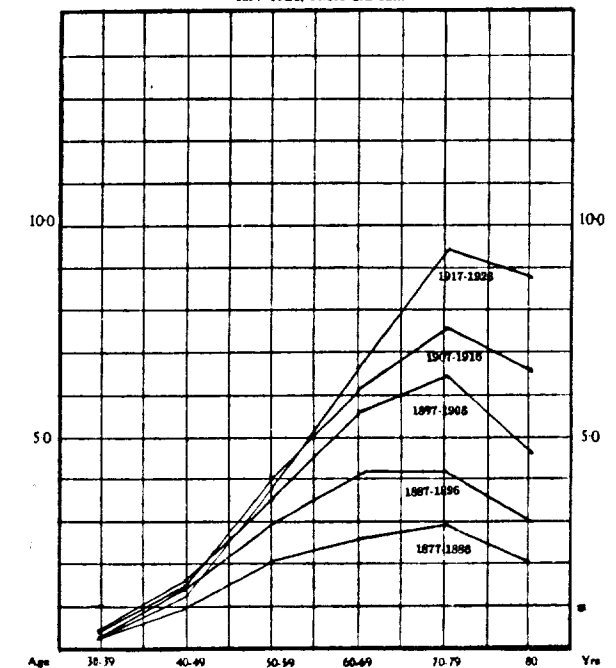
Everywhere we can lay down two general principles: cancer mortality is highest (i) in proportion to urbanization; (ii) in proportion to distance from the Equator—at least up to the 60th parallel of latitude. We should delude ourselves if we did not recognise that such a generalization covers a bewildering mass of differences in detail between one place and another, especially in relation to the relative importance of different anatomical sites.

PREDISPOSING AND EXCITING CAUSES.

Age.—The accompanying graph for Liverpool shows that the specific mortality from cancer increases from 30 years onwards up to 80 years, after which a slight decline is shown. I am uncertain whether this decline is anything more than statistical. American figures show no such decline after 80 years. Carcinoma—though not often sarcoma—is the result of long-acting causes, and the further life is prolonged the greater the chance those causes have of acting—at least up to a point. The

CITY OF LIVERPOOL

MORTALITY PER 1000 LIVING AT EACH AGE IN FIVE SUCCESSIVE DECADES,
1877-1926, FROM CANCER.



recorded rise in cancer mortality has been increasingly greater at the later age periods. There is no increase below 30 years of age. Clearly then, increasing longevity, especially an increase in the later age periods, will cause a marked rise in apparent cancer mortality. A longer span of life means for each of us a greater chance of dying of cancer. No comparative statistics of cancer are of any value that do not eliminate differences of age composition of the populations compared by either (a) giving specific death-rates at the different age periods or (b) using a standardised death-rate.

Sex.—In this country seventy years ago, the cancer mortality of women was double that of men. To-day, owing to the much greater rise of male mortality, the difference in male and female cancer rates (standardised) has disappeared. In Switzerland and Holland

male and female mortality are also equal. In England and Wales, during the past 75 years, male mortality has risen from 207 to 957, and female from 440 to 996. A facile explanation is that the weight of civilised and urban life bears more heavily upon the men. This explanation will not bear investigation. The increase is found to be mainly in those sites that are difficult of access and the rise in cancer mortality is mainly that of inaccessible cancer. Cancer of the breast and uterus is more accessible than cancer of the stomach or intestines.

If we compare the female mortality of Holland and England we find them approximately equal; but whilst the Dutch women suffer less from cancer of the breast and uterus they suffer more from cancer of other sites. It is evident we must study not only cancer as a whole but the frequency of fatal cancer in the various parts of the body. But behind this investigation there lurks the suspicion that if you are not going to die of cancer of one part you will only the more probably die of cancer of another part, a suspicion quite contrary to our cherished belief that cancer is always, in its origin, a local disease of a single organ, or rather of a single tissue of an organ.

Race.—There is a definite tendency to attribute less importance to race *per se* as an hereditary influence and to give more weight to differences in racial habits. A recent paper by Sourasky shows that the cancer mortality of Jews in a number of different cities approximates to the mortality of Gentiles in the same cities; but there are wide variations between the Jewish cancer mortalities of one country and of another. But no record of cancer of the penis in a Jew or in a circumcised Mohammedan can be discovered. Native races everywhere suffer from cancer, such differences as are known to exist being differences of anatomical site. Exact and comparable mortality rates cannot be produced, but it is significant that a recent investigation of the Eskimos showed that cancer was far more prevalent amongst them than had been supposed likely.

Nutrition.—A good deal of emphasis has been placed on over-nutrition as a cause of cancer. If so, it must be prolonged over-nutrition, for though in this country there was a fall in cancer mortality, during and after the lean years of the war, it was not comparable to that which was recorded in diabetes.

Such social differences in cancer mortality

as do exist point rather to excess in the poorest rather than in the wealthiest sections of the community. The figures from the 1921 census show that, dividing the male population into five social classes—upper class, artisan and labourer, and two intermediate classes—cancer mortality increases steadily from the highest to the lowest social classes; this, however, is possibly associated with alcoholism rather than with nutrition. Copeman and Greenwood's observations upon the English monastic orders, especially the Cistercians, who seldom eat meat, do not point to any special immunity from cancer.

The supposed influence of intestinal toxæmia upon the production of cancer must be regarded as hypothetical. But it seems very probable that the chronic irritation of constipation is as effective in the production of cancer of the bowel as is chronic irritation in other parts of the body.

Occupation.—If cancer statistics are liable to fallacies, occupational cancer statistics are doubly so liable, owing to persons changing their occupation, and to other sources of error. It can be asserted that the national occupational statistics of the British Isles are more reliable than those of any other country. These are the only statistics based upon the population at risk and which permit corrections for the variations in age composition of the occupations compared. The recently published British figures based on the censuses of 1911 and 1921 are correspondingly the more valuable. We may say:—

(1) Cancer of the skin arises occupationally from exposure to X-rays and occasionally to radiant heat. Much more often is it caused by chemical stimulants such as soot, pitch, gas-tar (but not wood-tar), lubricating oil, and a variety of the distillation products of coal, shale-oil and petroleum. But no single chemical compound has been identified as carcinogenic. The distillation at a high temperature of a non-dangerous substance may produce a highly dangerous product. Arsenic is also carcinogenic.

(2) Cancer of the bladder occurs with frequency in dye makers and workers, and cancer of the lung in cobalt miners, probably due to the associated arsenic.

(3) Cancer of the mouth, œsophagus and stomach—so much more frequent in males as to be largely their prerogative—is also much more frequent in those engaged in the drink trade and in those employed in trades with a

high mortality from alcoholism as indicated by a high mortality from cirrhosis of the liver. Over-indulgence in alcohol predisposes to these forms of cancer.

(4) There is an indication that workers in metals, more especially non-ferrous metals, are more liable to cancer than the general population.

(5) There is a significant correlation between the mortality from cancer of the tongue and œsophagus on the one hand, and high mortality from syphilis on the other. The prevalent medical opinion that syphilitic leucoplakia predisposes to cancer of the tongue is confirmed.

Chronic irritation.—We have a clear indication of the carcinogenetic effect of certain physical, chemical and bacterial irritants. We know that these irritants must act for long periods—20, 30 or 40 years—and, further, that prolonged latent periods may elapse between the last exposure to the irritant and the onset of cancer.

A man may leave a dangerous trade and not develop the peculiar form of cancer associated with the trade, e.g., scrotal cancer, until 20 or more years later.

There is not one carcinogenetic irritant but many. Some irritants are quite ineffective, some only slightly effective, and some very effective. Some of these observations on man have been followed up and confirmed by laboratory experiments upon animals. Cancer of the skin can be produced in mice with great regularity by the repeated application of tar, but it would seem that subcutaneous injection of tar will not produce sarcoma; subcutaneous injection of tar will predispose to the production of cutaneous cancer if the mouse is subsequently painted with tar, and the rate of production is accelerated. But injection of tar *per rectum* will not cause rectal cancer. The irritant is tissue specific.

To the list of irritants given above we may add (1) mechanical irritants such as a rough tooth; (2) the hot gases and distillation products of tobacco which may account for the excess of buccal cancer in males; (3) parasitic irritants. The parasite *Gongylonema*, which rats acquire from eating cockroaches, was shown by Fibiger to cause cancer of the stomach, and *cysticercus* sarcoma of the liver in rats is also known. In fact, there are at least sixteen animal parasites known to have given rise to cancer. One of the curiosities of cancer is that whilst lupus, a comparatively

rare form of tuberculosis, occasionally gives rise to epithelioma, and tuberculosis lymphadenitis may occasion lymphosarcoma, nevertheless tuberculosis of the lungs appears to be unknown as a cause of cancer, and silicosis of the lungs has very rarely been traced as a source of lung cancer. Cancer of the lung has been recognised with increasing frequency of recent years in the post-mortem room: it appears, therefore, to be a genuinely increasing form of cancer; but Bonser's figures from Leeds show no such increase. Even post-mortem room statistics are beset with fallacies. There is no evidence to associate this apparent increase with the use of coal-tar on our roads, though this is possible.

It is evident that an agent which is very effective in producing cancer of one tissue or anatomical site may be relatively or quite ineffective in another. Some indication as to how such a difference in susceptibility occurs is given by the occurrence of scrotal cancer: the unknown agents present in the exciting substances, e.g., soot, lubricating oil, etc., appear to be soluble in the sebaceous secretions of the scrotum.

Trauma and cell-rests.—Important as is the influence of chronic irritation in eventually provoking cancer, it would be incorrect to lay too much emphasis on this factor. There can be no doubt that in many cases all stages of increased and altered cell-proliferation leading up to the cancerous process may be observed. But even in cutaneous cases the cancer may start in what appears to be normal tissue, whilst warts and other aberrations in the vicinity continue on a non-malignant course. Importance is undoubtedly to be attached to the greater blood supply of the irritated part and epitheliomata have been observed to start in the vicinity of dilated blood vessels. This is noticeably true of X-ray cancers, which are often multiple and are notably malignant.

But apart from such chronic conditions there are also cases, rare, but of clear significance, in which cancer has followed a single trauma such as a contused wound, a burn, or the injury resulting from a corrosive substance such as vitriol. Here the essential point appears to be the displacement of cells from their context. The same is true of those cell-rests, long ago observed by Cohnheim to be a source of cancer, of which the branchial carcinomata and certain melanotic sarcomata are examples.

Anatomical sites of cancers.—If every

anatomical site has its appropriate stimulus or group of stimuli, which sufficiently often repeated or sufficiently long continued may eventually evoke the response that we term cancer, it is clearly of importance to know what are the effectual stimuli for the organs mainly affected. And here light may be shed by the comparison between the incidence of cancer of the several sites upon different peoples, occupations or other groups. Cancer of the breast and ovary are more frequent in spinsters, cancer of the uterus in the married; cancer of the breast is very commonly preceded by chronic mastitis, and in this condition it is very common to find inspissated milk in the ducts; even from the cancerous breast such inspissated milk may be removed with a breast-pump; possibly the prevention of mammary cancer may be effected by the breast-pump. Cancer of the breast can be stimulated in male mice by engrafting ovarian tissue. Ligature of ducts and early cessation of lactation can both be associated with the production of mammary carcinoma in mice. The cause of cancer of the cervix is in endocervicitis and tears of the cervix. The exciting injury seems to occur in the first labour as there is no difference between the incidence of cervix cancer in women who have borne one child only and in *multiparæ*. There are those who advocate the amputation of the cervix in every married woman at the menopause: it seems a somewhat heroic form of prophylaxis. Would it not be possible to select those who present local conditions which may be the precursors of cancer, such as tears and endocervicitis, and amputate the cervix in such cases?

It does seem desirable that the distribution of the different forms of cancer should, wherever possible, be ascertained. How pregnant was Percival Pott's observation on scrotal cancer in chimney sweeps. Who can say what secrets may be revealed by a careful comparison of international data? The excessive incidence of cancer of the mouth and œsophagus in males is still attributed to tobacco, especially pipe smoking, although the distillation products of tobacco have recently been exonerated from any carcinogenetic effect; figures from China indicate that cancer of the œsophagus is very common in men and very rare in women, a difference attributed by some to the men having the first whack at the hot rice. Primary cancer of the gall-bladder and liver is often associated with gall-stones, but cancer of the

stomach only occasionally follows gastric ulcer.

THE NATURE OF THE CANCER PROCESS.

Glucolysis.—To say that chronic irritation predisposes to cancer is but the reiteration of a twice-told tale. The new fact is that it has been demonstrated by experiments on animals. What is the essential alteration that distinguishes cancer from chronic irritation?

An answer has been given by the German bio-chemist, Warburg, though it may be stated that everyone does not regard this as proved, or if proved, as essential. Warburg considers that the vital distinction lies in an alteration of the behaviour of the cancer cell in relation to glucose. Lactic acid is a normal product of glucose metabolism, but it is got rid of by the normal cell either by oxidation or reconversion into glucose. Not so with the cancer cell; lactic acid is produced in excess and is not destroyed. This observation is confirmed by Professor Lewis of Liverpool, who finds, quite independently, that the reaction of cancer tissue is acid; the more malignant the growth the greater the acidity, and the chorionepithelioma is the most acid as well as the most malignant of all.

This is not surprising for the chorionic villi, themselves, the trophoblast, have also an acid reaction. From which we infer that the toxæmia of pregnancy is not improbably an acidosis; but this by the way.

We may consider then that cancer cells have lapsed into a primitive manner of living, a mode of life they share with the embryonic cells of the trophoblast and which ranges them with such frankly parasitic or saprophytic organisms as the fungi. Such acid-forming cells are treated as intruders and walled in by small round cells. But they cannot easily be killed by mere lack of oxygen, because they can survive even in a medium greatly deficient in oxygen. It is to be observed that the malignant tissue differs from the embryonic tissues in having a low respiratory rate, whilst embryonic tissues have a high rate.

Carcinogenesis.—In glucolysis we are dealing with ferment action, one of the debating grounds of science. So that perhaps it is not surprising that we do not yet know the essential factor that determines glucolysis from chronic irritation. Is a ferment evolved in the cell as the result of cytolysis, or does it become attached to it? Or, on the other hand, is the

altered glucolysis due to some factor which has been lost? We do not know, though there is no lack of hypotheses. The results of experiments designed to be crucial are inconclusive or contradictory. The following observations appear important:—

(1) Cancer is *not* necessarily the result of the perversion or atavism of a single cell, but often occurs simultaneously in several groups of adjacent cells which later coalesce. This can be observed in tar-painted mice and in X-ray cancer.

(2) Although carcinoma does not ordinarily give rise to sarcoma, nor does the reverse occur, yet as a great rarity a tumour known as a sarco-carcinoma arises, and it is possible to get the sarcoma cells to grow separately from the carcinoma cells. Further, it would appear that a carcinoma will influence the normal epithelial cells in their growing margin to proliferation. This is "action at a distance."

(3) An agent discovered by Peyton Rous in a chicken sarcoma is filter-passing and sets up an identical type of sarcoma with great regularity when inoculated into mesoblastic tissue. It is tissue specific and species specific, and grows most readily in the Plymouth Rock fowl, from which it was first obtained. Other "viruses" have since been found which give rise to other sarcomata in chickens, the sarcoma produced being always identical with that from which it was first isolated. I have used the word virus, but this is really begging the question. Is it alive? What is life? What is a "filtrable virus"? All that can be said is that the "agent" presents some of the properties of life, that it can be inactivated by chloroform but is not destroyed by trypsin—rather an unlikely character for a "living" virus—and that it is intensely specific in its action. Murphy's recent work indicates that the substance is not a virus but a nucleo-protein. Whether it reproduces itself or whether it is reproduced in the cells of the tissue is still unknown.

The theories of cancer production may, following Roussy, be described as (I) Bacterial; (II) Cellular.

(I) BACTERIAL THEORIES.

Theory A: Cancer is caused by a living organism, exactly as are infectious diseases.—Many such have been described, e.g., by Young, Glover and Blumenthal: I fear that none can be accepted.

Theory B (of Gye and Barnard): Cancer is due to the combined action of a filtrable virus and a chemical agent.—This ingenious theory would assign to the virus the general power of effecting malignancy whilst the chemical substance is peculiar to each type of malignant cells. The supposed proof of the theory rested upon the belief that chloroform will destroy an ultra-virus; this belief rests upon no sure basis, and so the theory must be regarded as unproven.

(II) CELLULAR THEORIES.

Theory C: Cancer is due to a specific principle evolved by the cell itself.—This theory takes several forms and is supported by some recent observations.

Cancer is, of course, an alteration in the manner of growth of the cells; the answer to the question "what is cancer?" probably lies very near to the question "what causes growth"? The cultivation of embryonal cells on artificial media, which was effected by Carrel, shows that all such cells have a potential immortality. But in the body some cells, such as those of the brain, have lost the power of proliferation; these cells *never* give rise to malignant growths. Both industrial experience and experiments with tar, etc., show that a prolonged latent period may elapse—forty years or more in the case of man—between the application to the appropriate tissue of the "irritant" and the origin of the change in mode of growth that we term cancer. At first sight it might be thought that senility of the tissues was the required factor, but this is not so. It is as easy to cause tar cancer in young mice as in old ones; there is no difference in the latent period. Rather we must infer that the carcinogenetic agents require prolonged periods before they can act with effect, and that the influence of old age is merely that the agent has had sufficient length of time to act and not through any "senility of the tissue"—whatever that phrase may mean.

Repair of tissues.—We know that when tissues are injured, as for instance in a cut finger, substances of unknown nature are released from the injured cells and stimulate the growth of cells in the vicinity of the injury. The beauty of the process of repair is, then, that the amount of cell proliferation is nicely adjusted to the amount of cellular destruction, and that when the injury is repaired the proliferation automatically ceases. Substances that stimulate cell-growth are well-known and

were termed "auxetics" by Ross and Cropper. Scharlachroth is a well-known proliferant agent. But none of these auxetic substances will effect the change to malignancy. In fact, with the single exception of arsenic, the chemical constitution of the carcinogenetic agents is unknown. Everything points to the carcinogenetic agent, be it ferment or be it something else, being produced in the cell which has, as the result of chronic irritation or some other form of stimulation, assumed the proliferative phase. We cannot separate benign from malignant growths; the same dye-substances produce both papilloma and carcinoma of the bladder.

Now there are many theories associated with these hypothetical carcinogenetic substances. I say substances because of the high species and tissue specificities of the process. The theory of Caspari may be singled out; this writer believes that "the fundamental cause of cancer" is the activity of what he terms "necro-hormones" or products of cytolysis in association with asphyxiation of the cells due to overcrowding and poor vascular supply. Warburg's views on tumour cell metabolism fit in nicely. The anaerobic conditions of cell overcrowding kill off the more normal cells and only those with any capacity for anaerobic growth survive and proliferate. Caspari believes that his theory is founded on indisputable facts, but this is doubtful. There is no unimpeachable evidence for the existence of necro-hormones and, contrary to the statement regarding asphyxiation, it can be shown that in X-ray cancer the malignant process often starts in the vicinity of dilated blood vessels.

And so, like Tantalus, we seem to be immersed in the waters of knowledge but cannot drink of them. Does not the reason why we cannot understand the causes of pathological changes in cell metabolism, growth and repair, lie in our ignorance of the normal? Physiology and pathology must advance together, each throwing light upon the other's path.

TREATMENT.

There are four lines of treatment available: (I) Surgery, (II) and (III) X-Rays and Radium and (IV) Chemotherapy. I will briefly review these.

I. *Surgery* is still the main hope in a large number of cases. In early cases of cancer of the breast, for example, the results are excellent. The figures obtained by the Ministry of Health show that of early cases, without glandular

involvement, 73 per cent. survive till 5 years after operation and the operative mortality is only 3 per cent. But of those cases no longer local, and these form two-thirds of the whole, only 26.6 per cent. survive for 5 years; whilst of inoperable cases 16 per cent. survive this period. With carcinoma of the uterus the results are not so good, and the operative mortality is considerable; and with carcinoma *linguae* much worse. Surgery has its triumphs but everything depends on early diagnosis.

II and III. *Radiotherapy*.—We turn for new hope to treatment by penetrating radiation.

No distinction can be drawn in principle between the action of X-rays (Röntgen therapy) and that of radium (Curie therapy), although there are differences in the sensitivity of tissues to their action and in the mode of use. Essentially the gamma rays of radium are merely very "hard" X-rays. But the gamma rays of radium are accompanied by other rays, the electrons or beta rays, which may be cut off by 0.5 m.m. of platinum. It is with this object that radium is enclosed in platinum needles 0.3 to 0.5 m.m. thick. The element radium gives off a gaseous emanation called radon: this element rapidly breaks down to form lead: in 3 or 4 days half of it is destroyed. This emanation is being increasingly used in the form of radon "seeds" which can be inserted in places where radium, owing to the fear of loss or for other reasons, cannot be used, for example, in carcinoma of the oesophagus. The activity of these radiations in relation to the destruction of malignant neoplasms is two-fold:—

(1) There is a definite specific action upon the malignant cell; this varies in intensity with the nature of the cell. The epithelioid cell is most easily acted upon; the mucous forming cells are much less susceptible to these radiations. Where there are "stock cells" from which the other cells are being formed it is essential that these should be destroyed. That there is a specific action on the malignant cell is shown by the changes seen within the neoplastic cells which occur within a few hours of radiation and before any changes can be observed in the surrounding tissues.

(2) The blood vessels in the tissues surrounding the new growth are affected with an obliterative arteritis which greatly diminishes the blood supply of the neoplasm. This is followed by a marked increase in the production of fibrous tissue. Here art is only

following nature. The slowest growing cancers are the sclerosing growths. On those rare occasions when natural cure occurs this is probably the mode of cure. It is difficult, and in many cases it would seem impossible, to destroy all the malignant cells but these may be walled off by a dense layer of fibrous tissue so that they can no longer proliferate.

This may explain a few cases of recurrence of cancer after many years of apparent cure following radium treatment. Too violent an action upon the surrounding tissues is likely to produce pain.

It should be noted that there is no direct action upon the lymphatics; these may be obliterated by the fibrous tissue, but if the malignant cells are not securely walled off or destroyed, malignant cells may subsequently pass through a dense fibrous tissue and cause recurrence.

But if there is no difference in principle between the action of the X-rays and the gamma rays there is considerable difference in the technique of their application. Radium can be applied in a smaller dose for a longer period, and in many cases, *e.g.*, in buccal cancer, this appears to be a considerable advantage. Further, it would seem, the effect of radium can be more easily distributed over an area and this is probably more effective in destroying the cancer cells.

It must be emphasised that there is an elaborate technique in the application of both X-rays and radium, and that it is highly skilled and specialised work. Both are powerful agents and radio-burns of such tissues as the rectal mucosa are much more easily effected than cured. The mode of use varies not only with the anatomical site but also with the type of growth. Whilst the best manner of application may have been elaborated in the case of the breast and uterus, in the case of cancer of the tongue and mouth it is probable that considerable improvements can still be effected.

In some sites the results of X-ray and radium therapy vie with, even if they are not better than, those of surgery even in early cases; in skilled hands these agencies have no operation mortality. Further, the absence of operation may induce patients increasingly to come forward and seek treatment at an earlier stage of their malady.

In cancer of the stomach, surgery is still the only hope and that in but a very small proportion of cases. Here there is a good

deal of room for improvement in early diagnosis.

IV. Finally we come to *Chemotherapy*. The ideal treatment would consist of some drug which would destroy malignant cells without affecting normal cells, comparable in its selective action to gamma rays, and which could be injected intravenously. The only drug which at all approaches this ideal is lead, treatment by which has been used on a considerable scale by Professor Blair Bell. The drawback to lead is its toxicity; the margin between the therapeutic and the toxic dose is small, and the dosage has to be most carefully controlled by examination of red cells for basophil stippling and in other ways. The lead must be in the colloidal, and not in the ionic, state; ionic lead, *e.g.*, lead acetate, being very toxic. Less than 0.2 gms. of lead is of little value and 0.5 to 0.8 gms. is often desirable. The results have been very encouraging and occasionally striking. The affinity of the lead for the growing cells varies, but occasionally necrosis *en masse* of the tumour is effected. This depends primarily upon the specific action of the lead on cancer cells and not upon thrombosis of the blood vessels, though this may occur secondarily. Of 303 cases, all inoperable and many advanced, treated by this method, the apparent cures are 21.5 per cent., with a probable error of ± 1.6 .

This is approximately the same percentage that has been obtained in hopeless cases treated by radium, but it is difficult to be certain that the cases are comparable; indeed, it is almost certain that they are not. Some remarkable cures have been effected. It is a striking thing to see a woman suckle her child on a breast that was affected a few years earlier with an inoperable carcinoma, histologically confirmed.

Search for lead compounds which will have an even more marked tissue selectivity is being actively prosecuted by the Liverpool Medical Research Organisation; the compounds are being prepared by Professor Heilbron. At present there is a definite field for lead treatment either alone or in combination with X-rays, radium or surgery. There is evidence to show that the use of lead about four days after radiotherapy increases the effect of the rays.

The ideal institution for the treatment of cancer is one where the co-operation of surgeon

and radiologist can be assured. There should be one such centre in every large town, adequately equipped with diagnostic, surgical and radiological facilities, including, of course, an adequate supply of radium, say 1 gramme. But it is neither economical nor safe to issue radium to those unskilled in its use.

Preventive methods.—At present the prevention of cancer, apart from the industrial forms, is hardly practicable on any scale. Knowledge of the forms of chronic irritation that lead to cancer, both in the medical and dental professions, as well as among the public, may lead to the prevention of some cases. Possible lines for the prevention of cancer of the breast and of the cervix uteri have been hinted at. But so far, the great desideratum is for earlier, and yet earlier, diagnosis, which will enable the profession to exploit fully those methods of treatment that are already in our hands. If every patient presented himself,

and more especially herself, as soon as symptoms appeared and was promptly diagnosed and effectively treated, there can be little doubt that the saving of life would be very large, and the diminution of suffering incalculable.

Prevention of *mortality*, as at present practicable, lies in education and in the provision of facilities for diagnosis and treatment. Lectures to appropriate audiences, placards in clinics and the like, possibly the provision of special diagnostic clinics such as that at Leicester, will help. Biennial medical inspection would be the surest means of ascertainment, especially of elderly people.

Experience shows that at the older ages the proportion of inoperable cases, owing to the delay in seeking advice, is highest. An immediate problem, therefore, is how to induce elderly people, especially women, to come forward for treatment when symptoms first appear.

After-Pains.

By A. REMINGTON HOBBS, M.D., Medical Superintendent, St. Mary Abbots Hospital, Kensington; Consulting Gynaecologist to the Royal Borough of Kensington.

Dr. Remington Hobbs is well known to members of the Society, having contributed more than once to the pages of their journal. This note, in which he submits information of a practical nature on a subject he considers to be of extreme importance from the point of view of health officers, more particularly those engaged in maternity and child welfare work, is sure of appreciation and attention.

THE modern text-books of obstetrics still repeat parrot-like the statement that painful contractions of the uterus, known as "after-pains," may occur during the first few days of the normal puerperium and the inference is that they are to be regarded as, more or less, physiological.

It is common knowledge, too, that rather severe uterine colic may be experienced by patients in the puerperal period on putting the child to the breast. These pains may soon pass off when the child has finished feeding and may in some cases be physiological since they help the uterus to contract. Recent experience, however, has shown that after-pains are frequently associated with local uterine inflammatory changes, and these latter mean an increased risk of infection spreading to the peritoneum and the blood stream. In many cases where the patients suffer from

pains after labour or miscarriage, signs of infection spreading through the uterus to the peritoneum may be observed and it is my contention that pain is one of the earliest and most important symptoms of septic infection. It is Nature's danger signal and calls for immediate and active interference in the interests of the patient.

I was recently asked to see a primipara, aged 22 years, who on the night following her confinement suffered from abdominal pains which prevented her from sleeping. Next morning the patient acquainted the nurse with this fact and was told that these pains were natural and were only "after pains." The patient, however, still complained throughout that day and in the evening the temperature was 99°.

The pains continued to recur during that night and on the following day a doctor was

called in. He immediately turned his attention to the uterus, which he found to be tender. Unfortunately, by this time, the inflammation had spread from the uterus to the peritoneum as was indicated by the presence of abdominal rigidity and tenderness. On bimanual examination he found marked tenderness of the uterus and resistance in the right lateral fornix. The patient was transferred to hospital. In a few hours there was increasing tenderness and diarrhoea. I opened the abdomen and found signs of general peritonitis. Pyæmia quickly supervened and the patient died on the eighth day following her confinement. As this is the third occasion brought to my notice recently on which patients have been told, to their detriment, that they were only suffering from after-pains, I think I may be excused for again bringing this type of case before the notice of the profession.

Some years ago, while doing my rounds of the lying-in wards, the midwifery sister drew my attention to the case of a woman who had complained of severe after-pains throughout the night, and in consequence had had very little sleep. I had the patient at once taken to a side-ward and placed in the lithotomy position and made an examination. I found large blood-clots in the cervix and vagina, and further, that the uterus was slightly tender on palpation. Instead of giving the patient the usual treatment for after-pains I removed the blood-clot from the cervix and vagina, and gently washed out the uterus with glycerine. The next morning when I saw her I found that she had had a good night and looked quite happy. On asking her how she felt, she replied that she was quite free from pain which, in fact, had ceased immediately after treatment. It is surely obvious that the symptom, pain, and the sign, tenderness, are and can only be indications of a uterus which is partially obstructed. Owing to the obstruction, debris and blood-clot, which would normally be expelled, are retained and form an ideal breeding ground for any bacteria that may obtain access. If the obstruction is relieved at once, before the bacteria and the consequent inflammation have had time to spread, the beneficial results secured are extraordinary. Not only this but even in cases where inflammation has just started, the need for an abdominal exploration may be obviated.

It is most important that patients should be asked if they have pain during the lying-

in period, for many are still under the impression that it is natural for them to suffer pain after the third stage of labour. The importance of this cannot be too strongly emphasized, for after-pains are often insignificant and may pass off in a few hours, and yet during that time permanent damage may have been done to the uterus and the peritoneum even may have been attacked.

Products of conception may, it is true, be present without giving rise to pain, and I have removed quite large pieces of membrane from the uterus of patients who have complained of no pain whatsoever. This does not, however, invalidate my argument that, when present, after-pains are to be regarded as a definite indication for interference.

The method and procedure adopted in cases following labour may be described. The instruments required are: (1) catheter introducer; (2) a terminal-eyed soft rubber catheter; (3) an anterior vaginal wall retractor; (4) a modified Sim's speculum; (5) a 2 c.cm. record syringe.

No anæsthetic, general or local, is necessary. The patient is placed in the lithotomy position, but, if too ill to be removed to the treatment room, may be treated on a special obstetric bed. The external parts are washed with ether-soap and water, and then with saline.

A Sim's speculum is then introduced into the posterior fornix, an anterior vaginal wall retractor into the anterior fornix, and by a series of gentle movements the cervix is manipulated into a central position. The speculum must not be pushed too far back and the anterior vaginal wall retractor must be held horizontally in the same plane. By this means a good view is obtained of the cervix which becomes readily accessible for catheterisation. A terminal-eyed catheter is lubricated with glycerine and gently inserted into the os, syringing the glycerine (previously warmed) in front of the catheter so as to make a passage for its easy upward progress through the cervical canal to the fundus of the uterus. The record syringe is then detached from the catheter, while the Sim's speculum and the anterior wall retractor are removed, leaving the catheter *in situ*. A pad is then placed over the vulva, the legs are brought together and lowered on to the table. A pillow is placed under the knee to add to the patient's comfort. The syringe, filled with

glycerine, is then reattached and placed on a sterile pad on the symphysis pubis. The assistant, standing by the side of the patient, injects the glycerine slowly through the catheter, so very gradually irrigating the uterine cavity. In this way 20 c.c. or more of glycerine may be injected without causing the patient any discomfort. This treatment may be carried out twice a day. Of two hundred consecutive cases of labour, which have been carefully observed, 157 had no after-pains. Of the 43 who did complain of after-pains, 42 were relieved after a single treatment, the remaining one after two treatments. The cause of the pain appeared to be retention of blood clot or want of drainage. In none of the cases, after treatment, was there any rise of temperature or other sign of infection.

ILLUSTRATIVE CASES.

Multipara. Third child.—The patient had pains during the whole of the third night following delivery so intense that she could not sleep. Examination revealed tenderness of the uterus, but fornices clear. Slow irrigation of the uterus with pure glycerine was carried out. Two hours after the first treatment the patient expressed herself as free from pain. Daily intra-uterine irrigation with glycerine led to an uneventful recovery.

Primipara.—Examination nine days after confinement as lochia were still red. The patient volunteered the information that she had had "after-pains" daily since her confinement. Intra-uterine irrigation with glycerine was given. No further pain occurred after the first treatment. The temperature and pulse were normal, and after five daily treatments the lochia ceased.

Primipara.—After-pains on the first night following delivery. She was given an intra-uterine irrigation and had no further pain.

Multipara. Breech Presentation.—After-pains eighteen hours after labour. Intra-uterine irrigation was given and the pain ceased.

Multipara.—This patient was delivered of a full-time child at 1.30 a.m. Soon after she experienced well-marked irregular pains which kept her from sleeping. At 7.30 a.m. the baby was put to the breast and the pains became intensified. At 10 a.m. the uterus was irrigated with 20 c.c. of glycerine. This eased the pains but they did not disappear entirely, continuing, indeed, throughout the day and night.

Next morning she was given another intra-uterine irrigation with glycerine and the pains ceased at once, though she still complained of a little pain whenever the baby was put to the breast. The following morning, however, the pain had quite ceased.

From each of the above cases blood clots, etc., were washed out of the uterus with glycerine. It is therefore apparent that when the uterus has been relieved of its contents, *i.e.*, the products of gestation, blood clots, etc., provided this is done before inflammation has had time to extend through the uterine wall to the pelvic peritoneum, pain can be immediately relieved and subsequent inflammatory changes prevented.

Conclusions.—It is high time that students and midwives were taught to avoid continuing to perpetuate the fallacy still to be found in the text-books, that it is natural for a woman to have after-pains. A patient, whether a primipara or a multipara, if the uterus be empty and in a good position for draining should be free from irregular pains.

Pain is the symptom of an obstructed uterus, and an obstructed uterus is potentially one of the most suitable sites for bacterial growth. In general, pain is the precursor of inflammatory processes within the uterus which may end in peritonitis or septicæmia. It may come on at any time in the puerperium and is by no means confined to multiparæ, for some of the most severe inflammatory attacks in this situation have been heralded in primiparæ by uterine pain. It is sometimes insignificant, but it is no less important to see in uterine pain a harbinger of inflammation than to accept colicky pains as indicative of an obstructed appendix.

In the majority of cases, these so-called after-pains can be relieved very easily and in a very short space of time in the way indicated, and it is certainly against the best interests of patients to wait more than twelve hours before applying the treatment, since, as experience has shown, infection may spread with great rapidity to the peritoneum or to the blood.

Finally, after-pains are by no means confined to the lying-in period. They may occur weeks or months after a confinement. They are then regarded as the symptom of a mild attack of pelvic peritonitis, or are labelled abdominal influenza, or even appendicitis, while all the time they are in reality attacks of subinvolution fever.

Ut Ita Dicam.

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

The Abandoned Council Meeting.

There being no business to transact, the President decided that the last meeting of the Council of the Society need not be held. Accordingly, it was called off, and, using the phrase of the individual who writes to the newspapers about the total of the combined ages of his various grandparents, I am inclined to ask: "Does this constitute a record?" Not that it matters, of course, but in case anybody might like to know, I may say that in all the years I have been connected with the Council I have never known it to occur that there was nothing for the members to talk about. As a fact, I know several who find themselves best able to talk when they have nothing to say. That, however, is neither here nor there, and the reason why the Council did not meet was because there was no business to transact, and in my recollection there never previously has been an occasion upon which it was impossible to find something calling for consideration and discussion and the taking of some sort of action if it was nothing more than determining to "refer the matter to the Branches."

Modern Methods of Refuse Disposal.

Though there was no Council meeting on Friday, January 17th, it must not be understood that, therefore, the day was empty. The house of the Society, in fact, was no less a scene of activity than it is usually on Council days, because quite considerable numbers of the Fellows, just ordinary people as well as Council members, found it necessary to be present for the purpose of attending committee meetings or at the ordinary meeting in the evening. Committees began to meet at 10.30, and continued to meet until well on in the afternoon, and did quite an amount of useful business. The ordinary meeting brought together a notably large number of people. This, I am bound to say, rather surprised me, since I had felt certain that the calling off of the Council would lead to absenteeism, and that the subject—Modern Methods of Refuse Disposal—was not one likely to prove attractive. The result proved me to be entirely wrong. The room was well filled, and the subject so greatly to the liking of those in attendance that, beginning soon after five, they kept up the discussion upon it until nearly eight o'clock. The person responsible

for this was, mainly, Mr. Dawes, of the Ministry of Health, who gave the opening paper and described most fascinatingly a variety of methods adopted or that might be adopted for solving a problem which is and has been a source of trouble and anxiety to local authorities and their officers all over the country, and that urgently calls for solution.

Controlled Tipping.

The method that Mr. Dawes favoured and appears, indeed, to regard as the one that most deserves to be described as "modern," is that of "controlled tipping," and that is practised in Bradford. He showed himself to be so enthusiastic over this that it must have come as somewhat of a surprise to him to hear from people who were up against the problem of refuse disposal, and who were actually engaged in dealing with it, that controlled tipping was not always so easy of adoption and operation as he affected to believe, and that even though it was working and the refuse was being got rid of, and there was no obvious nuisance from rats and flies and even crickets, they were not too much enamoured with it or ready to acclaim themselves as practitioners of a really modern method. Even the use of the word "controlled" or that other phrase about "intensive and scientific" conduct of the work failed to arouse enthusiasm or belief that the end had been reached. Also that they did not appear to succeed in causing people to forget that it was not only in relation to its disposal that refuse was capable of giving rise to trouble, annoyance and nuisance. There are problems still to be solved in relation to collection and removal and transport, and a solution of these is just as, if not even more, urgently called for because the defects are patent to and affect much larger bodies of people. Not much was said about these things at the meeting, and I do not propose to enlarge upon them here.

Intensive and Scientific.

In fact, I do not want to say any more about refuse, anyhow, and in order to permit of a change of subject, I direct attention to the expression "intensive and scientific." Used by Mr. Dawes in the course of the discussion referred to, it is one that has only recently become current, but of which we are likely to hear more

in the future. During the last month or two I have come across it repeatedly. So far as I can make out, it was used so long ago as November, 1928, by a very high personage indeed on a public occasion. As a result of the impetus then received, it has passed into more or less general use, and recently, as I have said, I have read and heard it over and over again. Coincident with its extending use there has been, I have noticed, a lessening of the frequency with which writers and speakers have found it necessary to refer to "team work." Extremely fashionable, this expression did yeoman service, and I am not unconscious of a feeling of sorrow at its loss of caste. Now that I am convinced, however, that its place is to be taken by the expression "intensive and scientific," which is no less meaningful and distinctly more high-sounding, I find my sorrow abating, and myself generally greatly cheered.

"The Municipal Review."

As I seem to be in the mood for prophecy, I take the opportunity of mentioning the *Municipal Review*, the official organ of the Association of Municipal Corporations, a copy of the first number of which has just come into my hands, and saying of it that it appears to be the kind of journal likely to prove of the utmost use and value to officers and members of local authorities, and to be appreciated at once, and to continue to grow in success, influence and helpfulness as the years go on. Many of the contents of the present number have no reference to matters with which the medical officer of health is concerned, but it will not harm him to read of them, since he will receive a closer and more intimate view of the very wide field of activity of the service of which he forms a part. Amongst matters that must be of immediate interest, of which mention may be made, are the notes on cases in the law courts and, in this particular number, an article on "Consolidation of the Laws relating to Public Health," written by Mr. W. J. Jeeves, K.C. Occupying now a very prominent position at the parliamentary bar, Mr. Jeeves was formerly town clerk of Leeds, and should know something of the subject of which he writes.

The Case for Consolidation of the Health Acts.

For these reasons, it is interesting to gather that, finding the state of affairs at present existing definitely confusing, he is all for consolidation. Probably there are few officers in the public health service who have not complained of the

complexity of the laws relating to public health, and from time to time papers have been read and articles published by medical officers, sanitary inspectors and others expressing surprise at the failure of the legislature long ago to have recognised the need for consolidation and codification. To the best of my knowledge, this is the first paper I have read from the pen of a legal authority on the question, and it is for this reason that I welcome the contribution of Mr. Jeeves and his statement that "there is definite need for a comprehensive consolidating statute, codifying and bringing up to date all the various enactments relating to this important branch of law; and difficult though the task must be admitted to be, be it remembered also that each year that passes can but add to the difficulty." The reasons given by Mr. Jeeves in support of his contentions are, it need not be said, strong and well put, and it may be hoped that with such a backing as he has provided, the demand that the matter should receive attention will all the more readily be heard. I think I shall not be alone in welcoming this new journal, and that every medical officer of health will feel that it is a publication he should have at his disposal.

Amongst the Editorials.

Amongst the notes under the heading "Editorial" in this number of PUBLIC HEALTH there are two which I think should and will prove interesting, though there may be some who will regard them as more attractive from the reading than the practical point of view. I refer to the notes on the Tannic Acid Treatment of Burns and Resuscitation after Coal Gas Poisoning. Both of these are extracts from a paper on "Some Recent Advances in First-Aid Measures employed in cases of Coal Gas Poisoning, and Burns and Scalds," read by Dr. G. P. Crowden, Lecturer in Applied Physiology at the London School of Hygiene and Tropical Medicine, at the annual general meeting of the Naval, Military and Royal Air Force Hygiene Group, on November 8th, 1929. Those who attended the meeting found the lecture and demonstration given by Dr. Crowden most instructive and interesting, and it is because it is felt that the information he had to give on the two subjects referred to in the extracts mentioned will be appreciated by readers generally that they are printed in this number, and special mention is made of them here.

P.

School Medical Inspection.

By NICHOLAS D. DUNSCOMBE, M.A., M.B., B.Chir., D.P.H., Camb.,
Barrister-at-Law, Medical Officer of Health and School Medical Officer,
Bexhill-on-Sea.

In this paper, submitted to the Southern Branch, Dr. Dunscombe provides a series of practical notes on the conditions commonly met with in the course of school medical inspection.

THE following observations on some of the numerous defects found during the course of school medical inspection are offered in the hope that they may prove interesting and provide matter for discussion.

To take in the first place the *nutrition* of the school child; it has always been to me a difficult matter to decide as to what constitutes a child of sub-normal nutrition, as there is, apart from the heights and weights, no definite standard to guide the inspector. The returns in the various school reports must, I think, be misleading owing to the personal factor and the lack of a standard. There are, however, a considerable number of "thin" children in the schools, and I would put forward the following suggestions as to the cause:—

The majority are what one might describe as the "normal thin child." These children as a rule have a good colour and no symptom of ill-health, and their apparent wasting is nothing more than the end-result of a physiological event—growth in height, which has been taking place for some years. The children are generally between 6–9 years of age and are frequently brought to the clinic for "not getting on" or because they are "getting so thin," and the parents often suspect that their children are going into consumption.

Chronic indigestion due very often to carbohydrate overfeeding, combined with other factors such as poor hygienic conditions, is another very common cause of the thin child. In the remaining children, rheumatism, some throat infection or chronic chest condition may be present, and in only a very few, happily, is the condition found to be due to the ever-suspected tuberculosis.

Tonsils and Adenoids.—Speaking generally, we may say that from 5–7 per cent. of the school population suffer from enlarged tonsils and adenoids in such a degree as to require surgical interference. A large number of operations for these conditions are carried out yearly either in the hospitals or at the clinics throughout the country, and as any operation

carries with it a risk to life, I consider the decision one has to make as to the necessity for operative treatment is a difficult one.

Many of the cases of hypertrophy, I am inclined to think, do not require operative treatment, inasmuch as they are due to a temporary infection, often dental caries, and it is surprising how the removal of such focus will ameliorate the condition and render operation unnecessary.

Further, one meets with numbers of cases of hypertrophy of the tonsils during the routine examination of the entrant and intermediate groups which present at a later date no abnormality of their tonsils, because they have undergone a process of atrophy. Consequently in such cases operative treatment is not required, provided, of course, that the child's health is not suffering in any way.

The chief indications for the operative treatment of these conditions are—any ear complication such as otorrhoea or deafness, marked mouth breathing and obstruction to respiration, frequently recurring sore throats, adenitis and catarrh and possibly a rheumatic tendency.

With regard to this latter point and the advisability of tonsillectomy in children exhibiting signs of rheumatism in its various forms, there is a diversity of opinion and each case must be judged on its merits.

This question was referred to in the report of the Special Sub-committee on Heart Disease in Children in 1926. In this they advised the careful and discriminating use of the operation of tonsillectomy, and emphasis was laid on the fact that in removing diseased tonsils in rheumatic children, one is at most dealing with only one factor predisposing towards the disease.

In cases where operative treatment is not indicated, and these constitute the large majority, the condition can be cured by the removal of dental and oral sepsis if present, and by suitable breathing exercises and nasal drill, combined with a hygienic mode of living.

There appears to be considerable difference of opinion on this subject, not only amongst the general practitioners, but also amongst school medical inspectors, and the chief points I would like to stress are: first, that the majority of the cases seen do not require operative treatment; secondly, the difficulty of deciding the kind of treatment required; and lastly, the necessity of keeping the doubtful cases under observation and advising operative treatment when indicated.

Mental Condition.—The mental condition of the children attending the schools is receiving much attention at the present time, as it is clearly uneconomic to provide education for a large number of children who are unable to receive full benefit from such instruction.

The number of defective children under the control of the education authorities varies with the thoroughness of their ascertainment, but, speaking generally, anything up to 1 per cent. of the school population might be classified as feeble-minded. There are in addition to these, however, a large number of children who, though not certifiable as feeble-minded, are unable to receive full benefit from the teaching provided. These children belong to the border-line and dull and backward groups and form about 10 per cent. of the school population, and require, where practicable, education in special small handicraft classes.

The problem of the most suitable way of dealing with all these children, educating and training them, is a difficult one, and opinion is divided as to the best method to be adopted. The ascertainment and grading of the children takes up a considerable amount of time.

The most common tests in use are the Stamford Revision of the Binet-Simon tests, which were standardised for American children.

Even here, however, they serve the purpose and enable us to gain a fair idea of the child's mentality, although our final opinion is formed by a consideration of the child's educational attainments, the regularity of school attendance, and the possible influence of some physical disability.

The intelligence quotient, *i.e.*, the ratio of the mental age to the chronological age, is calculated after testing the child, and the usual standard adopted is to certify as defective any child whose intelligence quotient is 70 per cent. or less.

There is no hard and fast line of demarcation between the normal and defective child, and

sometimes children with an intelligence quotient of 75 per cent. or more can hardly be classified as anything but defective, whereas some children with an intelligence quotient of, say, 65 per cent., can hardly be termed defective, as their educational attainments, although much below normal, do not warrant their certification and admission to a special school.

The only other tests of which I have had experience are Burt's Revision of the Binet-Simon tests.

These tests are standardised for London children, and in country children with whom I employed them, I invariably found that the intelligence quotient worked out a few points lower than when the Stamford-Revision Tests were used.

As a means of gaining an idea of the child's educational attainments and age, I have found Burt's Scholastic Tests a great help.

These tests present a handy method by which the certifying officer can obtain a good idea of the child's school attainments in the various subjects, *e.g.*, reading (both accuracy and comprehension), spelling, dictation, arithmetic (mental and written), and an educational age for each subject can be roughly calculated. Having ascertained these defective children and bearing in mind the considerably larger number of dull and backward and border-line children, who attend the ordinary elementary schools, and are a source of worry and anxiety to the teachers, diverting attention and effort from the normal scholars, we have to consider the best way of dealing with and educating them.

In the first place, I would like to say that I personally am rather averse to certifying a child as feeble-minded if I can possibly help it, because the stigma attaching to the child is very real, and the parents naturally resent their children being labelled as "mentally defective," when they are in their opinion "quite normal in behaviour although a bit backward in learning."

When we certify the child as feeble-minded on Form 302M, we are certifying the child as feeble-minded within the meaning of the Mental Deficiency Acts, 1913-1927, *i.e.*, "that they appear to be permanently incapable by reason of such defectiveness of receiving proper benefit from the instruction in ordinary schools."

This means, apparently, or at least presupposes, that the children will be feeble-minded when they pass out of the control of

the education authorities, although the certificate issued by the certifying officer is no evidence of such defect at the age of 16 years.

We all know that a considerable number of the children at the special schools are not certifiable under the Mental Deficiency Act when they reach the age of 16, as they are quite capable, in suitable surroundings, of earning their own living in a humble walk of life.

What then are we doing? We are labelling a child as feeble-minded for the period of its school life, after which time a considerable number of them are, as it were, "decertified" and are considered no longer defective.

This procedure appears to me to be an unsatisfactory one, and I suggest as an alternative that the so-called feeble-minded be divided into two main groups, *viz.*, the Educational Group and the Social Group.

The Educational Group may be defined as those children whose defect is an inability to learn the subjects of the school curriculum, and who do not show any anti-social tendencies or temperamental defect.

These children, often certified now as feeble-minded on Form 302M, will not be certifiable in later life, and it is suggested that they should be certified under the Education Act, and *not* the Mental Deficiency Act, as, say, either "educationally defective" or "backward" and incapable of receiving full benefit in the ordinary elementary schools.

These children will belong to the higher grades and provision could be made for them in special day schools or classes.

With them would be drafted the large number of dull and backward and border-line children.

The teachers in the ordinary schools would then be relieved of the burden of these handicapped children, and could devote their time and energy to the normal children, who happily form the majority of those in attendance.

The Social Group may be defined as those children who, in addition to their ineducability, show anti-social tendencies and perhaps temperamental defect and will require residential treatment and training.

The majority of these children will be low-grade, although not necessarily so, and are the true feeble-minded, *i.e.*, they will in all probability be certifiable at the age of 16 years, and as such can be dealt with under the Mental Deficiency Act.

At the present time it appears imperative to make some such provision for this mass of children, and if the educational group of defectives and the dull and backward children were gathered together and taught by special methods work of a practical nature which will be useful to them in after life, the parents of such children would be more satisfied and the credit of the education authorities enhanced.

Public opinion is not yet advanced enough to allow the legal sterilisation of the social group, *i.e.*, the true feeble-minded, and even if this were adopted a considerable number would still need institutional care on account of their anti-social tendencies.

In my opinion, sterilisation would be beset with considerable difficulties.

The line between normality and feeble-mindedness is not clearly defined and the difficulty would be to decide what particular persons should be sterilised.

Furthermore, if this principle was once introduced—why not sterilise the neurotics, the temperamentally unstable and defective, the potential psycho-neurotics and psychopaths who contribute their share to the production of the feeble-minded?

Heart and Circulation.—In this connection the first point which strikes the school medical inspector is the comparatively frequent occurrence of some functional disorder evidenced either by the presence of a murmur or some disturbance of rhythm. It is very common to find a systolic murmur on the routine examination of children and it is important to ascertain its cause. It may be either functional, due to congenital heart disease, or organic heart disease. The chief points which distinguish a functional murmur are the soft quality of the murmur, and the fact that it often varies with respiration and is frequently equally distributed over the præcordium, or if localised is generally found at the base of the heart. In addition to this we are guided by the fact that there is no cardiac enlargement and no history of a rheumatic tendency.

Congenital heart disease is met with fairly frequently and is generally easy to diagnose by the harsh character and location of the murmur, the presence sometimes of cyanosis and clubbing of the fingers, and the absence of any history of rheumatic symptoms.

These cases vary very much in the severity of their symptoms and whilst some might be classified as cardiac cripples requiring educa-

tion in a special school, others do not seem to be affected much in health by the defect.

I need not describe the signs and symptoms of acquired organic disease, but would like to say that severe organic disease of the heart is not found very often during the inspections in the schools. This is probably accounted for by the fact that the severe cases are frequently absent from school owing to ill-health and symptoms of failing compensation.

Those children who are in attendance at school do not generally exhibit any symptoms of their condition and consequently I have wondered whether it is not wiser when such a case is found to inform the parent only. To inform the parent in the presence of the child that its heart is weak often leads to an unnecessary state of nervousness and a tendency to invalidism in the child.

When we come to consider the disorders of rhythm in children, we may say that the more severe disturbances such as auricular flutter and fibrillation, heart block, etc., are uncommon.

The most frequent condition found is "sinus arrhythmia." It is important to bear this condition in mind as it is physiological and normal in many young children, and apt to be confused with irregularities of a more serious nature; any suggestion, therefore, that the child is suffering from heart disease should be kept from the parents in order to prevent any unnecessary alarm.

The following points should be borne in mind in order to distinguish this form of irregularity from those due to more serious causes:—

(1) Its phasic character. It is influenced by respiration and the rapid phase is found to occur with inspiration and the slower one with expiration. This may be readily elicited by telling the child to take deep breaths; moreover, we find that when the breath is held the irregularity disappears.

(2) The fact that it disappears when the pulse rate is increased by exercise.

Ringworm of the Scalp.—In mentioning this condition, a common one in many areas, I am unfortunately not able to tell you that I have found a satisfactory treatment apart from X-rays. In many areas X-ray treatment is not available and treatment by ointments and lotions must be undertaken, and I would welcome the suggestions of anyone present as to this form of treatment. Although I have

had a great deal of experience and have used practically every ointment and lotion recommended, I cannot truthfully say that I have had any startling successes such as one sees from time to time reported in the journals when a new treatment is suggested.

One does come across cases which do clear up and are cured in a few months, but they are generally of the suppurative variety, and their cure is due to this suppuration rather than to any particular method of treatment employed.

The success of the treatment depends on the power of the application to cause inflammation and the subsequent falling out of the diseased hairs.

One of the chief obstacles to success is the inability of many children to endure the constant application of the medicament to their heads owing to their sensitive skins.

The chief difficulties encountered in the control of these cases are:—

(a) The ignorance of the mothers as to the significance of a scurfy patch in the head and the consequent spread of the disease over the head and to the other children.

(b) The failure of the teachers to bring to the notice of the school medical officer the cases of children with bald or scurfy patches on the scalp.

(c) The apparent difficulty of diagnosis and cure and the consequent re-admission of children to school before real cure.

Any scurfy patch in a child's head should always make one suspect ringworm and a microscopical examination should be made.

In early cases with a bald patch and the characteristic broken hairs the diagnosis is easy, but I would like to stress the difficulty of diagnosis and the frequent incorrect diagnosis made in cases which have been going on for some months, and in which when seen at this stage a diagnosis of seborrhœa is made.

Microscopical examination will practically always reveal the fact that the underlying cause of the trouble is ringworm.

With reference to the re-admission of the sufferers to school, I consider from practical experience that they should all be examined by the school medical inspector either at the school or school clinic, as microscopical examination is not universal either at hospital or in private practice, and it has unfortunately been my experience to find cases re-admitted to school with signs of ringworm still very evident.

So long ago as 1909 Hogarth in his book "Medical Inspection of Schools," said: "In certain matters affecting the public health, many members of the medical profession appear quite devoid of conscientiousness. They constantly certify children as free from infectious and contagious disease and as fit to attend school when they are obviously suffering from ringworm or scabies. For example, out of 240 certificates of freedom from ringworm, no less than 234 were proved to be inaccurate on microscopical examination of specimens from the affected cases." As regards ringworm, at any rate, this appears to be as true to-day as when written in 1909.

The most common procedure is to exclude the children from school until cured, but in some areas, e.g., in Somersetshire, the cap system has been adopted with success. Under this system the child's hair is cut short and it must wear a linen cap capable of being boiled; this cap must be changed twice a week and daily treatment with ointment must be given. The child is allowed to attend school provided the above conditions are fulfilled, and naturally the success of the scheme depends to a large extent on the active co-operation of the teacher.

Another point upon which I should like some information is as to whether or not the cases of ringworm which have been going on for a long time, say a year or more, and which are in a very chronic condition, are very contagious. My opinion is that they are not, as I am constantly being informed by the parents of sufferers that although they are sleeping in the same bed as the other children, the latter have not contracted the disease. This does not, of course, prove the point by any means, but it makes one wonder whether, as the disease becomes more chronic, it also becomes less contagious.

Postural Deformities.—One is struck during the routine examination of the children by the frequent occurrence of these cases, e.g., children exhibiting varying degrees of bad posture as evidenced by round shoulders, flat feet, exaggerated lumbar curve and protuberant abdomen. The general opinion is that such a posture is an important factor in the causation of chronic ill-health later in life; consequently it is of the utmost importance from the preventive standpoint that more attention than at present should be paid to their effective prevention and treatment.

In the production of such errors of posture many factors are involved, such as unsuitable

desks, malnutrition, heredity, lack of fresh air, etc., and all these must receive attention as far as possible. The treatment of these deformities when present is by means of special remedial exercises to develop and strengthen the weakened muscles, and enable the child to assume a correct posture without any effort. When an orthopaedic scheme is in existence the worst cases may conveniently attend a special posture clinic, but owing to the large number of children with such defects, it is obviously not always convenient or administratively possible for this to be arranged, and the solution lies in the hands of the teachers and a specially appointed physical instructor or organiser, who should have special knowledge of the means available to correct such faulty postures.

Pulmonary tuberculosis as a clinical entity in the school child is comparatively a rare occurrence and is often diagnosed on insufficient grounds.

Some chronic (non-tuberculous) infection is constantly being met with and is the cause of much ill-health and irregular school attendance. Under this heading we may include the following conditions:—Chronic bronchitis, fibrosis, unresolved pneumonia and bronchiectasis, all of which lead to a state of debility and malnutrition, a greater or less degree of chest deformity and chronic cough.

Chronic or recurrent bronchitis is an exceedingly common condition in school children, the cause of much ill-health, and very difficult to treat satisfactorily, especially if it is combined with asthma. It would be highly desirable to prevent effectively this troublesome malady, and work on this subject is greatly needed. Many factors are concerned in its production, viz., heredity, bad hygiene and infection of the throat, and it is often the sequel of an attack of measles or whooping cough.

Fibrosis and unresolved pneumonia.—These are the cases, I am inclined to think, which are frequently labelled as tuberculous and the diagnosis is by no means easy at times. The chief symptoms are cough, lassitude, failure to put on weight and dyspnoea on exertion; the cough is usually hacking in character, often paroxysmal and worse during the winter months.

The chief feature which distinguishes these conditions is their chronic nature and their tendency to go on for years without making the child very ill, as opposed to tuberculosis

which, in a child, is essentially an acute disease.

In pulmonary tuberculosis there is often a family history of tuberculosis and contact with tubercular infection in a very high proportion of cases.

Other aids to diagnosis are the presence of clubbing and cyanosis, which is absent in tuberculosis; and the fact that in tuberculosis

the signs are more commonly in the upper or middle parts of the lungs.

I am putting these points forward to emphasise the difficulty of preventing effectively the chronic non-tuberculous infections of the lungs and of differentiating such cases from tuberculosis of the lungs or rather hilum tuberculosis.

The Society.

Reports, Proceedings and Announcements.

ORDINARY MEETING.

An ordinary meeting was held at the house of the Society on Friday, January 17th, 1930. The President (Dr. J. J. Buchan) was in the chair and there was a good attendance.

The minutes of the last meeting having been approved and signed, the following candidates were elected to the Society:—

As Fellows:—

Anderson, Cecil Woodroffe, M.B., CH.B. GLAS., D.P.H., T.D.D.; Barrie, Jessie Lingard, M.B., CH.B. GLAS.; Bevan, Jane Gwenllian, B.Sc., M.R.C.S., L.R.C.P.; Blade, Florence Muriel, M.B., CH.B. MANCH.; Cockill, William Baron, M.D. DURH., M.R.C.S., L.R.C.P., L.S.A., D.P.H.; Connolly, James Joseph, M.B., B.CH., B.A.O., N.U.I., D.P.H.; Davies, Kathleen, M.B., B.CH., B.Sc. WALES, M.R.C.S., L.R.C.P., D.P.H.; Dean, Hilda Constance, M.B., B.S. LOND., M.R.C.S., L.R.C.P., D.P.H.; Dunlop, James Alistair, M.B., CH.B. GLAS., D.P.H.; Gibbs, Nancy Kathleen, M.R.C.S., L.R.C.P., D.P.H.; Harker, William Edmund, O.B.E., M.D., DURH., B.S., D.H.V.; Kirk, Thomas James, M.B., CH.B. GLAS.; Lund, John Knowles, M.R.C.S., L.R.C.P., D.P.H.; Miller, Sinclair, D.S.O., M.C., M.D., M.A. BELF., M.R.C.P., D.P.H.; Morgan, Lewis, M.B., CH.B. ABERD.; Pemberton, George Benjamin, M.B., CH.B. ED., F.R.C.S. ED., D.P.H.; Rae, Harry Jas., M.C., M.A., M.B., CH.B. ABERD., D.P.H.; Soutar, Kenneth Andrew, M.B., B.S., B.Sc. LOND., M.R.C.P., D.P.H.

As Associates:—

Latham, Thomas Stephen, L.D.S., R.C.S. ENG.; McKellar, John McKean, M.R.C.V.S., D.V.S.M.

A number of nominations were received for the next election.

There followed a discussion on "Modern Methods of Refuse Disposal," opened by Mr. J. C. Dawes, O.B.E., Public Cleansing and Salvage Inspector, Ministry of Health; Dr. Charles Porter, Medical Officer of Health, St. Marylebone, and Mr. A. E. Kennedy, Superintendent of Cleansing, Kensington. Others who took part in the discussion were:—Dr. T. Shadick Higgins (M.O.H., Capetown), Dr. D. H. Geffen (M.O.H., Enfield), Dr.

John Tate (M.O.H., Middlesex), and Prof. W. W. Jameson. The last-named proposed a cordial vote of thanks to the openers, which was put from the chair and carried by acclamation.

A report of the discussion will appear in an early issue of PUBLIC HEALTH.

THE METROPOLITAN BRANCH.

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

A meeting of the Council of this Branch was held at the house of the Society on January 10th, 1930, the President occupying the chair. Seventeen members of the Branch Council were present.

In accordance with the request of Dr. Charles Porter, consideration was given to the question of seeking co-operation between the metropolitan medical officers of health and the Metropolitan Asylums Board in tracing the source of infection in connection with patients suffering from infectious diseases such as smallpox and typhoid fever, removed to hospitals under the management of the Board. It was pointed out that some difficulty exists in securing early and full information, as only the medical superintendents of the hospitals are allowed to give such information as might be required by medical officers of health in their investigations. It was decided to write to the Fever Hospital Medical Service Group of the Society asking for their observations as to the best method of securing information regarding the past movements, etc., of patients removed to Metropolitan Asylums Board hospitals suffering from infectious diseases.

At the request of the Metropolitan Boroughs' Standing Joint Committee, the Branch Council considered the circular, dated December 5th, 1929, issued by the Minister of Health and the President of the Board of Education to maternity and child welfare authorities and local education authorities, in regard to the necessity of providing improved facilities for the supervision of children between the age of two and five years, especially in regard to the provision of nursery schools and day nurseries. The Branch Council decided that it was not necessary for them to take any joint action on this circular and that they cannot recommend any particular line of action for the Metropolitan Boroughs' Standing Joint Committee; they felt that the problems raised in the circular should be left to the careful consideration of each authority concerned.

The Hon. Secretary read a letter from the President of the Northern Branch, asking if their intended nomination of Professor Harold Kerr, O.B.E., for the Presidency of the Society would be acceptable to this Branch. The Branch Council decided that they would heartily support the nomination.

The Hon. Secretary read a letter from the Council of the Society, asking for the observations of the Branch in regard to a letter addressed to the Association of Municipal Corporations by the Ice Cream Association of Great Britain and Ireland (Incorporated), requesting the co-operation of the former Association in securing a legal definition of ice cream and legislation necessary to provide that this commodity be manufactured or sold only on registered premises which have been approved by the local authority concerned. The Hon. Secretary pointed out that this question had been fully dealt with by the Branch in the period of eighteen months ended January, 1929, and that he could give the Council of the Society full particulars of the action taken and the decision at which the Branch had arrived. Instructions were given for this to be done.

The Hon. Secretary reported that he had received communications from the London County Council stating (1) that the appropriate committee of the County Council had given instructions for the affixing of penny stamps on Forms M.O. 84 (school exclusion forms) in the future, so as to prevent the delay in delivery which arises when these forms are posted with halfpenny stamps; (2) that the

proposals contained in the memorandum of the Metropolitan Tuberculosis Sub-Group of the Society were under the careful consideration of a Special Tuberculosis Departmental Committee of the County Council, and that their report in due course would be submitted to the Central Public Health Committee of the Council, who would no doubt make known their decisions.

The Branch Council gave instructions for one thousand copies of their report on Section 64 of the Local Government Act, 1929, to be printed. Copies of this report can be obtained from Dr. James Fenton, Town Hall, Kensington, London, W.8, at a cost of fourpence each.

THE SCOTTISH BRANCH.

President: Dr. Thomas Adam, County Medical Officer of Health, Stirling.

Hon. Secretary: Dr. G. V. T. McMichael, Medical Officer of Health, Paisley.

A meeting of this Branch was held in the City Chambers, Glasgow, on December 21st, 1929. Seventeen members were present, and the President occupied the chair. Apologies for absence were intimated from eight members.

Minutes of the meeting of the Branch on September 21st, and of the Council on October 12th, November 1st, and November 22nd, 1929, were read and approved.

The question of Administrative Schemes under the Local Government (Scotland) Act, 1929, gave rise to prolonged discussion. The Joint Memorandum recently issued by the Department of Health for Scotland and the Scottish Education Department on School Health Administration, S.H.A. Memorandum No. 1, 1929, was carefully considered, more especially paragraph 44, which laid down that "in the circumstances of most authorities, it will probably be found desirable that the administration of these services (school health services) should rest with the education committee." It was the unanimous opinion of the members that such a recommendation from the Central Departments was greatly to be regretted, as being directly opposed to the principle of the unification of the health services which was one of the main objects of the Act. Ultimately, it was remitted to the President and the Hon. Secretary to communicate the considered opinion of the Branch on paragraph 44 of the Memorandum on School

Health Administration to the Department of Health for Scotland for transmission to the Secretary of State for Scotland, and also, if considered necessary, to arrange a deputation to meet the Secretary of State.

THE NORTH-WESTERN BRANCH.

President: Dr. F. A. Sharpe, M.O.H., Preston.

Hon. Secretary: Dr. G. W. N. Joseph, M.O.H., Warrington.

An ordinary meeting of this Branch was held in Manchester on December 13th, 1929, the President occupying the chair. Fifteen members were present.

Dr. J. E. Spence opened a discussion on the Report of the Departmental Committee on the Training and Employment of Midwives and on the Memorandum of the British Medical Association on a National Maternity Service Scheme. He pointed out that, speaking generally, the two reports were in agreement, the main differences being that the B.M.A. Report was one from the general practitioners' point of view chiefly, whereas the Departmental Committee's Report was more comprehensive. The B.M.A. Report attempted an estimate of the cost of the scheme whilst the other did not, and the Committee's Report dealt with the administration and duties of the Central Midwives Board, a subject not mentioned in the B.M.A. Report. In both documents certain essentials are laid down for a complete maternity scheme, and in both the necessity for ante-natal and post-natal examination is stressed. The Committee suggests that a comprehensive maternity scheme might be initiated in connection with National Health Insurance and the Memorandum also favours an extension of these Acts to finance this service. A satisfactory feature of the Memorandum is the insistence on the importance of the midwife in any scheme, as even at present there appears to be in some places some antipathy between the doctor and the midwife, and emphasis on the necessity for team work may help to remove this. The B.M.A. Memorandum goes on to indicate the importance of ante-natal care, but at the same time argues that clinics for the purpose are unnecessary, in spite of the fact that many women now prefer the clinics and that the clinics are very essential for educational purposes. The estimate of cost in the B.M.A. Memorandum is probably greatly below the

amount necessary, especially in respect of institutional treatment and doctors' and consultants' fees. The argument that most cases can be confined at home with safety, if housing conditions are improved, is rather Utopian, and no account is taken of the growing desire for institutional care during confinement. Apparently women are not to have free choice between institutional and home treatment; this is to rest with the practitioner. No provision is made in the estimate for mileage. Finally, the local authority is to carry the financial burden and to have little or no say in the practical side of treatment.

Turning to the Departmental Committee's Report, Dr. Spence criticised the conditions laid down under the section for Training of Midwives. He thought the minimum age of twenty was too low; that general training in advance was necessary; and that the great fault in training was the concentration on the mother to the exclusion of the care and management of the infant. He did not think that there would be any real difficulty in the supply of midwives if they could be adequately distributed over urban and rural areas, and in this connection he instanced the figures for the County of Lancashire as follows:—

26,390 births of which 52.2 per cent. (13,799) were attended by midwives.
768 midwives on register = 18 per midwife.
For 26,390 = 34 per midwife.

Actually
13 midwives attended more than 100 cases each.
21 " " between 75-100 " "
45 " " " 50-75 " "
117 " " " 25-50 " "
242 " " " 5-25 " "
165 " " less than 5 cases each
i.e. only 13 per cent. of midwives attended more than 50 cases.

The 26,390 births could have been dealt with by 263 midwives. Private practice will not produce a satisfactory midwifery service, but the distribution of midwives must be regulated by some authority. He next pointed out the disadvantages of a midwifery service, and made suggestions for a municipal service carried out by local authorities.

Finally he dealt with the suggested alterations in the Committee's report so far as they concerned the Central Midwives Board.

In conclusion he put forward the following recommendations as a basis for discussion by the members present:—

(1) That this Branch approves generally of the Departmental Committee's Report and the B.M.A. Memorandum.

(2) That adequate training in the management

and feeding of infants should be an essential part of the training of midwives.

(3) (I) That assistance should be given to suitable candidates for training in midwifery by grants, scholarships or otherwise, upon an undertaking being given to carry on the practice of midwifery for a specified period, e.g. five years.

(II) That the training be of four years' duration and comprise training in general nursing, and infant care and management as well as midwifery.

(4) That a midwifery service be set up by local authorities comprising whole-time midwives under conditions similar to those governing the service of health visitors.

(5) That this meeting considers the financial provisions of the B.M.A. Memorandum wholly inadequate to provide the service outlined in the Memorandum.

(6) That the suggestions in the B.M.A. Memorandum with regard to the admission to hospital of puerperal women will reduce the amount of training material, and is contrary to the definite desire of a large proportion of women for institutional treatment.

(7) That the proposal to close ante-natal centres is not justifiable.

Dr. G. G. Wray said that the possibility of a municipal service depended on the question of finance. He agreed that a midwife should have general nursing training and should receive reasonable remuneration, say, not less than £200 per annum.

For Lancashire, 750 midwives would, therefore, require £150,000 a year. It was difficult to find full-time employment for a midwife in a rural area unless in a very large district, and then provision of means of conveyance was necessary, thus adding to cost.

Dr. C. O. Stallybrass did not think support could be given to either report *in toto*. He disagreed with the opposition shown by the Departmental Committee towards the Central Midwives Board, and that part of the report might well be dropped. There was, however, a great deal of useful matter in the report. The present system of midwifery was by no means complete, and there should be a consultant service available in all ante-natal as well as post-natal cases. No doubt ante-natal clinics must be continued and functions extended. They could not be replaced by a general practitioner service; neither the cost nor any advantages to be gained could justify it. Looked at from the point of view of maternal mortality, no mere improvement of the midwifery service would lower mortality and morbidity figures to any marked extent. There is no evidence that infection, for instance, is carried by midwives. Puerperal fever does not occur in epidemic form in their practices; cases are almost invariably sporadic. On the other hand, Dr.

Gates' figures show that infection is more probable in the practice of doctors, especially those in colliery districts constantly dealing with suppurating wounds. In Scandinavia the mortality-rate is half that of this country, and this was due in his opinion chiefly to the fact that the general health of mothers was better supervised. Through a complete system of insurance extending to dependants it was possible for her to receive medical care throughout her married life. He described the system of limiting the number of cases dealt with by a midwife as unworkable. For instance, if the number was 120 cases per annum, how were they to be spaced out, and if a midwife had finished the quota, say, in October, was she to cease work for the remainder of the year?

A municipal service was better, but would be difficult to introduce in the first place.

Dr. F. T. H. Wood, O.B.E., considered the B.M.A. Memorandum to be idealistic propaganda. He was against any general approval of this scheme because, first, the good general practitioner did not want to get back into the midwifery service, and secondly, it was not desirable to encourage the other type in such work. He agreed as to the impracticability of replacing ante-natal clinics with a general practitioner service. After giving statistics of the work in Bootle, he mentioned some of the difficulties experienced in post-natal clinics. He was of opinion that the better conditions in Scandinavia were due to the fact that midwives had a three-years' training, a broad general education and a good social status. Of the births there 30 to 40 per cent. occurred in institutions under the supervision of midwives.

After a long discussion it was finally decided that the Branch would not make any definite recommendations to the Council.

The Annual Dinner of the Branch was held the same evening at the Queen's Hotel, Manchester, when more than fifty persons attended. Amongst the guests were the Lord Mayor of Manchester (Councillor R. Noton Barclay, J.P.), the Lord Bishop of Manchester (Dr. Guy Warman), W. J. Tout, Esq. (M.P. for Sowerby), Arthur H. Burgess, Esq. (Professor of Surgery, Manchester University, and President of the British Medical Association), Councillor Miss M. L. Kingsmill Jones, J.P. (Chairman, Manchester Public Health Committee), Alderman R. Durham (Preston), and other representatives of local authorities.

Dr. Wood proposed the toast of "The City and Corporation of Manchester," response being made by the Lord Mayor. The toast of the Society was given by the Lord Bishop of Manchester, and replied to by the President of the Branch, who referred to the influence of the Society in all matters pertaining to the public health and the ever-widening sphere of its labours. Dr. Veitch Clark proposed the toast of "The Guests," replies being made by Councillor Miss Kingsmill Jones, Professor Arthur Burgess, and Mr. W. J. Tout, M.P. (who attended in the unavoidable absence of Mr. Joseph Compton, M.P., Parliamentary Secretary of the Ministry of Health).

A further meeting of the Branch was held at the Park Hospital, Davyhulme, near Manchester, on January 10th, 1930. The President and thirty-two members were present.

A communication from the Ice Cream Association of Great Britain and Ireland (Incorporated) to the Association of Municipal Corporations, which had been referred to the Society for its views, was read. It was resolved that the letter be referred to the Committee of the Branch for consideration and report.

Nominations for the Presidency of the Society for the session 1930-31 were considered, and it was resolved that the Branch support the nomination of Professor Harold Kerr, O.B.E., by the Northern Branch.

After business was concluded, members were conducted in parties round the Institution by the Medical Superintendent and Resident Medical Officers. The Park Hospital is one of the most modern in the country and has been established by the Barton-upon-Irwell Board of Guardians. The total accommodation is 500 beds, and the cost of erection has been approximately £710 per bed, exclusive of furnishing and equipment which represents a further nine per cent. of the capital outlay. At present the average number of patients is 285, and for this number there is a staff consisting of medical superintendent, three resident medical officers, matron and ninety-five nurses. In addition, there are visiting specialist surgeons and physicians for all branches of the work.

Tea was provided for members, and at the conclusion of the meeting a hearty vote of thanks was accorded the Medical Superintendent (Dr. Davidson) and the matron, on the proposition of the President.

THE YORKSHIRE BRANCH.

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

A meeting of this Branch was held at the Education Offices, Calverley Street, Leeds, on January 3rd, 1930. The President occupied the chair, supported by twenty-three members. Apologies for absence were received from five members.

A letter from the Executive Secretary respecting the retirement of Dr. William Foster, Medical Officer of Health, Shipley, was considered, and it was decided to recommend the Council of the Society to retain Dr. Foster's name on the Roll as a fully-paid life member in recognition of his work and seniority in the public health service.

A letter from Dr. McGonigle, President of the Northern Branch of the Society, asking that the Yorkshire Branch would support the nomination of Professor Harold Kerr as President of the Society for 1930-31, was considered. After discussion it was unanimously resolved that such support be accorded.

In November, 1928, the Hon. Secretary reported he had been informed by the Executive Secretary of the Society, in consequence of complaint made by the Yorkshire Branch, that action had been taken with respect to the names of two medical officers of health in Yorkshire which have appeared in the Medical Directory for many years, in one case as a Fellow, and in the other as a Member, of the Society of Medical Officers of Health, although their membership of the Society had ceased. In the Medical Directory for 1930 these names still appear under the original description, although the two medical officers of health have no connection with the Society. The Hon. Secretary was instructed to again report the matter to the Council of the Society in the hope that prompt action would be taken to prevent wrongful assumption of these titles.

The President of the Branch welcomed Drs. Galloway, Holt and Scott on their first appearance after appointment as Medical Officers of Health at Dewsbury, Keighley and Shipley, respectively.

A letter from the Executive Secretary stating that the Association of Municipal Corporations had asked the Society to advise on a communication from the Ice Cream Association of Great Britain and Ireland, was considered. On the motion of Dr. Mair, it was unanimously resolved that the Branch is of opinion that the

setting up of a chemical standard for ice cream is not of great importance, but feels very strongly that local authorities should be given power to require persons manufacturing or distributing ice cream to be registered by the local authorities, and that such local authorities should have power to refuse to register, or remove from the register, those persons whose methods and premises are not satisfactory.

It was reported that Dr. T. E. Francis, late Medical Officer of Health, Barnsley, had died in hospital in Ceylon. The Hon. Secretary was requested to write to Mrs. Francis expressing the sympathy of the members with herself and her family in their bereavement, and at the request of the President all stood in silence.

Dr. Hilda A. Channon gave a very lucid summary of the Report of the Departmental Committee on the Training and Employment of Midwives. This was followed by a discussion with the object of submitting to the Council of the Society the views held by the Yorkshire Branch regarding this Report. The Hon. Secretary was instructed to state that the Branch was in agreement with the "Summary conclusions and recommendations, page 68," with the following exceptions:—

No. 11, page 71. (a) Agreed. (b) Between words "should be," there should be inserted "in approved cases."

Par. 20, page 72. The Branch is of opinion there should be no maximum age.

Par. 25, page 73. The Branch is of opinion the number of beds should not be stated but each application from institutions for approval should be judged on its merits.

No. 5, page 78. Not agreed. It was felt there might be circumstances in which the health visitor would be the most competent person to be inspector of midwives, always subject to the supervision of the medical officer of health.

Par. 59, page 80. The Branch does not agree.

Par. 60, page 80. The Branch does not agree.

Par. 63, page 81. The Branch is of the opinion that the present constitution of the Central Midwives Board is satisfactory.

Owing to insufficient time, the British Medical Association Memorandum outlining a National Maternity Scheme for England and Wales was adjourned to the next meeting.

A meeting of the County District Group of the Branch was held prior to the Branch meeting, when the following resolution was passed and ordered to be submitted to the Hon. Secretary of the County District Group of the Society: "That this meeting of the County District members of the Yorkshire Branch declares its agreement with the principle of

delegation laid down in Section 62 of the Local Government Act, 1929, and is of opinion that steps should be taken as soon as practicable to give effect to the intention of the legislature as expressed in the aforementioned section."

THE TUBERCULOSIS GROUP.

President: Dr. F. J. C. Blackmore, T.O., Woolwich.
Hon. Secretary: Dr. Ernest Ward, T.O., South Devon.

A meeting of the Group Committee was held at the house of the Society on January 17th, 1930, the President occupying the chair. Twelve members were present.

(1) Dr. Sorley wrote saying he felt unable to undertake the duties of librarian. It was decided to place on the agenda of the next meeting the question of a tuberculosis library.

(2) The reception by the Council of the Society of the memorandum on contact examination was narrated. The memorandum had been referred back to the Group for further information. The Council representative had subsequently consulted all those who had adversely criticised the memorandum as well as Professors Kenwood and Jameson. Some believed the memorandum only advertised the universal custom, others that what was advised was impossible. But information was desired as to the number of districts in which contact examination was carried out in the home and the percentage of contacts in whom an X-ray examination was desirable. It was decided to place the subject on the next agenda for full discussion before remodelling the memorandum.

(3) The Council representative described:—

(a) The fate of the memorandum on notification at the hands of the Joint Tuberculosis Council. It has been adopted, after modification, and circulated to medical officers of health, tuberculosis officers, and sanatorium and hospital superintendents. On request the Secretary of the Joint Tuberculosis Council had also forwarded 270 copies of the memorandum to various medical officers of health, and was sending it also to the medical press.

(b) Dr. Niven Robertson had written some comments on the Society to Dr. Jolly. Two members of the committee were asked to explain to Dr. Robertson the position and the working of the Group.

(c) The present position regarding the scholarships offered by the Sun Life Assurance Company of Canada was described.

Subject to confirmation, the cost of the tour was £131 17s. 6d. Each scholar would pay £5 on selection, and pay a further £45 one month before sailing. On arriving in Canada each scholar would receive a traveller's cheque which would partly refund what he had paid.

(4) The employment of tuberculous nursing and domestic staffs was next discussed, and memoranda from Drs. Heffernan and Trayer were considered. The Secretary was asked

to circulate for the next meeting Dr. Trayer's memorandum in an amended form, and with the addition of illustrative experiences from institutions where tuberculous nurses and domestic staffs were employed.

(5) The utilisation of sanatoria was next discussed and postponed till the next meeting, when it would be placed earlier in the agenda.

(6) Friday, May 16th, 1930, at 10.30 a.m., was the date and time fixed for the next meeting.

The Literature of Preventive Medicine.

ACUTE INFECTIOUS DISEASES. A Handbook for Practitioners and Students. By J. D. ROLLESTON, M.A., M.D. (Oxon.), M.R.C.P. (Lond.), F.S.A., Medical Superintendent, Western Hospital, London; Editor, *British Journal of Children's Diseases*; etc. Second Edition. London: William Heinemann (Medical Books) Ltd., 1929. pp. 419. Price 15s. net.

On its first appearance, less than five years ago, Dr. Rolleston's book received, as it deserved, a very warm welcome. Encouraged by this, Dr. Rolleston all the more readily undertook the preparation of a second edition, and seized the opportunity of carrying out a complete revision and of introducing references to advances of which there have been several even in the short period that has elapsed since the book first appeared.

That the work has been admirably done it is unnecessary to say: nor is it necessary to note that the book is attractively written or to commend it to all whose duties require the possession of knowledge of the various acute infectious diseases occurring here and elsewhere.

FOOD VALUES IN PRACTICE. By ETHEL M. DOBBS, M.A. (Lond.). London: University of London Press, Ltd., 1929. pp. 240. Price 4s. net.

In the preface which he has contributed to this book, Professor Kenwood claims for it that it "should fulfil a valuable public mission." There are many reasons for supposing that this opinion may be correct. The author has aimed at providing simple guidance in diet planning and cookery, and has succeeded extremely well. As a lecturer in the Hygiene Department at Battersea Polytechnic she has had experience in teaching,

and this she has used to the full in the preparation of the volume, couching her instruction in the very simplest language. The book is well planned, and of each of the chapters it contains it may safely be said that it is clear and practical. In the part devoted to recipes, wisdom and reason have been used in making choice, and to those engaged in work amongst the people this may be found not the least useful section of the volume.

THOSE TEETH OF YOURS. A Popular Guide to Better Teeth. By J. MENZIES CAMPBELL, L.D.S., D.D.S., F.R.S.E., Member of the Hygiene Commission, International Dental Federation, etc. London: William Heinemann (Medical Books), Ltd., 1929. pp. 141. Price 3s. 6d. net.

In the fact that this book is obviously intended for popular reading there may be justification for the making of the claim, in what is called the Prologue, that "Dentistry is the chief corner-stone of preventive medicine."

The author does his best to ensure its acceptance by his readers and, as amongst these it may be taken are many health officers engaged in educating, they should be the last to express doubt or astonishment. This all the more because they themselves are not disinclined to indulge in exaggeration if the circumstances appear to demand it.

The author has taken great pains to provide instruction which he considers is likely to be of value, in an interesting and attractive manner.

To this end he has adopted the style and language commonly supposed by those preparing books of the health handbook class to be to the liking of the type of individual who seeks information on health subjects and looks for it in literature of this description.

To any who are in search of a book about their teeth, couched in the popular language, Mr. Campbell's will provide all they require.

FIRST AID IN A FEW WORDS. By J. M. CARVELL, M.R.C.S., L.S.A. (Lond.). With coloured anatomical diagrams. London: John Bale, Sons & Danielsson, Ltd., 1929. pp. 12. Price twopence net (in cloth, sixpence).

This little folder is described as "an invaluable pocket companion for all Red Cross and ambulance students, soldiers, sailors, policemen, railwaymen, etc.," and as it is now in its 200th thousand, it must have been found useful. In this issue the matter has been revised to February, 1929, which will no doubt increase its utility and popularity.

In the Annual Reports.

ULTRA-VIOLET THERAPY AND MOTHERS.—The expectant mothers have been those suffering from marked debility and depression, due in most cases to overwork, sordid home conditions, or as a direct result of the pregnant state. No woman with an organic lesion of any kind has been irradiated. Without exception these patients have, after a few exposures, expressed their surprise at their improved condition, and all who have continued the treatment regularly until discharged by the clinic doctor have been obviously benefited. Multiparae whose confinements have taken place have stated either that the labour was easier or that they "picked up" after it more quickly. One woman who was irradiated for three weeks prior to the twelfth confinement said that it was her easiest confinement, and that her milk had not only been more abundant than on former occasions, but that lactation was being satisfactorily maintained. Curiously, this patient was one of the two whose hæmoglobin decreased 5 per cent. during the treatment. The ante-natal patients who have been and are being irradiated will be watched carefully and their infants also kept under observation. Only five nursing mothers have yet been sent for treatment; all have shown an improved condition generally. Lactation has been established satisfactorily in two cases, the remaining three failing absolutely. Two of these were women in a very debilitated state; the other, a feckless girl who had no desire to nurse her infant.—*Dr. A. A. Mussen, Liverpool.*

ICE CREAM.—There has been an obvious increase in the number of retailers of ice-cream in the more hygienic method of the ice brick system, thus replacing to a large extent the older and more objectionable method of the sandwich and similar methods of retailing ice-cream in the open. As an example of the conditions under which ice-cream is retailed, four samples were taken one morning in the Spring from the cans of small retailers in their own premises. The temperature on that particular day was not high and the ice-cream containers had not even been exposed in the open streets. The number of bacteria counted per

1 c.c. (corresponding to one drop of milk) were: Sample A, 900,000; sample B, 2,000,000; sample C, 4,000,000; and sample D, 6,000,000. As a comparison, the standard of purity for Grade A milk is 200,000 bacteria per c.c. What the bacterial count from these containers would have been after they had been exposed for some hours at Sea Lane on a hot dusty August Bank Holiday, it is difficult to imagine. This new system of retailing ice-bricks made under hygienic conditions and wrapped up in clean grease-proof paper is one to be encouraged.—*Dr. A. Stuart Hebblethwaite, Sunderland.*

THE Sixteenth Annual Conference of the National Association for the Prevention of Tuberculosis will be held on July 3rd, 4th and 5th, 1930, at British Medical Association House, Tavistock Square, London, W.C.1.

DR. A. B. WILLIAMSON has been appointed Chief Assistant Medical Officer of Health of Leeds. Before going to Somerset as Deputy School Medical Officer and Assistant County Medical Officer of Health, Dr. Williamson held the post of Assistant Medical Officer of Health of Bootle.

At the last meeting of the Royal Sanitary Institute and Sanitary Inspectors' Examination Joint Board, Dr. William Butler, Senior Medical Officer and Medical Officer (General Purposes), London County Council, was elected Chairman of the Board for the ensuing year. Dr. Charles Porter, Medical Officer of Health, St. Marylebone, the retiring Chairman, was elected Treasurer.

THE Henry Saxon Snell Prize, founded to encourage improvements in the construction or adaptation of sanitary appliances, is awarded by the Council of the Royal Sanitary Institute at intervals of three years, the funds being provided by the legacy left by the late Henry Saxon Snell, a Fellow of the Institute. The Prize in the year 1930 will consist of Fifty Guineas and the Medal of the Institute, and is offered for an Essay on "Improvements in the Sanitary Provisions of Schools." Essays must be delivered before August 30th, 1930, to the Secretary of the Royal Sanitary Institute, 90, Buckingham Palace Road, London, S.W.1, from whom the conditions and full details of the award may be obtained.

Correspondence.

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

PIONEERS IN INFANT WELFARE.

To the Editor of PUBLIC HEALTH.

SIR,—In your editorial comment in the January number of PUBLIC HEALTH, on Dr. Boobhyer's claim that the Nottingham Infant Welfare Centre was the second to be founded in this country, you point out that he has overlooked the pioneer work at the St. Marylebone Dispensary. Both yourself and Dr. Boobhyer have also overlooked the work of the Birmingham Infants' Health Society. The infants consultation of this Society was the pioneer consultation in the provinces, as was that of the St. Marylebone Dispensary in London. But as both these centres were purely voluntary they had not the advertisement which municipal or partly municipal work obtains. The exact order of seniority is, I believe, St. Marylebone in March, 1906, with Dr. Eric Pritchard as Hon. Physician; St. Pancras School for Mothers early in 1907; and the Birmingham Infants' Health Society in November, 1907, the first consultation being conducted by myself, as Hon. Medical Officer, in January, 1908. These three were, I believe, the pioneers in this country in the work of infant consultations on the lines laid down by Boudin. Medical advice on artificial feeding had, however, been given for some time previously at the sterilised milk depôts at Liverpool, and possibly other places in connection with the distribution of the milk.

It happens that, at present, I am collecting material for a short article on early infant welfare work in this country, and if any reader of this letter can give me information as to early phases of this work, I should be very grateful. Municipal work can generally be traced in official records, but it is not easy to trace the origin of voluntary effort, and most of the early work for infant welfare was of a voluntary character. I am anxious that, in my paper, credit should be given for pioneer work where credit is due. In addition to those given above, I have noted: First milk depôts at St. Helens, on a small scale prior to 1901, and on a larger scale in Liverpool in 1901; first trained health visitors at St. Helens in 1897, and a little later in Liverpool well. As a lecturer and health visitors at P.D. Department at Battersea Polytechnic she has had experience in teaching.

I also have a record of the existence of nursing mothers' dining-rooms in Dundee and Chelsea in 1906. As the first Couillet restaurant was not opened until November 1st, 1904, these two are probably the pioneer efforts in Great Britain. I do not know which was actually first in the field. In contrast to the Couillet scheme a small charge was made for each dinner.

I am, Yours faithfully,

H. W. POOLER.

Hon. Consulting Physician, Birmingham Infants' Health Society; Medical Superintendent, Infant Welfare Centres, Derbyshire County Council.

Ellenborough,

Stonebroom,

Alfreton, Derbyshire.

January 8th, 1930.

THE occasion of the annual meeting of the British Dental Hospital was taken to make a presentation to Mr. George Thomson, the founder of the Hospital, which exists to carry out his aim to provide expert dental services for the masses of the wage-earning class at fees which should just cover expenses and render the service self-supporting. Mr. Thomson is actively associated with the Dental Officers' Group of the Society, the members of which will wish to join in the congratulations offered to him at the meeting.

THE next Congress of the Royal Institute of Public Health will be held in Portsmouth during Whitsuntide, 1930, from Wednesday, June 4th, to Monday, June 9th, under the Presidency of Major General The Right Hon. J. E. B. Seely, C.B., C.M.G., D.S.O., Lord Lieutenant of Hampshire. The work of the Congress will be conducted in the following Sections:—State Medicine and Municipal Hygiene; Naval, Military, and Air (including Tropical Diseases); Industrial Hygiene; Women and Children and the Public Health; and Tuberculosis. Full details of the arrangements may be obtained from the offices of the Institute at 37, Russell Square, London, for it is I.

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Editorial.

Appointment and Qualifications of Medical Officers and Health Visitors.

DURING the time when the Local Government Act was passing through Parliament, and since then as well, persons concerned in public health administration as members of local bodies or as officers had it well impressed upon them that one definite intention behind the Act was that in the future, district councils would be less trammelled by the Minister and his department and should be allowed fuller and freer opportunity of developing health schemes in their areas.

Until the other day it was mainly from statements made in public by the Minister or the Ministry officials that the authorities derived belief that local government in this connection was to be more completely localised. With the Local Government (Qualifications of Medical Officers and Health Visitors) Regulations, 1930, and the Circular numbered 1072, relating to the Local Government Act, 1929, comes now, however, documentary evidence of the reality of the intention and, in black and white, details of the manner in which it is proposed to carry out the intention so far at least as regards maternity and child welfare, tuberculosis and venereal diseases, the three most

important services provided by local authorities and that they are most concerned to develop. In general in respect of these, after examination, the Minister has come to the conclusion that it will be entirely in accordance with all requirements, legal and other, and with the intention of the Local Government Act and all that inspired it, if he takes it that his formal approval is not required to the establishment or extension of institutions provided under the services named, unless it is proposed to raise a loan to defray the cost. Inasmuch, however, as he must be satisfied that each local authority is maintaining a reasonable standard of efficiency and progress in the discharge of their functions relating to these and all other public health services, and inspections will be made from time to time by medical officers of the Ministry in order that he may be so satisfied, it is to be accepted that such general inspections will include enquiry into these particular services and examination of the institutions and premises in which the services are carried on. In order, further, that touch may be maintained between the central authority and the local bodies in respect of these services, and that the undeniably great experience accumulated at the Ministry in the planning of maternity homes, sanatoria, and venereal disease clinics may not be lost, willingness is expressed to advise at any time on questions of planning, equipment and staffing. In any case, presumably, if approval is sought to raise a loan the Ministry will see that the points to which importance is attached in regard to these matters shall receive full attention.

The regulations relating to the qualifications of officers covered by the circular embody, no doubt, the views in this connection of the Minister and the Ministry, and on April 1st, 1930, the date of commencement, these views which presumably it has been considered well to express since approval to individual appointments will not be required, will operate in the case of persons to be then or thereafter appointed by the local authorities. The officers referred to in the regulations are the tuberculosis officer or medical superintendent (a medical officer in clinical charge of a residential institution for the treatment of patients suffering from tuberculosis in the early or curative stages of the disease, which contains not less than 75 beds); the venereal diseases pathologist; the venereal diseases officer; the senior maternity and child welfare officer; the medical officer of an ante-natal clinic; the health visitor

and the tuberculosis visitor. The qualifications required of each of these are prescribed, the necessity for practical training and experience being recognised and insisted upon in each case. Where appropriate the possession of a diploma or certificate is also made compulsory for the person appointed.

An exception to this latter requirement is found in the case of the tuberculosis visitor, for whom an alternative is provided, a person who is a fully-trained nurse and has had at least three months' special experience at a sanatorium or hospital for the treatment of tuberculosis, or at a tuberculosis dispensary, being regarded as adequately qualified. While the regulations were still in draft, recognising that they failed to provide for training and experience in the social aspects of the visitors' work, the Council of the Society took exception to this as an alternative, and endeavoured to secure that the requirements imposed upon health visitors should apply equally to tuberculosis visitors. The efforts of the Council in this direction were, unfortunately, unsuccessful, the Ministry being of opinion that it would be unsafe, having regard to possible difficulties in securing an adequate number of persons, suitable in other respects, to meet the needs. The alternative, therefore, remains, though it may be noted as further objection to it, that neither the term "sanatorium" nor the expression "hospital for the treatment of tuberculosis," institutions in which the three months' special experience (whatever that may mean) is required to be obtained, is defined. Clearly it would have been better to have insisted that the special training should have been taken in an institution in which there was a medical superintendent as defined in the regulations; and if it had been required that the period of training should have been of at least six months' duration, three of them devoted to dispensary work, the need for criticism would have been still further reduced. With the exception noted, the regulations appear to be reasonable and adequate, and possibly if and when amendment becomes necessary the case of the tuberculosis visitor will receive attention, if not by specifying a certificate or diploma, at least on the lines suggested, with stress laid less upon the need for knowledge of the medical treatment of tuberculosis and more upon the absolute necessity for learning something of the victim of the disease and the methods of dealing with the subject as a social and health problem.

Diet and the Teeth.

AMONG the several recent amazing discoveries and far-reaching advances the story of the accessory food factors stands as a beacon-light to guide the dietetic destinies of humanity in the conflict with civilisation. A few individuals will always be outstanding and intimately associated with the hard work and laborious toil of research in this connection; and among them the name Mellanby finds a prominent place. Being the collected research of Mrs. Mellanby over a period of some ten years, the publication of the recent report* by that worker is noteworthy; for it gathers up and makes into an orderly, well-written, composite study the already widely-known work on the relation of diet to the structure of the teeth and jaws in dogs.

The experimental methods adopted are minutely described, together with a full account of the dentition, and of the normal process of development, of the teeth in dogs, and the normal processes are compared with those occurring under various experimental conditions. There is a definite relationship between defectively calcified teeth and rickets in dogs; and the teeth constitute a good index of the calcification processes taking place during development.

It is shown that diet can greatly influence the character of the teeth and jaws, and the substances, it is claimed and supported, which tend to promote well-developed and well-calcified teeth are there with a high content of vitamin A. The work shows how the calcifying or anti-rachitic factor (vitamin D) became recognised as a separate entity existing in such natural foods as egg yolk, milk, suet, cod-liver oil, or as an artificial product in foods by irradiation of their ergosterol content or even by irradiation of the animal's skin. Proteins, carbohydrates, and most vegetable fats and foods such as cereals, oranges, and egg-white, have no calcifying powers; while lard and bacon fat are usually deficient in vitamin D, the amount varying with the diet of the animal from which they are obtained.

There is an immediate response shown by improved calcification when the diet of a puppy is changed from food poor in fat-soluble vita-

mins to food rich in these constituents. If the process is reversed, the response is delayed for a comparatively long period.

Heating and simultaneous oxygenation bring about the gradual destruction of vitamin D; and substances treated in this way lose their power to promote good calcification. An increase in the cereal intake has a deleterious effect on the process, quite apart from its effect on the rate of growth; the effect is only marked when there is a certain deficiency of vitamin D. Cereals differ in their anti-calcifying effect, oatmeal having the greatest action; but it has not been possible to ascribe this to any one known constituent of the cereal.

For the production of perfect teeth the diet must contain some calcium and phosphorus; with a diet rich in vitamin D, the amount of these substances required may be very small, but without vitamin D calcification will not take place, however much calcium and phosphorus is given in the diet. Proper maternal feeding is of great importance in the production of good teeth in the developing offspring. Exercise plays little or no part in the development of the teeth.

Vitamin D ranks first in importance in calcifying processes; and although it has such a limited natural distribution, it is possible to produce it in a large variety of foods by ultra-violet irradiation. Indeed, substances which normally interfere with calcification (such as oatmeal or flour) can in this way be made to assist the process. Ultra-violet radiation of the skin is not nearly so effective as a calcifying agent in the case of dogs as is the consumption of some food rich in vitamin D. While in vitamin D there is an agent of vast importance in promoting the calcification of the teeth and jaws, an anti-calcifying factor (toxamin) exists in cereals; and although this substance has not been fully investigated, "its power for evil, so far as the structure of teeth of dogs is concerned, exists only with an insufficiency of vitamin D."

The report now presented deals solely with the experimental studies in dogs; and succeeding parts of the work in its application to human teeth, which are promised, will be awaited with considerable interest, for the ordinary diet (especially of the poorer classes) is usually deficient in vitamin D.

Continuity of research is often difficult to maintain, and the compilation of the results over a period of years is indeed valuable, lest some of the fragments be lost. Great credit,

* DIET AND THE TEETH: AN EXPERIMENTAL STUDY. Part I. Dental Structure in Dogs. By MAY MELLANBY. Medical Research Council Special Report Series, No. 140. H.M. Stationery Office, 1929. pp. 308 and 109 plates. Price 17s. 6d. net.

therefore, is due to the author for the vast care, for the continuous and meticulous attention to detail, and for the infinite patience which this work has entailed. The report is presented in an excellent manner and the numerous plates are admirable; and it represents a valuable mark in the progress of events. For it contains, in all probability, the foundations of what will be notable triumphs in the fields of the pathological conditions of rickets and dental caries, and in the realms of the physiological requirements of dietetics and normal nutrition.

* * * * *

Psittacosis.

THOUGH it now appears that he was not the first victim of the infection, it cannot be doubted that since the day when the lamented death of Dr. D. L. Thomas was announced as due to psittacosis, the interest taken in the disease and the dread inspired by it have steadily increased. Almost daily during recent weeks the press has contained references to illnesses or deaths suspected to be due to an infection acquired from parrots. That there has been something in the nature of a panic amongst the owners of such birds and that, as a consequence, suffering, most of it needless, has been caused to the pets as a result of the desire to get rid of a possible source of infection, there is evidence also. Moved by these happenings, the Ministry of Health has considered it advisable to prepare a memorandum on psittacosis (Memo. 151/Med.), a copy of which was sent early in February to the various sanitary authorities and to each medical officer of health, to whom it was hoped the information it contained might prove useful. In the memorandum the various matters relating to the disease—its prevalence and characteristics, the circumstances of its occurrence, and the precautionary measures that may prove useful against it—are considered with the accuracy and clearness usually to be found in documents dealing with subjects of medical concern issued by the Ministry. Up to date the actual number of cases in this country has been something under fifty, most of them apparently presenting the typhoidal and pneumonic symptoms taken to be characteristic of the disease. Since the bacteriology is at present far from clear, precise diagnosis is not always easy, and while it may be that some of the cases counted as

psittacosis may, in fact, have been something else, it may equally well be that deaths and obscure illnesses ascribed to other causes may have been due to infection with the organism, whatever it is, a bacillus identical with *B. aertrycke* (Mutton) or a filtrable virus, that produces this disease. In relation to its occurrence there is usually history of association or close contact with a sick parrot or, more rarely, a parakeet or love-bird. Recently-imported birds, particularly of South American origin, are most under suspicion, but their history is not usually easily traceable, though it may be taken that the conditions associated with their importation are likely to be favourable to the occurrence and spread of infection amongst the birds. In this country even, spread from bird to bird may occur, but enquiries at zoological gardens and amongst bird dealers by Ministry officials and others have met with negative results. Similarly, there is absence of evidence of cases of psittacosis amongst the persons looking after the birds in either the gardens or shops. The most valuable statements in the memorandum are those contained in the section relating to precautionary measures against the disease, and the most important of these is that exonerating domestic parrots or other cage birds of the parrot family which have been kept in a household for many months or years apart from any introduction of new birds. The advice to be chary of buying birds recently arrived or of unknown history is sound also, and the wisdom of bearing in mind the hints offered as to the necessity of ensuring cleanliness of cages, of isolating sick birds and disinfecting perches, etc., and as to the danger of fondling new birds is obvious. To medical officers the suggestions offered with regard to the points to be attended to in carrying out investigations when obtaining information to be transmitted to the Ministry will be remembered. There will be anxiety also to assist generally in the enquiries which the Ministry is making by bearing in mind the need for enquiring into the possible association of patients notified to be suffering from enteric fever or pneumonia, with sick or recently dead birds; for instructing sanitary inspectors and health visitors to be on the look out for illness among parrots or budgerigars on their districts, and for assisting on the pathological and bacteriological side by securing specimens and submitting them for examination locally or at the laboratory of the Ministry.

Tuberculosis in Lancashire.

THE report of Dr. Lissant Cox, Central Tuberculosis Officer of the Lancashire County Council, for the year 1928, as these documents do usually, provides a model for all tuberculosis reports. The population concerned numbers 1,811,000, and the decline both in the incidence of tuberculosis and the mortality from the disease is striking. Notifications have dropped from 1·47 per 1,000 of the population in 1918 to ·91 in 1928, and the mortality of ·58 per 1,000 for pulmonary tuberculosis is the lowest on record for the sixth year in succession. But the deaths of younger people from 15 to 25 have increased during the year, the males from 101 in 1927 to 117, the females from 152 to 157, a position similar to that recorded in other districts.

As in previous years, Lancashire leads the way in essaying scientifically new remedies that have appeared and some of the older ones that have not been carefully tried hitherto.

Four women were given Ostelin: one lost weight before, during and after treatment; one remained the same weight during the treatment, but lost ground afterwards; and two gained while Ostelin was being administered, but lost when it was discontinued.

Dr. Pask tried Tuberculin B.E. in ten patients for a period of three months, and found the results worse than in other patients who received ordinary sanatorium treatment.

Dr. Jenkin's vaccine was put to the test by Drs. Jessel and Brunwin in twenty patients, a course of 17 weeks' duration being administered without apparent benefit in the pulmonary cases, but with possible benefit in some non-pulmonary cases.

Sanocrysin was used in eleven cases, and Dr. Jessel concludes that a continuance of this remedy is, on the whole, justified, though the results were not uniformly satisfactory.

Light treatment has been extensively used in non-pulmonary cases, and there are in Lancashire, 17 carbon arc lamps, 11 Kromayer, 6 Jessioneck, 2 Sollux, 1 Hannovia, and one Tungsten arc lamp for this purpose. Seventy-three per cent. of 726 patients were able to continue at work during treatment; and of 190 cured or arrested cases, the average duration of light treatment was 6·5 months in cases which had previously received an average of 56·4 months of other forms of treatment.

During 1928, 2,616 cases were notified, there

were 1,353 deaths, 7,435 X-ray examinations, 6,154 sputum examinations, and 48 shelters were in use. In the county there are 19 after-care committees covering a population of 845,082.

The whole report is compiled with such accuracy and care that it provides a useful work of reference for any who wish for either general or special information concerning tuberculosis.

* * * * *

A Classification of Bright's Disease.

BRIGHT'S Disease ranks among the most important and interesting clinical conditions, offering, as it does, problems of considerable difficulty alike to physician and to pathologist; for it is a disorder accompanied by a variety of structural changes and of functional disturbances. In many cases the etiology is hazy or obscure; and a very welcome effort to fill up the gaps in the present knowledge is the report of Miss Russell*. The opportunities have been unique in the vast resources of the London Hospital, both in its clinical and pathological departments; and the report, by its painstaking thoroughness and by its evidence of first-class research, shows that the opportunities have been well used. The study over a number of years was directed towards the evolution and distribution of different types of structural damage, the conditions of their occurrence, and the results of their interferences with functional efficiency. The attempt was made to find working principles for the physician to pass from the clinical facts to an interpretation of the structural changes and of the probable results.

Miss Russell gives a detailed if somewhat complex classification of the types of nephritis, which are carefully worked out and discussed. The unreliability is shown of macroscopic appearances in Bright's disease; and there is no association between the occurrence of lipoid and any type of inflammatory reaction in the kidney. The utility of the routine tests of renal efficiency is stressed, for in Bright's disease they are of great help. A feature of the report is the number of excellent illustrative plates and the detailed case histories. The

* A CLASSIFICATION OF BRIGHT'S DISEASE. By DOROTHY S. RUSSELL, M.B., B.S. Medical Research Council Special Report Series. No. 142. H.M. Stationery Office, 1929. pp. 248, illustrated. Price 8s. 6d. net.

report will be welcomed by clinicians and pathologists, and it is not without considerable interest to workers in preventive medicine, since Bright's disease, both *per se* and by its influence and effect on the cardio-vascular system, stands out as a disabling and destructive clinical condition.

* * * * *

Travelling Scholarships for Tuberculosis Officers.

THANKS to the generosity of the Sun Life Assurance Company of Canada, and to the enterprise of the Joint Tuberculosis Council, fifty scholarships of £100 each have become available to enable British medical practitioners engaged in tuberculosis work to pay a five weeks' visit to Canada and the United States next summer at the time of the British Medical Association meeting at Winnipeg. The itinerary has been carefully planned by the Canadian Tuberculosis Association and the scholars' time will be very fully occupied.

The party is timed to leave Liverpool by the "Duchess of Bedford," on Friday, August 8th, and Greenock on Saturday, August 9th, arriving in Quebec on August 16th, where scholars will be entertained by the Provincial Government and have tea with the Governor-General. On Sunday, August 17th, Montreal is reached and the country estate of Mr. Macaulay, President of the Canadian Sun Life Assurance Company, will be visited. Thereafter visits will be paid to Ottawa, Toronto, Muskoka and Winnipeg. From Winnipeg the party passes on at once to Ninette, Manitoba, for a meeting of the Canadian Tuberculosis Association, returning, however, on August 25th to attend the meetings of the British Medical Association. Other centres to be visited include Chicago, Detroit, Hamilton (where an excursion to Niagara has been planned), Buffalo, Syracuse and New York. Leaving Montreal on September 5th, the party is due back at Liverpool on September 12th.

The Scholarship Selection Committee comprises the following officers of the Joint Tuberculosis Council: Sir Henry Gauvain, President; Dr. Lissant Cox, Vice-President; Dr. Ernest Ward, Hon. Secretary; and Dr. James Watt, Hon. Treasurer of Council; with, in addition, Professor Lyle Cummins, representing the National Association for the Preven-

tion of Tuberculosis; and Drs. McNalty and Alison Glover, representing the Ministry of Health.

Scholars, most of whom have been selected, are expected to pay a deposit of £5 within fourteen days of selection and a further £45 before July 1st, but cheques for about £20 will be handed to them on reaching Canada. All travelling arrangements, including payment of transport, gratuities, etc., are in the hands of the Canadian Pacific Railway, whose representative will accompany the party to assist in any difficulties that may be encountered.

The same Assurance Company provided similar scholarships for fifty Canadian medical men to visit Europe at the time of the International Tuberculosis Congress at Rome in 1928. The Company has never failed to encourage and interest itself in tuberculosis work, and believes that these activities have lowered the tuberculosis mortality in Canada and incidentally saved the Company something like £200,000 a year; a truly enlightened as well as a businesslike policy. It is long since hoped that the British insurance companies would similarly interest themselves in public health work, to the gain of the service, of public health and of the companies themselves.

* * * * *

Obituary.

YET another of the stalwarts of the early days of public health in this country has passed away. The death of Boobbyer was recently recorded; now there is the equally melancholy task of commenting on that of Wright Mason. The generation of medical officers of health now passing were not so migratory as the present; both held office for some forty years, and to a public health man, Nottingham meant Boobbyer, and Hull, Wright Mason.

Dr. John Wright Mason, M.B.E., who occupied the Presidential chair of the Yorkshire Branch in 1894, was in his seventy-eighth year, and it is nearly fifty years since he was appointed Medical Officer of Health of Hull, now the City of Kingston-upon-Hull. He was a native of Lincolnshire, but took his degree in Aberdeen. Under his guidance, the department which he controlled grew from almost a single-handed affair to one containing some six hundred persons. He took a keen interest in all developments of public health

work, though he had misgivings as to the wisdom of some of its more recent advances; his knowledge of infectious diseases and what is now called environmental hygiene was unsurpassed. He had dealt with cholera, plague and serious small-pox epidemics, and he was responsible for the erection of one of the finest disinfecting and contact stations in the country. At his suggestion the first municipal crematorium was established in Hull, and he planned the first municipal sanatorium erected after the passing of the first National Health Insurance Act. As a result of his foresight, the corporation acquired a suburban site of over one hundred acres which is now being developed for hospital purposes.

His chief interests were, however, medico-legal work and port sanitation. Until within a few months of his retirement in 1925, he acted, single-handed, as police surgeon to a force of some 450 men; he took a daily sick parade and spent much time in visiting sick policemen in their homes. He had a wonderful collection, which he would show with great pride, of specimens from cases of medico-legal importance, and honours which he esteemed highly were those of Examiner in Forensic Medicine in the Universities of Edinburgh and of Aberdeen. He was a great authority on port sanitation and was one of the founders, and for some thirty years the Honorary Secretary and Treasurer of the Association of Port Sanitary Authorities of the British Isles. He was cognisant of and greatly interested in developments of clinical medicine; he was a type now, alas, disappearing—the clinician medical officer; an old-fashioned doctor adapting himself, with some difficulty, to the business methods and administrative routine of a modern health department.

Always too busy to have many hobbies, he took a great interest in the Volunteer movement, Freemasonry, and the collection of old armour. Dr. Wright Mason resigned his public offices in March, 1925, and was the recipient of many valuable gifts. His wife predeceased him by two years. He lost a son in the war, and is survived by four sons and a daughter, who is married to a member of the public health service.

At the funeral, which took place at Hull on February 11th, the Society of Medical Officers of Health was represented by Dr. A. D. Whitelaw, Deputy Medical Officer of Health, Bradford (acting for Dr. J. J. Buchan, President of the Society), and the Yorkshire Branch

of the Society by Dr. R. L. Thornley, Medical Officer of Health, East Riding County Council, a Past-President of the Branch.

THE National Council for Mental Hygiene announces a series of lecture-discussions on Mental Health and the Child, to be delivered in the Lecture Room of the Medical Society of London, 11, Chandos Street, Cavendish Square, W.1, on Wednesdays at 5 p.m. The full programme comprises the following lectures: "The New Psychology and the Parent" (Dr. Hugh Crichton-Miller), February 26th; "The Child and the Teacher" (Dr. Letitia Fairfield, C.B.E.), March 5th; "The Delinquent Child" (Mr. W. Clarke Hall), March 12th; "The Difficult Child at Home and at School" (Dr. William Moodie), March 19th; "Sex Education" (Mrs. Neville-Rolfe, O.B.E.), March 26th; and "Choosing a Career" (Dr. R. D. Gillespie), April 2nd, 1930. Tickets, price 1s. 6d. each, or 7s. 6d. for the course, may be obtained from the Secretary, National Council for Mental Hygiene, 78, Chandos House, Palmer Street, London, S.W.1, or at the doors.

THE Industrial Health Education Society held its annual meeting—the first since the incorporation of the Society—at British Medical Association House, Tavistock Square, London, W.C.1, on February 18th, 1930. The speakers included Sir William S. Haldane, W.S., Edinburgh (Chairman); Dr. Charles Porter, St. Marylebone (Vice-Chairman); Dr. G. Clark Trotter, Islington (Hon. Secretary); and Dr. H. B. Brackenbury, Chairman of the British Medical Association Council, who used most favourable terms in commending the aims and objects of the Society, which already has the support of many members of the public health service and of the medical profession as a whole. The funds of the Society, which are largely derived from industrial organisations, are employed in providing lectures on industrial diseases and their prevention, and on health subjects generally, by medical practitioners and medical officers of health to persons employed in various trades. During the year 1929 the number of such lectures given amounted to nearly 300, and, in addition, a number of cinematograph films were shown dealing with subjects appropriate to the programme of the Society.

Milk Epidemics.

By Dr. THORVALD J. M. MADSEN, Director of the State Serum Institute, Copenhagen.

It is a real privilege to be allowed to publish a paper from the pen of Dr. Madsen, and the opportunity offered of studying the methods of so prominent an epidemiologist and researcher will be greatly welcomed. The paper reproduced was the second of the series of lectures on Advanced Hygiene delivered by Dr. Madsen on the invitation of the University of London in the School of Hygiene and Tropical Medicine in October, 1929.

THE remarkable decrease in the mortality from the epidemic diseases occurring in the last generation in Northern Europe is shown by the position occupied by these diseases in the tables of general mortality statistics. In the case of Denmark, taking the seven principal causes of death, as revealed in the accompanying table, where the number of deaths in each is stated as a percentage of the total deaths, their part in the general mortality has changed entirely during the period 1890-1928.

The fall, as will be seen, has been from first place, with a contribution of 20 per cent., or one-fifth of all causes of death, during the decade 1890-99, to the lowest, with only 6·7 per cent. (one fourteenth of the total), in 1928.

This marked decrease has occurred largely in the field of intestinal infections, the most malignant of which, typhoid fever, has not appeared epidemically during the last ten years and persists only because of carriers. As the carriers, especially typhoid and paratyphoid carriers, are under particularly strict control in Denmark, it is readily understood that this disease is here reduced to a mere minimum. On an average, the frequency of typhoid fever is only 10-11 cases per month in the whole country. In this connection the following figures are of interest:—

In 1890, when the population was 2,179,000, there were 4,805 cases of typhoid fever; in 1900, 1,657; in 1910, 802; in 1920, 430; in

1927, 166, and in 1928, the population being 3,497,000, there were 124 cases in all.

Among the intestinal lesions it is particularly paratyphoid fever and paratyphoid which sometimes assume epidemic proportions, and investigation into the cases, more especially of late, has shown that in the great majority of instances the outbreak has been due to milk.

As this question naturally is of great moment to a country like Denmark, where the dairying industry is of extreme importance, it will be of interest to survey the whole question of infection through milk. The risk of contamination, it may be taken, arises:—(1) On the farms; (2) in the dairy; (3) in milk-depôts and milk-waggons; (4) in the home of the consumer.

Unfortunately, so far as prevention is concerned, there is no doubt that the greatest chances of infection are found at the places of production—in the cowshed—whereas the dairy, milk-depôts and milk-waggons play only a minor rôle; and infection in the home may, at the most, give rise to a small house epidemic.

What are the chances of infection in the cowshed?

The milk may be infected from:—(1) the cow, and (2) man (the milk-personnel).

Let us for a moment consider the most important of the diseases that may be transmitted from the cow to the milk. They are:

No.	Diseases.	1890-99. %	1900-09. %	1910-19. %	1920-22. %	1923-25. %	1926. %	1927. %	1928. %	No.
1	Epidemic diseases ...	20·5	13·8	10·8	10·8	7·3	7·2	9·9	6·7	7
2	Tuberculosis ...	14·0	12·4	10·6	8·8	8·4	7·3	6·8	6·8	6
3	Respiratory diseases ...	13·5	14·0	13·3	13·4	14·6	14·3	14·5	14·5	1
4	Brain & Nervous diseases	9·4	9·6	10·6	10·6	9·8	10·3	9·8	10·2	5
5	Cancer ...	6·6	8·7	10·9	12·0	12·4	12·7	12·2	13·1	3
6	Circulatory diseases ...	5·4	7·4	8·6	10·7	10·5	11·0	11·0	11·3	4
7	Senility ...	4·4	6·1	8·3	10·1	12·8	13·3	13·0	13·2	2

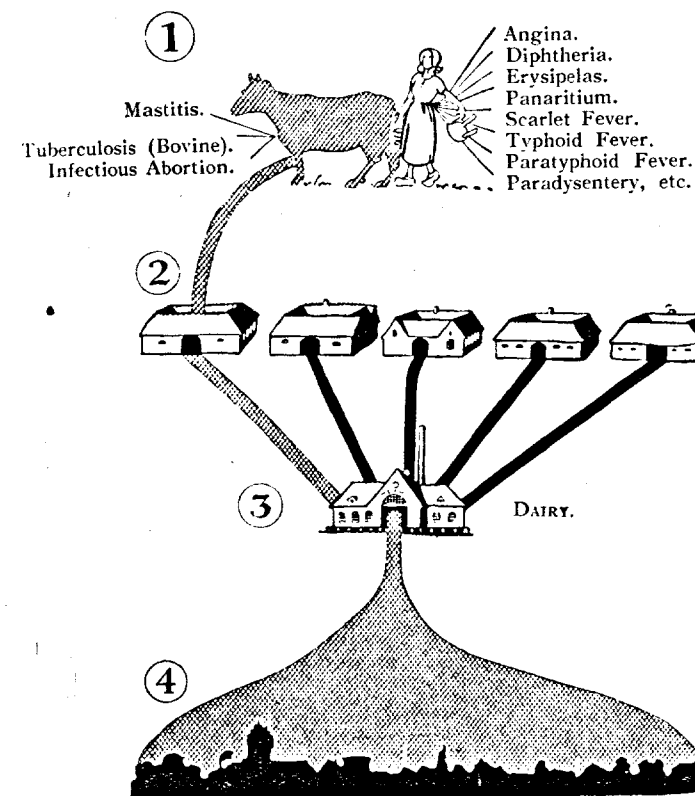


FIG. 1.

(1) Shows the infection of the milk from the cow and from man.

(2), (3) and (4) indicate how the infected milk reaches the consumers via the dairy.

tuberculosis (bovine type); febris undulans (bac. abortus Bang); paratyphoid; bacillary food poisonings (e.g., by bac. enteritidis Gärtner); foot-and-mouth disease; and mastitis (streptococci).

Transmission of foot-and-mouth disease and of paratyphoid (food poisoning group) is rare.

Mastitis will be discussed later.

Tuberculosis is of great importance. Although still disputed, one has to reckon, nevertheless, that several cases of tuberculosis in children are due to bovine infection. This question, however, is outside the scope of this present paper, and I turn from it to enter a little further into the significance of the *abortus bacillus*. Previously, the occurrence of infection with bac. abortus Bang has been mentioned mostly as a curiosity, and it is safe to claim that it was the investigations carried out by Dr. Martin Kristensen in our Institute that first revealed the fact that this infection

is much more common than was formerly believed.

The Danish State Serum Institute is serving as a central laboratory for the whole country, and it consequently gets a very large number of blood specimens for serological and bacteriological examination for various diseases. It was found that no less than 10 per cent. of the blood specimens gave the reaction for bac. abortus Bang; and further inquiry showed, in addition, that the individuals concerned were also having clinical symptoms of febris undulans. These findings were corroborated by the fact that the bacillus was obtained in pure culture from a large number of the patients. We have to reckon, therefore, that in Denmark, at any rate, this infection is much more frequent than previously supposed. In the last couple of years, indeed, we have ascertained about 500 cases a year in a population of 3½ millions; that is, a greater frequency than of either typhoid or paratyphoid fevers.

In a great many cases, however, this infection does not come from the milk but through direct contact with the infected animals. But in other cases, where such contact is excluded, the contagion, no other source being discoverable, is certainly to be attributed to ingestion of raw milk. As a matter of fact, however, the microbe is not very infectious to man, though, as is well known, the bacillus is frequently found in the milk of cows that have aborted, and it may be present in the milk for several years after recovery from the acute stage; and as the disease is very common, it means that the milk is infected in a very large number of instances. Examination of the milk in Copenhagen showed that this microbe was present in about one-third of the milk. As there is recognized but one case of febris undulans per week in the 750,000 inhabitants of Copenhagen, and as approximately 100,000 litres of raw milk are distributed each day in the city, it follows that the consumption of more than half-a-million litres of milk is associated with one case of undulant fever. It should be mentioned, however, that only a part of this milk is taken in raw form, and that presumably there are still some cases that are not diagnosed. On the basis of all available information it is estimated that only about 40 per cent. of the cases can be attributed to milk infection, the rest being due to contagion in handling infected cattle.

Even though undulant fever as a rule may be classed with the less serious disorders, it can still be very troublesome to the patient on account of its protracted course—up to four months—and it has proved fatal, too, in 12 cases. Its case fatality may be estimated to be 2-3 per cent.

In 500 cases only 31 were under 15 years of age (one case under two), and only 109 were females. It is strikingly characteristic of this disease, therefore, that it attacks preferably adult male individuals, though it may be noted that this difference is more pronounced amongst the rural population than among the town dwellers in Copenhagen.

In eight women who were known to be pregnant at the onset of the illness, seven aborted. Bacteriological examinations were made in two of these cases. In one, bac. abortus Bang was found in the exudate of the placenta; in the other the bacillus was demonstrated in the contents of the stomach and intestines of the foetus as well as in the placenta.

It is of importance that this disease should not be overlooked, and that it should be studied still further. Its recognition in Denmark is principally due to the fact that it attracted attention through the pioneer research work by Dr. Martin Kristensen, and to-day Danish physicians have a clear understanding that undulant fever is the actual disease which in many cases they previously would have diagnosed as tuberculosis, septicaemia of unknown origin, influenza, or rheumatism. A similar frequency of this disease could probably be demonstrated in several other countries if the same extensive investigations were carried out.

It has been suggested that the reason for the comparatively great number of cases in Denmark may be either a particularly high virulence in the Danish strains of the Bang bacillus, or the importation of a *Brucella melitensis* from goats. In our work, however, we have never been able to demonstrate any difference in virulence between human and bovine strains, whether obtained locally in Denmark or from other countries. The "Melitensis" theory is also very unlikely, because very few goats exist in Denmark and no infection with this microbe has ever been demonstrated. It has finally been suggested that we were dealing with a porcine strain (*Brucella suis*), but a careful bacteriological comparison has shown a clear difference between the Danish *Brucella abortus* and both

the *Brucella melitensis* and *Brucella suis*.

Consider now the other large group of milk infections—those resulting from the contamination of milk by man. These may be divided into two groups; one composed of diseases of the pharynx and the respiratory tract and including diphtheria, scarlatina, and angina; the other the large group of intestinal diseases; typhoid fever, paratyphoid fever, dysentery, paradysentery. This subject has been studied most thoroughly in England and America, and the principal features of the transmission have been established. I think, however, that it might prove of interest to present some investigations into this subject that have been carried out in our Institute, mainly by my collaborator, Dr. Ahrend Larsen. By way of illustration I shall mention two of the epidemics, a streptococcus epidemic and a paratyphoid epidemic.

The first, the Kolding epidemic, is a typical illustration of a streptococcus epidemic. It occurred in Kolding, a town in Jutland, where about 2,400 out of the 20,000 inhabitants were attacked. The circumstances were rather intricate, and they were cleared up only after a very complete and searching inquiry on the spot.

The epidemic started around election day, December 2nd, 1926. To begin with, the physicians thought they were dealing with an explosion of influenza due to the crowding during election day; later they concluded that it was an epidemic of very contagious angina, which was spreading very rapidly. The more systematic investigation into the epidemic did not start until December 17th, that is, two weeks after the outbreak of the epidemic.

The investigation proceeded as follows:—

1.—*Etiology*.—Cultures from throat and pus from the patients gave growth of *hemolytic streptococci* in every instance. These were all of the same type and often in pure culture.

There was made a further examination of altogether 840 cases of angina in adults.

This showed:—

2.—*The clinical features of the epidemic*. These were angina in all degrees, from mild to severe cases with unilateral or bilateral phlegmones. Adults: severe angina. Children: mild angina with marked enlargement of the glands.

The following complications were observed in the 840 cases:—

Phlegmonous angina	96 cases.
Erysipelas of the face	33 „
Otitis (unilateral or bilateral) ...	47 „
Abscess of the tongue	2 „
Rheumatic fever (1-4 weeks after angina)	30 „

Deaths: 11, from oedema of the glottis and sepsis after erysipelas and phlegmonous angina.

The incubation period was usually a couple of days; in one case one day only.

3.—*Distribution of the epidemic*.—Equally scattered over the whole town, with exception of the northern, elevated, district (the only district in the town that had its milk from one single dairy).

4.—*Origin and course of the epidemic*.—How did the epidemic arise? Could it be a milk epidemic? Enquiry showed that five dairies supplied milk to the town except in the northern district, and that waggons from several dairies delivered milk in every street.

It was decided to investigate all the houses in certain of the streets, entering each household on a chart with data on:—Name, age, address, onset of illness, complications, etc., milk supply (raw, sterilized, pasteurised).

As a result it was found that angina occurred only in households that obtained their milk from one certain dairy, Kolding Co-operative Dairy.

Four more streets were investigated—with the same result. The same was found in four boarding-houses and the Old Folks' Home.

All the four streets together showed:—
Kolding Co-operative Dairy— } Sick: 215
raw milk—259 } Well: 44
The other dairies—raw milk— } Sick: 6
233 } Well: 227
This is a percentage of infection of about 83.

Intensive efforts to find the real source of infection met with considerable difficulties and did not give any definite results, as such a long time had elapsed since the beginning of the infection. The evidence, however, pointed to a certain person engaged in the milking who had an angina and a whitlow at the outbreak of the epidemic. One cannot altogether exclude the possibility of the infection coming from a mastitis produced at milking by inoculation with human streptococci. Bovine streptococci, on the other hand, are ingested with the milk from mastitic cows throughout the country without giving any infection.

When an epidemic like this starts out ex-

plosively and with many cases, it attracts attention at once; and as soon as the source of infection is revealed as coming from the milk, it calls for the necessary precautions to stop the epidemic—prohibition of milk distribution from the infected farm, boiling of the milk, etc. But in many small house epidemics of angina with its complications, where one is inclined to assume a contagion from person to person, we should certainly keep in mind the greater probability of a common source of infection in infected milk.

In the other group of milk epidemics, the one originating from intestinal diseases, we have had occasion to observe both paratyphoid and paradysentery (Kruse E. Sonne) epidemics.

As an example of particularly well-investigated epidemics of this group, I shall mention the Paratyphoid epidemic in Odense, October, 1928.

Area involved in the epidemic (see Fig. III).

In October, 1928, there occurred 200 cases of paratyphoid fever, sharply limited to a certain district (Aalykkekarveret and Dæhnfeldts Villakvarter) on the outskirts of the town. Outside this district there were eight cases at the Tarup farm, from which milk was supplied to the district.

Type of the epidemic.

190 patients were isolated in the hospital.

In 150 of these, the faeces were shown to contain paratyphoid *B. bacilli*, and all the strains were of exactly the same fermentation type. (All the strains were tested for agglutination, indol production, etc., besides fermentation in 13 different carbohydrates.)

Every patient was then questioned in order to obtain accurate information about the date of the onset of the disease, conditions in the household, consumption of milk, etc., upon which one could construct the epidemic curve. This (Fig. II) shows the

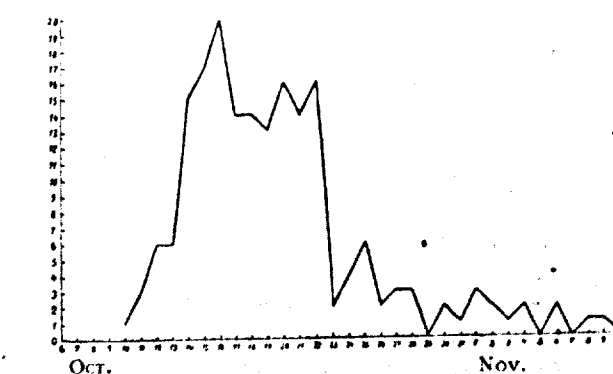


FIG. II.

Origin and course of the epidemic.

Two phases are noticed in the epidemic:—

1. Explosive phase (milk epidemic) (10-12 days).
2. "Tail" (contact epidemic) (2-3 weeks).

This epidemic is an example of a milk epidemic where the infected milk is delivered directly from the farm to the consumer, without passing through a dairy. It is interesting to follow the

Route of the Milk-waggon.

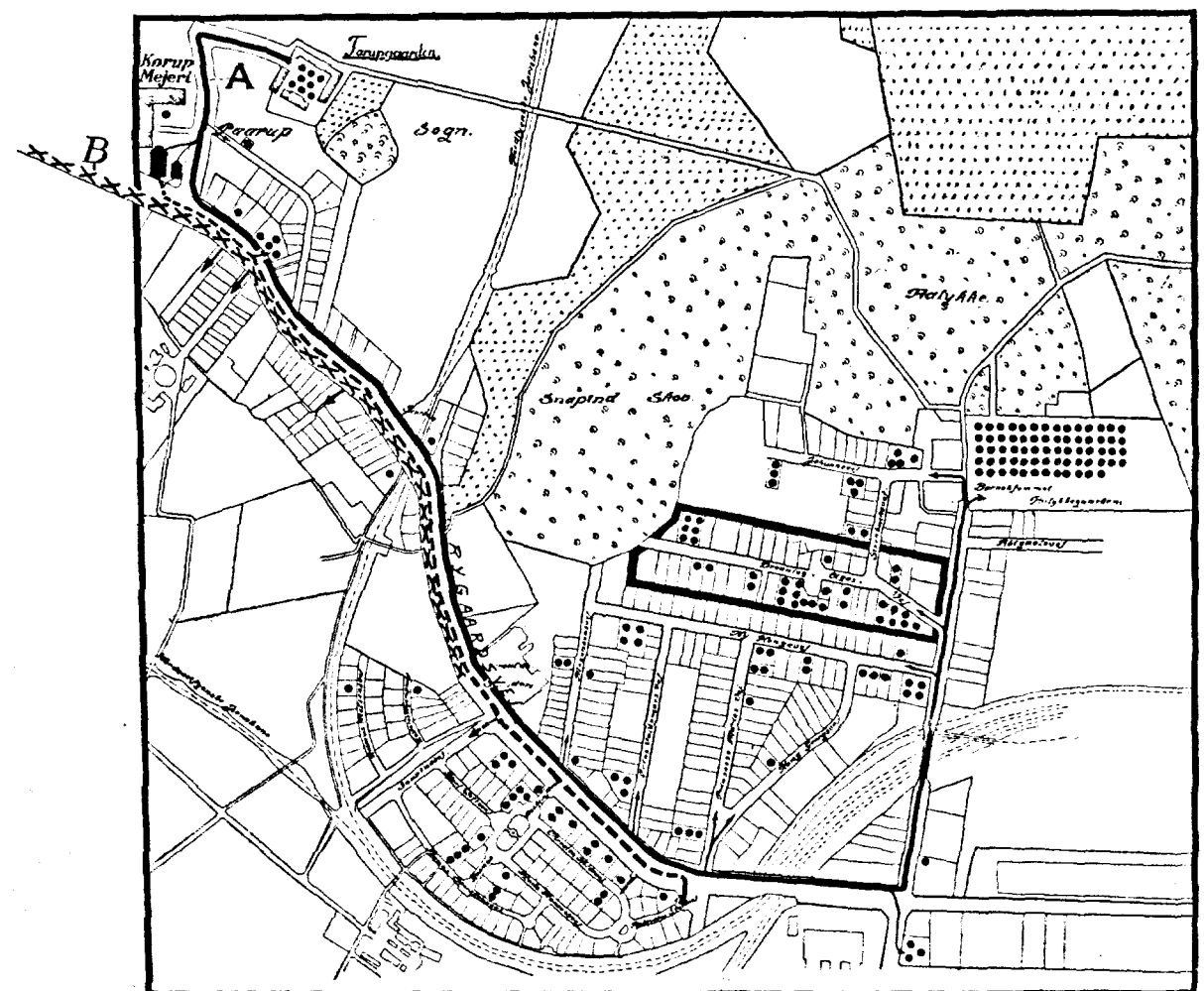
Every morning the milk-waggon leaves the Tarup farm (vide Fig. III) with 150 kilograms of raw milk, 28 kilograms being in a separate milk-can for the children's asylum ("Aalykkegaarden").

In making the milk-driver enumerate his

customers in the order in which he drives along (A) it is found that he delivers milk in all the houses along his route where the typhoid fever occurs. He drives down Rugaardsvej to Store Glasvej (three cases), up to the Children's Asylum (68 cases), then down Dronning Olgasvej (33 cases) and Ny Kongevej (18 cases). The rest of the milk is taken to Korup dairy. But how did the cases originate in Dæhnfeldts Villakvarter, southwest of Rugaardsvej? It was found that Dæhnfeldts Villakvarter was supplied with milk by another milk-driver (B), who left his farm in the morning with 100 kilograms of milk from his own cows. He first delivers milk to 30 families in Tarup town (outside the map)—no case of paratyphoid. At the

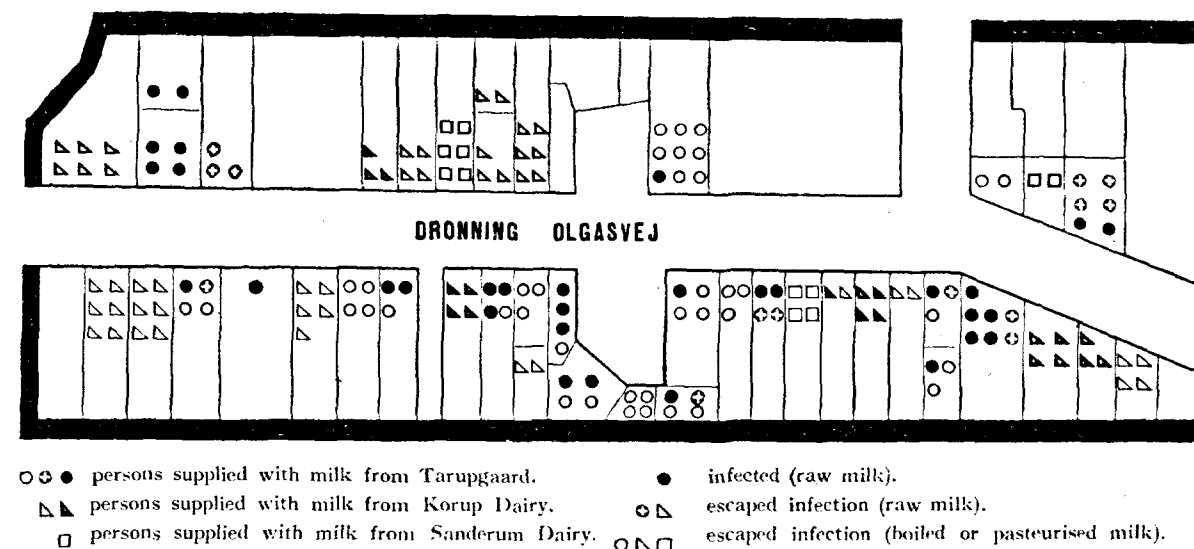
FIG. III.

Paratyphoid Milk Epidemic. Odense (Denmark). October, 1928.



— indicates the route of the milkman (A) distributing milk from the infected Tarupgaard. — indicates the route of the milkman (B) distributing the infected milk contained in two milk cans obtained from Tarupgaard (see upper left-hand corner of map). indicates cases of paratyphoid. (Mejeri—dairy. Gaard—farm. Børnehjem—children's asylum.)

FIG. IV.



corner of Tarupvej and Rugaardsvej he gets two milk-cans each morning that the driver from the Tarup farm has left for him, one large can with 50 kilograms of milk and one small one with two kilos. First he delivers the small can to a family that desires to get its milk directly from the Tarup farm, as this has the reputation of being a model farm (four cases). On reaching Dæhnfeldts Villakvarter, his own milk gives out, and he sells the milk from Tarup farm; the paratyphoid cases crop up anew. The rest of the milk is taken to Korup dairy. The vat for left-over milk is in care of a dairy-apprentice who drinks some of this milk every day, and he is the only one in the dairy that gets paratyphoid fever.

Street investigation.

Inquiry was made in every house on Dronning Olgasvej and Ny Kongevej, and it was found (see Fig. IV, Dronning Olgasvej) that:—

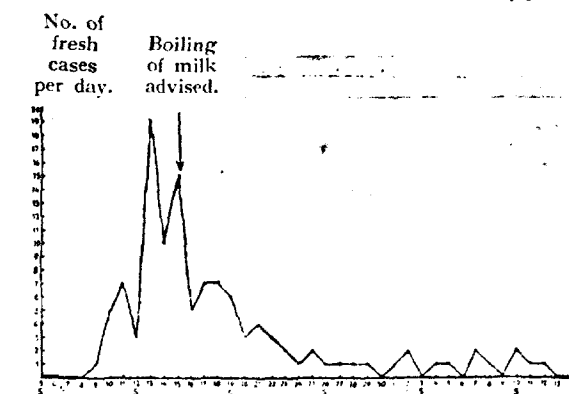
All the paratyphoid patients had taken raw milk from Tarup farm and that there were no cases of the disease in the houses that were supplied with milk from other farms.

Source of infection.—The stableboy at the Tarup farm who had been ill with paratyphoid fever a couple of weeks before the first cases broke out on the farm and in town.

Percentage of infections.—342 individuals consumed raw milk from Tarup farm, of whom 201 were infected, giving a percentage of 58.

Paradysentery.—Among other epidemics I

shall merely mention two caused by *paradysentery* (Kruse E. Sonne) bacilli, because I think no other milk epidemics of this kind have been observed before. The epidemic curve, it will be seen, is of the usual type.

FIG. V.
Paradysentery—Milk Epidemics.

In description, such a single epidemic may naturally appear rather threatening, and from the English literature—in particular the American literature—one is undeniably impressed with the importance of these epidemics. On the other hand, however, a closer study of the conditions in Denmark with its 3½ million inhabitants has rather a reassuring effect. In the last two years, the total number of real milk epidemics recorded has been five: one streptococcus epidemic with 150 cases, two paradysentery epidemics with respectively 150 and 200 cases, and 2 paratyphoid epidemics with 200 and 70 cases—no fatal case.

Furthermore, there has been no epidemic of typhoid fever and none of infantile diarrhoea.

It is to be kept in mind that these figures have been so high only because a specially trained epidemiologist has investigated all the details in every epidemic and any unusual concurrence of infectious disease, and that he has taken particular pains to track out even the very mildest cases, which would not come under ordinary medical attention and would never have been reported otherwise. It may be accepted that in Denmark no epidemics have escaped observation during this period.

Considering that our population is used to take its milk in raw form, the figures of these epidemics are really very small.

Of the milk produced in Denmark, 10 per cent. is consumed by the population, largely in raw form, while 90 per cent. goes to the co-operative dairies, where it undergoes high-pasteurization, and most of it is made into butter for export.

What may be done to prevent or diminish this danger of infection?

The most effective precaution is, of course, to boil or pasteurize the milk, either by high-pasteurization or by low-pasteurization. I need not describe the methods; but all the aforementioned microbes are killed by these means.

Generally, however, the Danish farmers and veterinarians have been rather reserved on the question of systematic pasteurization of the milk; they are afraid that pasteurization would mean a clog on the marked progress already made, and that it might serve as a cover for delivery of milk in bad condition. Moreover, the people are not fond of pasteurized milk, and most of our pediatricians are strongly in favour of milk in raw form.

As to the risk of infection with *tuberculosis*, this is reduced to a minimum through the systematic fight against tuberculosis that Denmark has been carrying on for a generation under the leadership of Dr. Bang. Practically all stocks are under veterinary control and especially rigorous rules apply to tuberculosis of the udder. The matter stands worse with regard to undulant fever, as the B. abortus infection is very common in our stocks, and the microbes may persist for years in the infected animals. Now, however, since attention has been directed to undulant fever, there has been created a strong preference for milk from non-infected cows. Even though something may be done to prevent the ordinary sale of milk from cows which have recently aborted, the milk may involve a certain risk of this

infection that can be avoided only by proper treatment of the milk.

Against the infections transmitted from *human beings*, much can be done, of course, by general hygienic measures. It goes without saying that every individual suffering from any infectious disease should be prevented from having anything whatever to do with the milk. On this point, the Danish epidemic law makes the practical and excellent provision to ensure that such persons can be forbidden to handle milk (and other foods) in any fashion, and that they get a reasonable compensation for their loss of employment. When any of these diseases occur on a dairy-farm, milk distribution can be stopped completely on the condition that the owner is compensated for his loss. All carriers are tracked down, and strict instructions are given them as to cleanliness and occupation, the individual being absolutely forbidden to engage in milking. The public pays the carriers, too, a proper compensation for their loss of employment. The scrupulous registration of all carriers that is systematized in Denmark is probably responsible for the remarkable decrease of typhoid fever in our country.

Finally, a great educational work is carried out to further the most complete cleanliness in milking (thorough washing of the hands before the milking, etc.) and in handling the milk.

From what I have said it will be clear, I trust, that the painstaking efforts in Denmark to produce and distribute a pure milk free from infection have met with considerable success. Still, the handling of milk must naturally involve the chance risk of contamination from some accidental carrier, and, under circumstances where all milk cannot be submitted to a very scrupulous control, infection may be avoided only through careful and systematic pasteurization of all milk destined for consumption in a raw condition.

A SESSIONAL meeting of the Royal Sanitary Institute will be held in the Council Chamber, Middlesbrough, on Friday, March 14th, 1930, at 4 p.m., when discussions will take place on "Ventilation of Cinemas, etc." (openers: Dr. W. S. Walton, Assistant Medical Officer of Health, and Mr. T. P. Dixon, Chief Sanitary Inspector), and on "Flooding from Streams at Middlesbrough" (opener: Mr. S. E. Burgess, Borough Engineer and Surveyor). The chair will be taken by Dr. Charles Porter, Member of the Council of the Institute.

Ut Ita Dicam.

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

Measles Prophylaxis in New York.

The publication of the editorial note in the January number of the journal on "Serum Prophylaxis of Measles in London" has brought a most interesting, helpful and friendly letter from Dr. Charles Bolduan, Director of Health Education in the New York City Department of Health. Commenting upon the scheme outlined in the note referred to, and on the use of serum generally, Dr. Bolduan says: "We, too, have tried the use of convalescents' serum in this city, but there are so many difficulties in securing this serum, and such a large number of cases of measles to be treated, that we are now about to try the use of the blood of parents. We feel that this has many advantages, for the blood is easy to obtain, and we feel that there will be few objections on the part of the parents to the injection of their own blood."

Whole Blood versus Serum.

Accompanying the letter from which the above is taken there is a copy of the department's *Weekly Bulletin*, a publication, I imagine, primarily intended for circulation amongst practitioners in New York, to provide them with information regarding public health and preventive medicine activities in the city and elsewhere, with statistics relating to infectious disease and so on. The number received is that dated January 25th, and its main content is an article on "The Control of Measles," in which the method referred to in the letter is described. Physicians are urged to adopt it and the hope is expressed that all will familiarize themselves with it and "immunize all children encountered in their practice who have been exposed." Behind the department in this advocacy is Dr. Park who, on the basis of the experiences of the past ten years, and especially because of his own extensive investigations, strongly recommends the use of the "whole adult blood" in a city-wide campaign for the control of measles. The first announcement of work done with adult blood was made by Degkwitz in 1920, and had reference to the results obtained in more than 1,000 cases. These in general were most favourable, for even where the disease was not prevented, the injected adult blood lessened the severity of the attack.

Some American Investigations.

The observations of Degkwitz have been confirmed in New York by Park and others. In the course of these investigations opportunity was taken to compare the value of convalescents' serum and of adult blood. The results obtained in a large institution for children showed that the patients receiving the serum developed fewer cases of measles, while those who received the adult blood had modified measles. This outcome, it is claimed, is preferable because those in whom measles was absolutely prevented developed no lasting immunity, and after one month were liable to contract the malady, while the children who had modified mild attacks were rendered immune probably for life. This is a point of very real importance when the malignancy of measles in virgin soil is remembered and the historical outbreaks in Fiji and Faroe and Sandwich Islands are recalled to mind. Except in institutions, a method that will lead to modification rather than complete prevention appears to be preferable, and it is for this reason that the present attempt is being made in New York to induce physicians to adopt the scheme involving the use of parent blood, and that Dr. Bolduan, who is asked to believe that his colleagues on this side deeply appreciate the thoughtfulness of his action, has written his letter and sent the copy of the Bulletin.

Parents as Blood Donors.

In the description of the method, stress is laid upon the simplicity of the procedure, and physicians are advised that the most suitable donor is one of the parents. The amount of blood required is 30 c.cs., half of which is to be injected into the child's right buttock and the other half into the left buttock. Coming directly from the parents, it is claimed, no deleterious effects need be feared. While the dosage mentioned holds good for children under five years of age, it is advisable to use double the amount in older children. It is to be borne in mind that the object is not to prevent measles entirely, but to permit the development of a modified, milder type of disease. It is inadvisable, therefore, even in older children who have been exposed to measles, to give more than 60 c.cs. of the

parent's whole blood. In New York, as here, 1930 promises to be a "measles year," and it is largely for this reason that the department urges physicians to familiarize themselves with the whole blood method and to immunize all children encountered in their practice who have been exposed to the disease.

Advantages of Adult Blood.

The effects of the New York experiment will be watched with the greatest interest by health officers here. Up to the present, comparatively little has been done outside institutions with measles serum, and it was largely in the hope that something might be done in the direction of trying it out amongst the general population that the note that led Dr. Bolduan to write to the Editor was published. What hope there may be of securing supplies of serum for distribution it is difficult to say, though in the note it was suggested that with a properly arranged scheme, adequate amounts would fairly readily be obtained. The great advantage of the system urged upon the New York physicians is that there is no need to go beyond the family circle, and it is not taking too much for granted to suppose that few parents will require much in the way of pressure to yield the amount of blood required once they understand the advantages to be obtained. The difficulty in many cases will be to shake the belief that measles is a mild disorder, and that there is little to fear even if it runs unmodified through the whole family, as in all probability it will. The main fear will be, no doubt, of possibly deleterious effects of the injection upon the child, and many will seek to weigh the comparative risks and discomforts of an uninfluenced attack against those of an injection plus a modified attack.

Certain Difficulties.

The one point of real difficulty, it would seem, lies in the fact that it is mainly amongst the very poor, and where housing conditions are unsatisfactory that measles is prone to prove most serious and most in need of modification. There also ignorance is likely to be greatest and attempts at explanation most hopeless and at inducing parents and contacts alike to submit themselves to an "operation" which, minor as it is, to them must appear very major and, since there is no sign of illness about them, obviously quite unnecessary. Amongst the better situated people the

method, it may safely be taken, will be readily adopted and many no doubt would be glad to adopt the procedure at any time or even frequently in the hope of ensuring modification of infection in advance of exposure. Questions with regard to this will in all probability be raised, and it is unfortunate that the reply to be given must be, both in regard to serum and whole blood, that it is only when the enemy is at or has entered the gate that real advantage can be taken of the procedures. Then, however, protection in the one case and modification in the other may be guaranteed, and the physician has something to offer to the parent overwhelmed with anxiety as to the safety of the brothers and sisters of the patient, other than a reply that careful watch must be kept and on the least sign of illness the suspect must be put to bed and under treatment.

So Now You Know.

And you have to thank Dr. Ira S. Wile, of New York, who read a paper on "Mental Hygiene in Childhood" before the Section on Nervous and Mental Diseases at the Eightieth Annual Session of the American Medical Association, and provided for the assistance of her audience these definitions:—

Mental hygiene is the science and art of promoting the successful adaptation of personal dynamic drives and goals to the more static social pressures and patterns.

Behaviour is the dynamic expression of a unitary biologic social organism.

Personality equals the sum total of individual social reactivity and reaction to group experience.

Character is the greatest common divisor of the multiple social phases of personality.

P.

"HEALTH AND EMPIRE" is the title of a popular lecture (Sir Charles Hastings Lecture, 1930) to be given by Sir Andrew Balfour, K.C.M.G., C.B., M.D., F.R.C.P., Director of the London School of Hygiene and Tropical Medicine, in the Great Hall, British Medical Association House, Tavistock Square, London, W.C.1, on Wednesday, March 12th, 1930, at 8 p.m. The chair will be taken by the Right Hon. Lord Riddell, President, Royal Free Hospital. Admission to the lecture is free, by ticket, obtainable on application to the Financial Secretary, British Medical Association House,

The Two to Five Child.

By DORA E. L. BUNTING, M.D., LOND. (STATE MED.), B.S., D.P.H., Assistant Medical Officer of Health (Maternity and Child Welfare), Southampton.

In this paper, read at a meeting of the Southern Branch on July 5th, 1929, Dr. Bunting deals in an attractive and knowledgeable way with the problem of the pre-school child, and offers a number of practical suggestions in the direction of additional provision and co-ordination of services for the welfare of children in an age-group that is apt to be overlooked.

IT is admitted that few maternity and child welfare schemes make adequate provision for children between the ages of two and five years. At the average infant welfare centre these older ones do not fit in well with the weighing babies, and need a different type of supervision.

On the other hand, the busy mother finds attendance at a centre at one time for the baby, at another time for the older ones, and perhaps elsewhere for the school children, a great tax on her time, so the pre-school child gets thrown in with the others, unless there is definite illness. (In Southampton there are between 8,000 and 9,000 children of this age group.) By the age of two the child has already run the gauntlet of many risks. Nearly one-twelfth of those born alive are dead. These deaths include a number who were never fully viable (severe congenital defects do not always kill in the early weeks) and the victims of feeding troubles and infection.

The first danger to every child is unsatisfactory parentage. The child's health depends on the childhood of its parents, and our present services are battling for the next generation. Then comes the mating. The excess of women of reproductive ages in Britain should give choice to the male, but the selection is often surprising, judging from the brides at an ante-natal clinic. Obvious mental defect, large goitre, chronic ill-health, and frank deformity seem no bar at all. Some of these are chance matings or forced marriages, no doubt, and overcrowding at home leads to unsatisfactory unions. The men may be equally defective, but are little known to the maternity and child welfare officer. Then comes the pregnancy. An ill-nourished or stormy pregnancy shows results in the later life of the child. Not only acute illnesses, but mild albuminuria and pyelitis bode no good, and from the community point of view a stillbirth may be the happiest result where chronic renal inadequacy has shown itself. Latent syphilis may not show

results till after a child is two, and the history is difficult to get. There is no power to examine the father on oath, or serologically; the mother may not know or tell; the Wassermann reaction is often negative in pregnancy; and the child's blood may not help. A real family doctor could be on his guard, but with our shifting population the private practitioner admittedly often does not know the history. The accidents of delivery, if slight, may not have manifest results till babyhood is over.

After birth come the feeding troubles, leading to unbalanced nerve control of the alimentary tract, especially if the mother's handling is incorrect. Vitamin deficiency, protein sensitization, or fat intolerance may constitute a problem of the two-year-old. The commonest fault in my patients is relative carbohydrate excess owing to the desire to give soft food and the necessity of buying cheap calories. This with the "exudative diathesis" predisposes to catarrhal infections of the respiratory and digestive tracts. Presumably adults have acquired some immunity to the common bacteria of colds, but the young child has to face them one after another. Often the parents are chronic carriers, the defences are poor and chronic infection ensues, giving ingress to tuberculosis and rendering other infections formidable.

Having arrived at the age of two safely, the child should be able to run with confidence, and go up and downstairs with caution; to speak sentences intelligibly, have fair control over bladder and rectum, possess twenty sound teeth, and sleep fourteen hours out of the twenty-four. Co-ordination of hand and eye should be beyond the most elementary stage, e.g.; a simple structure of bricks can be made. Broad primary colours can be distinguished and named. Many healthy children have had neither training nor opportunity to get so far. It is the proper work of maternity and child welfare centres to stimulate the mothers to secure this. A centre needs a place large enough for the children to run in; a teacher who

understands little children; lecturers to take up the general training with the mothers, besides the nurse and doctor dealing with individuals. Most centres are not built for the purpose and are inadequately staffed and equipped. On the whole, it is the "two-to-five's" who suffer most from the housing problem. They can no longer be bound by the board across the front door, but get crowded out by the bigger ones if they get to the parks at a distance. The streets are more and more unsafe. One suggestion is to close certain streets to vehicles altogether. Another is the toddlers' playground, a small plot close to the dwellings, or roof gardens where available, prohibited to the bigger children's games; or, where large blocks of flats are being put up, areas reserved round them, with a caretaker appointed for the little ones. The new council suburbs usually have gardens, which, if used for growing food, are unsuitable as playgrounds, and so playing fields are still needed.

Another provision for these children is the nursery school, where the child can remain from nine to five with its games, meals, rest and nursery education, provided under a specially trained body of teachers. This nursery school movement may be expected to advance rapidly in the near future. Such schools will require adequate medical, dental and nursing staff to prevent infection, and follow up recommendations for any treatment needed. An adequate health visiting staff is the backbone of all child welfare work.

In addition to the nursery school, a residential hostel is wanted in each large centre, to which children in temporary difficult circumstances, or convalescent from illness, could be sent for two or three months. The hostel should be run on open-air school lines, and most of the nurses should be of the nursery governess type. Young babies and really sick children should not be admitted, though for economy of management the hostel might be attached to a babies' hospital, or to a sanatorium school for older tubercular children and cardiac cripples.

What about the sick children? They ought to be in the care of a family doctor, but often are not. The extension of the National Health Insurance system to dependents is not yet, and public medical services cater for only a section of the population. The ailing and sick children attending the sick children's clinics in Southampton are mostly too poor to profit by the public medical services. The poor man

working for himself and his family would not come under the National Health Insurance system, and the work required would bear little relation to contract fees as we are apt to see them, so that many minor conditions—long, slow cases, etc.—would not get adequate attention. Special treatments must always be provided by a centre, and the centres would have to link up the treatment with hostels, open-air schools, hospitals, and so forth. Such centres need a corps of assistants to accompany the children where the mother is too ill, too poor, or too busy to secure the regular attendance necessary. Possibly the duties of the poor law medical officer will be so modified by the new Local Government Act as to meet the needs of a large number of these children.

As this group comprises pre-school children I will consider some of their common defects under the school card headings.

Nutrition.—They are said to require about 40 per cent. of adult diet and 50 grammes of protein daily. Well-balanced clothing will save some of the need for calories, but the common fault makes for profuse sweating and chills, and the child's general muscular tone suffers. Active children can do with little clothing if the food, air, and sunlight are satisfactory. Calcium and phosphorus exchange is rapid and vitamins must be provided for. In Southampton, we do not often give milk to children over two, but we provide a great deal of cod liver oil. A recent paper in this journal has discussed the dietary in full.*

Below-par children improve with ultra-violet rays, and slight ricketty deformities clear up. The difficulty is to secure regular attendance, so that children from a distance often cannot get the treatment. Here a short residence in the hostel would be helpful.

Cleanliness and Skin Conditions.—Vermin are responsible for a good deal of ailment, septic sores, enlarged glands, etc. Other septic sores are an expression of faulty nutrition. A sick children's clinic has always large numbers of these cases, and general treatment is needed. Scabies and ringworm are not so common. The former requires co-operation with a disinfecting station. The latter yields to antiseptic treatment if persisted in, but with neglectful or over-driven mothers the cases are of long duration. These young children are not very suitable

* THE DIET OF THE YOUNG CHILD. By STUART J. COWELL, M.A., M.B., B.Ch., M.R.C.P., M.R.C.S., Professor of Dietetics in the University of London. PUBLIC HEALTH, July, 1929, p. 344.

for X-rays unless unusually obedient and calm. Other skin lesions are nearly all due to some form of protein sensitization, whether of food or bacterial infection. The constant scratching makes them very distressing. Probably children of this age are gradually acquiring tolerance to many proteins. Calcium lactate and the double sodium salt are undoubtedly useful. Chilblains do better if cod liver oil is prescribed as well.

Teeth.—The need of dental treatment for this age is widespread, as caries begins early in the clinic class at any rate. The hospital dentist is usually too drastic, the private dentist often afraid of touching children, so there should be provision of children's dentists for children under school age and especially for all cases of enlarged glands, tonsils and suspected tubercular or cardiac disease. The nursery schools and hostels should be regularly visited by the dentist.

Tonsils, Adenoids and Lymphatic Glands are the first line of defence from infection, and are often overworked in the early years. While a few must be dealt with under two, the results of operation on tonsils and adenoids are more satisfactory when postponed to four or four and a half. One surgeon has recently pronounced that tonsils are effete and dangerous always by five, but this is an exaggeration. Whether by arrangement with institutions or independently, an operation clinic, where beds are provided, should be part of the equipment of maternity and child welfare departments until these conditions are eliminated. Where the ears are threatened, action must be taken early. Earache is so common that parents are apt to pay no attention till discharge appears. Simple antiseptic drops will often clear this up, if the mouth and nose are healthy, but otherwise, special treatment is necessary. Chronic discharge persisting till school age proves obstinate. Deafness is difficult to estimate, as shyness or mental defect is apt to prevent response, and the parent is seldom a good judge of minor defects of hearing. Owing to the want of teaching in the homes, young deaf mutes would profit by nursery schools, where speech is a regular subject of instruction.

Eyes.—Blepharitis and phlyctenular conjunctivitis are often an expression of malnutrition. They are getting rarer in my clinics. Corneal ulcer is very rarely seen, being acute enough for hospital treatment to be sought. Squint is very common, and it is difficult to

make the parents take it seriously enough, owing to the tiresome, disfiguring and expensive treatment. If success is not secured before five it is not likely after. There is evidence that high myopia is aggravated by measles, so that in convalescence from this illness the eyes need special consideration.

Mental Conditions.—The higher grades of mental defect begin to be suspected by the age of two, owing to delayed walking, talking, dentition, poor attention, and lack of co-ordination. The lower grades are only suitable for residential institutions as they require so much attention that they rob the other children of their due. Consent to remove is often refused owing to the distance of homes from the district. The nursery school is useful for the higher grades where the home is poor, and the hostel where the mental retardation is due to social conditions.

Cardiac Defects are usually due to infections. Congenital heart disease may not be recognised before a child is two years old. It is sometimes suspected when not present. Rheumatic heart disease is uncommon under five, though very rarely typical rheumatism occurs. Attention to teeth and tonsils, rest and general health will tide over many children who appear to be threatened.

Lung Troubles are usually bronchitic or pneumonic infections. Prevention of colds by space, air, diet and care in handling are the best measures. Convalescence from pneumonia requires prolonged supervision. Pulmonary tuberculosis is rare at two to five. Gland tuberculosis is common; its treatment and prevention are part of the tuberculosis schemes. Tubercular meningitis, due to previous infection, is particularly fatal at the age of two. A wing in the residential sanatorium school is needed for these young children, as in ordinary hospitals they cannot stay long enough or get enough fresh air.

Diseases of the Nervous System falling within these ages include polio-myelitis and encephalitis. The later stages appear at our clinics, and require prolonged physio-therapeutic treatment and general care. Chorea is rare so early. The "nervous child" appears in large numbers and requires prolonged and repeated advice as to management, especially where the mother is an adverse factor.

Deformities due to severe club-foot, congenital hip disease, marked rickets and infantile paralysis

are all observed and need orthopædic management. Some areas have complete schemes. These should include provision of conveyance, which is often a difficulty. The tubercular joint cases may be added to the orthopædic scheme, if not already provided for.

Acute Infections.—Of these, whooping cough is most fatal under two; measles over two; and diphtheria—in Southampton at least—over five. Convalescence from these diseases is a source of large numbers of our patients who attend for many months. There should always be hospital provision for selected cases of measles. Schick testing and immunisation for

diphtheria is carried out in some welfare centres, but the opposition to inoculation is strong in many areas. The residential and nursery schools should be able to provide it. The few cases of scarlet fever met with come for residual nose or ear trouble.

Other Conditions include threadworms (an expression of digestive failure), mild attacks of bacilluria, and thyroid inadequacy.

All these ailments and conditions are being dealt with somewhere, but the ground is not covered by co-ordinated measures, and as a result, the children arrive at the ordinary school in an unnecessarily defective condition.

The Society.

Reports, Proceedings and Announcements.

NOTICES.

Members of the Society who have not yet paid the subscriptions due on October 1st last, for Session 1929-30, are asked to do so at their early convenience.

Maternity and Child Welfare Group.—A meeting of this Group will be held at the house of the Society on Friday, March 28th, at 8.30 p.m., when Dr. E. A. Hamilton-Pearson, Physician in charge of the Children's Department, Tavistock Square Clinic, will read a paper on "Fits in Children." All members of the Society are invited to attend.

School Medical Service Group.—The next meeting of this Group will be held early in May. A notice will be issued in the Agenda Paper with the April issue of PUBLIC HEALTH.

Dental Officers' Group.—A meeting of this Group will be held at the house of the Society, on Friday, March 14th, at 8 p.m., when Mr. W. G. Senior, L.D.S., School Dental Officer, Croydon, will open a discussion on "The Municipal Dental Service."

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, February 21st,

1930. The President (Dr. J. J. Buchan) was in the chair, and there were present: Drs. Howard-Jones, G. F. Buchan, R. M. F. Picken, T. W. Naylor Barlow, R. H. H. Jolly, J. Fenton, E. H. Snell, D. J. Thomas, F. T. H. Wood, F. A. Sharpe, K. E. Tapper, T. P. Puddicombe, E. Ward, R. A. Lyster, C. Porter, T. Eustace Hill, G. W. N. Joseph, G. H. Pearce, W. Paterson, H. J. Milligan, H. B. Brackenbury, P. H. Stirk, R. H. Wilshaw, F. T. C. Linton; Professors H. Kerr, J. Johnstone Jervis, and W. W. Jameson.

The minutes of the last meeting having been approved and signed, apologies for absence were received from Drs. Pringle, Baker, Chalmers, Churchill, Annis, Mussen, Gibbons Ward, Cameron, Sir Humphry Rolleston and Lt.-Col. G. S. Parkinson.

Representation of the Society.—Dr. R. A. Lyster was re-elected as nominee of the Society on the Central Midwives Board for the year ending March 31st, 1931. Dr. J. Fenton and Dr. J. B. Howell were elected delegates to attend the Conference convened by the National Safety First Association for May 19th-24th; Professor H. R. Kenwood and Dr. J. Fenton were elected to the National Baby Week Council; Dr. E. G. Annis and Dr. G. Clark Trotter were nominated as delegates for the Congress of the Royal Institute of Public Health at Portsmouth,

B.M.A. Meeting in Canada.—A letter was received from Dr. A. S. M. Macgregor, as president of the Section of Preventive Medicine at the meeting of the B.M.A. to be held at Winnipeg during August, asking the Society's help towards securing a representative attendance from public health departments in the British Isles. The council agreed that it was due to Canadian colleagues that as many as possible from this country should assist in the work of the Section, but considered that any direct invitation should come from the B.M.A. It was decided, therefore, to suggest that the B.M.A. should address a circular to the councils of counties, county boroughs and other areas with two or more medical officers, pointing out the educational importance of the meeting, and asking that the necessary leave of absence, and some contribution towards expenses, be granted to enable a member of their medical staff to attend. It was further agreed that the Editor of PUBLIC HEALTH be asked to deal with the matter in an early issue of the Society's journal.

Age Limits for Appointments.—In reference to the age limit of 40 years fixed for recent appointments (see proceedings of Council, PUBLIC HEALTH, January, 1930), a letter was received from the Minister of Health stating that he does not consider that he could properly interfere with the discretion of the appointing authority in this matter.

School Medical Services.—A letter was received from the B.M.A. in reference to the resolution of Council (see Proceedings, PUBLIC HEALTH, December, 1929) asking the Association to consider what further action can profitably be taken in co-operation with the Society, to bring about the incorporation of the school medical with the other medical services of local authorities, including the promotion of such legislation as may be necessary. The letter stated that the Council of the Association is of opinion that this end might be attained by urging that the Ministry of Health should take over all those medical services which are at present controlled by the Board of Education and by taking steps to secure that where the local health authority is not responsible for the health of school children those powers should be transferred as soon as possible to the local health authority from the education authority and also by urging that local health authorities should have power to refer matters concerning the

health of the school children to their Public Health Committees instead of to their Education Committees.

The B.M.A. Council is of opinion that the best course would be to approach the Ministry of Health when a suitable opportunity offers, and when certain existing circumstances no longer make the acceptance of the suggested changes more difficult.

Central Midwives Board.—Dr. R. A. Lyster submitted his report as the Society's representative on the C.M.B. for the year 1929-30, as follows:—

Your representative during the past year has attended practically all the meetings of the Central Midwives Board and its Committees and has also continued to serve as member of the Sub-Committee dealing with approvals of lecturers, teachers, training institutions and examinations.

An important event of the year is the issue of the Report of the Departmental Committee on the Training and Employment of Midwives and the Memorandum upon that Report issued by the Central Midwives Board.

Many of the recommendations and suggestions of the Departmental Committee have been part of the policy of the Board for many years, and several others would have been unnecessary if local authorities were compelled to fulfil their responsibilities.

Certain alterations in the powers and duties of the Central Midwives Board are suggested in the Report of the Departmental Committee but it is an interesting fact in connection with these suggestions that, although outside criticism of the Board is directed almost entirely against its judicial functions, yet the proposed alterations would leave it these functions while depriving it of most of its other duties.

In connection with the proposal for the re-constitution of the Board it is important to note that in the proposed Board the Society of Medical Officers of Health would be deprived of its direct representation and that its actual present representation would be reduced to one third of its present number.

There are indications of very strong opposition to the proposals to deprive the Board of its duties relating to supervision of training, etc. Every organisation connected with midwives, the Midwives Institute, the Association of Inspectors of Midwives, the College of Nursing, the Association for Promoting the Training and Supply of Midwives, and the Queen's Institute of District Nursing are hostile to the proposals, and numerous public bodies, county and county borough councils have passed resolutions against the change.

Training of Midwives:

Opinion is forming in every direction that the time is rapidly approaching when entry to the midwives' profession should be limited to the fully trained nurse.

In his last report your representative pointed out that the new rules were working with remarkable smoothness, and that the policy of the Board in favour of larger training institutions and larger classes for lectures, was being carried out, but that opposition was being met from a few Poor Law Institutions.

The extent to which the Poor Law Institutions have established an extraordinarily favoured position is not generally appreciated, and might usefully be summarised here. Their preferential treatment is secured in four directions, *viz* :—

1. If the Poor Law Institution is a Training School for Midwives it is placed, *ipso facto*, on the same footing as the big Voluntary Hospitals, and is approved as an institution whoever conducts the practical training. In all ordinary training schools the teachers have to be approved individually, and there is no reason whatever for Poor Law Institutions being excepted.

2. Poor Law Institutions are also exempt from any inspection by the C.M.B. or the local supervising authorities. The Board has always regarded this favoured treatment as being against the public interest.

3. Midwives exercising their calling in Poor Law Institutions under the "supervision" of a duly appointed medical officer are exempt from certain rules which are compulsory upon all other midwives. This extraordinary arrangement was strongly objected to by the Board as long ago as 1906.

4. If the Board have any criticism to make about the training at any Poor Law Institution it does not follow its usual rule and make a direct investigation but, at the special request of the Ministry of Health, the matter is referred to the Ministry for them to deal with.

This preferential treatment is thoroughly unsatisfactory from every point of view and the Board is now pressing strongly for uniformity in training and in every particular.

Substantial advantages are claimed for the centralisation of lectures, and not the least is the fact that all kinds of shortcomings in connection with the lectures are now brought to light. Such information is usually due entirely to the fact that outsiders are visiting the institution for that purpose. Some serious complaints have been put forward by these visiting student midwives with regard to irregularity of the lectures, sudden postponements, and late starting, matters which the Board are easily able to put right with this information. If no visitors are attending the lectures, all kinds of slackness are possible and are never likely to be brought to light.

Poor Law Institutions which object to the centralisation of lectures have apparently lost sight of the fact that the midwife in training is a student, and not merely a means of providing cheap labour. In future it is hoped that it may be impressed upon them that a pupil's time and work ought primarily to be arranged to further her training rather than to substitute the services of the essential working staff.

Lectures by M.O.H. :

On the advice of your representative the Board is now requiring the introduction of two lectures by a medical officer of health into all courses of lectures to midwives in training. These lectures deal with the observance of the rules and the relations between the Local Supervising Authority and the midwife.

Examinations :

At a recent meeting of the Board your representative moved the following resolution :—

"That at each Oral Examination of the Board a Medical Officer of a Local Supervising Authority shall be present and shall examine all candidates in the knowledge of the Board's rules."

This received very sympathetic consideration and at the present time members of the Board are visiting examinations in order to determine how such a procedure may best be introduced.

The subject of the introduction of a clinical examination is also being considered.

In 1931 the Board proposes to establish an examination and certificate for Teachers of Midwifery.

Inspection and Supervision :

In his previous reports your representative has called attention to the fact that important conferences between members of the Board and representatives of Local Supervising Authorities all over the country have been called by the C.M.B. in 1924 and 1927. At each of these conferences a resolution was passed strongly opposing the combination of post of Inspector of Midwives with that of Superintendent of the County Nursing Association. This matter has perhaps been taken a step further by the Report of the Departmental Committee which says that "it is not generally advisable that inspection should be delegated to any body, or to an official of any body, carrying out its objects under voluntary auspices."

Evidence as to the inadequacy of the general level of inspection in this country continues to come before the Board. Midwives who are quite incapable of taking pulses and temperatures, and midwives who habitually omit to take them, or do so irregularly, are constantly being discovered, not as the result of regular and general inspection, but in connection with the local investigation of some special charge against the midwife. If the routine and general inspection does not discover such elementary facts as these it must be seriously inadequate as a protection to the mother and child.

One large Local Supervising Authority, after experiencing difficulty with a midwife in connection with inspections at her home arranged for the midwife to bring her register, books and appliances to the Health Department for inspection, evidently considering that this constituted all the "inspection" that was required.

Disinfection :

An interesting hiatus in the rules was revealed by a recent case in which the M.O.H. required a midwife to disinfect her person and appliances, and also her house, after attendance upon a case of pemphigus. The midwife agreed to do all necessary disinfection of person and appliances but refused to allow the house to be disinfected. Apparently the C.M.B. rules do not cover this contingency.

The varying strengths and efficiencies of the various brands of lysol on the market have been criticised in a letter to the Board from a L.S.A. The common instruction given in the training school is one teaspoonful of lysol to a pint of water for preparing a disinfecting liquid for use, but tests have shown that in some cases no less than four teaspoonfuls are necessary in order to prepare a liquid of effective germicidal power.

Notification of Births and Visits by Health Visitors :

Illustrations of the results of delay in visits of health visitors constantly appear before the Board. In one case recently the health visitor appeared four days after the midwife had ceased her visits, when the baby

was found to have inflamed eyes and purulent discharge. Such an interval between the midwife's attendance and the visit by the health visitor leads the C.M.B. to give the midwife the benefit of the doubt and to assume it possible that the infection commenced and developed after the midwife had finished.

Penal Cases :

In a large number of the penal cases heard by the Board there is grave suspicion that the midwife concerned has interfered with witnesses and has prevented the L.S.A. from procuring satisfactory evidence. In such cases a common sequence of events is that the patient makes a clear statement implicating the midwife in some way, and agrees to give evidence. Subsequently the midwife calls upon or meets the patient and after that the patient refuses to give any evidence at all. Definite evidence of persuasion or intimidation is always difficult to obtain but such cases should be regularly reported to the Board.

The unfortunate differences in the rules for a midwife (as such) and for a midwife acting with a doctor in attendance also, continue to give difficulty. In one case a midwife was charged with complete fabrication of the pulse and temperature records connected with five specified cases. At the hearing of the case it was revealed that in three of the five cases a doctor was in attendance and so those charges had to be withdrawn. If the two additional cases where the midwife was acting alone had not been included the charges would have failed.

Free Choice of Doctor :

An important rule of the Board decides that a midwife must send for the doctor selected by the patient, and in this connection some difficult cases have arisen. A patient in one case definitely chose her doctor on booking the midwife, but when the emergency arose the midwife sent for another doctor whom she preferred. In another area a charge of undue influence was brought against a midwife because she was stated, at the time of booking the case, that she would not act with a certain doctor and that she would not book the case if the patient insisted on that doctor being sent for if and when any emergency arose. This case was complicated by the fact that the midwife was said to have a monopoly practice.

In considering such cases it must be borne in mind that a midwife has, just like a doctor, the right to refuse to book a case which she does not desire to attend.

Nursing Homes :

Disquieting cases continue to occur in connection with nursing homes. In one such case recently an astounding neglect of ordinary elementary nursing principles such as washing the patient was revealed, as well as an absence of washing facilities, in a registered nursing home.

The most amazing case is that of a nursing institution which was also a training school for midwives. An outbreak of puerperal fever led to an investigation by the M.O.H. which was strongly resented by the Institution and its local influential committee. As the result of that investigation and also of the examinations at the hearing of the case by the C.M.B. it was discovered that as a regular practice the institution was flagrantly breaking the rules of the C.M.B. and was also following practices likely to

result in unsatisfactory midwifery. Previously the M.O.H. had never suspected anything wrong, and the case shows how unlikely such facts are to be discovered unless some accident reveals them or excites suspicion.

Relations between the C.M.B. and the L.S.A. :

There is gratifying evidence that the relationships between the Board and the Local Supervising Authorities continue to improve, and one is entitled to hope that in the near future the ideal set up many years ago by your representative, *i.e.*, that the L.S.A. should be regarded, and should regard itself, as the local representative of the C.M.B., is likely to be achieved. The immediate developments in the activities of the Board will undoubtedly lead in that direction.

Dr. Lyster was cordially thanked for his interesting report.

National Maternity Service Schemes.—The Council, at its meeting on December 19th, 1929, referred to the General Purposes Committee, with Drs. Chalmers, Churchill, Nash and Tapper, to report upon : (a) the Report of the Departmental Committee on the Training and Employment of Midwives; (b) the Memorandum and Observations thereon from the Central Midwives Board; (c) the B.M.A. Scheme for a National Maternity Service; (d) the Medical Women's Federation Scheme for a National Maternity Service. Owing to other engagements, the Chairman of the General Purposes Committee asked to be relieved of responsibility in connection with this special reference, and Dr. F. T. H. Wood was elected to preside. The Committee met on January 17th and 27th, 1930, and had before them the above-mentioned documents and the observations of the Branches thereon.

They now submitted an unanimous report for consideration by the Council. The report having been received, Dr. G. F. Buchan opposed its adoption on the ground that the Society should not give its corporate support to any particular policy in matters where the ultimate decision must rest with the Central and Local Authorities. Dr. H. B. Brackenbury also opposed the adoption of the report, which he regarded as conflicting with the policy of the B.M.A., and therefore a breach of the terms of co-operation agreed between the Association and the Society. After some discussion, it was decided that the report should lie on the table.

Later in the proceedings, Dr. G. W. N. Joseph gave notice that at the next meeting of Council he would ask for information regarding the responsibility of the Society's representatives on the Council and Committees of

the B.M.A. in regard to keeping the Society informed of matters coming before the B.M.A. when the decisions might seriously conflict with the judgment and interests of the Public Health Service.

School Medical Notices to Parents.—In reference to the decision of Council under this heading (see PUBLIC HEALTH, November, 1929, p. 50), a letter was received from the British Medical Association, stating that in certain areas local education authorities are still using forms of notice to parents of children requiring treatment referring such cases in the first instance to clinics rather than to private practitioners, and asking the Society to assist in rectifying this position. It was pointed out that in matters of this kind the school medical officer was obliged to act in accordance with the instructions of his local authority, but in any specific cases reported by the B.M.A., steps might be taken by the Society to make known the agreed opinion of the B.M.A. and the Society in this connection, viz:—

"That those engaged in general practice must either be prepared to accept responsibility for the treatment of such of their private patients as are discovered by medical survey or otherwise by the local authorities to be in need of treatment, or they should agree that treatment be undertaken by the local authority without regarding such medical provision as an encroachment on their practice. To this end persons found to be in need of treatment should, in the first instance, be referred to their private medical practitioner, or if they have no regular medical attendant they should be advised to consult a private medical practitioner."

Poor Law Order, 1930.—An emergency report from the General Purposes Committee recommended immediate action in reference to the Draft Poor Law Order, dated January 31st, 1930, proposed to be made by the Minister of Health under the Poor Law Act, 1927. It was agreed that a letter should be addressed to the Ministry of Health urging the amendment of Article 166 to enable a local authority to place its medical staffs under the general supervision of the medical officer of health. It was further agreed that the Secretary to the Ministry be asked to receive a deputation from the Society consisting of the President, Dr. Picken and Dr. Brackenbury, with the Executive Secretary, in support of the above representation. The Executive Secretary was directed to notify the Association of Municipal Corporations and the Institute of Municipal Treasurers of the above decisions.

General Purposes Committee.—The Committee reported on meetings held on December

20th, 1929, and January 17th, 1930; especially recording satisfactory progress in negotiations with the Infirmary Medical Superintendents' Society, the Poor Law Medical Officers' Association of England and Wales, and the Association of Public Vaccinators, towards the establishment of Groups within the Society of Medical Officers of the extended hospital and domiciliary services of health authorities, which come into operation on April 1st, 1930. The Committee also reported the nomination of Dr. Dunstan Brewer, Medical Officer of Health for Swindon, as a participant in the League of Nations' Interchange for Health Officers to be held in France during the coming summer.

Non-medical Bacteriologists.—An enquiry was received from the British Medical Association in regard to the employment of non-medical men for the bacteriological and pathological work of local authorities. Members of Council reported that this was happening in several districts, and agreement was expressed with the contention of the B.M.A. that such work should only be done under the personal supervision of a registered medical practitioner. In support of this view reference was made to the specified conditions required by the Local Government (Qualifications of Medical Officers and Health Visitors) Regulations, 1930, in regard to pathological examinations in connection with V.D. schemes.

Training of Medical Students in Preventive Medicine.—Professor W. W. Jameson, chairman of the committee appointed to report on this subject (see PUBLIC HEALTH, November, 1929, p. 50), asked authority from the Council to convene a special meeting of teachers of preventive medicine in the medical schools and universities of Great Britain for discussion of the report prepared by the Committee. The complete report would be submitted to the Council at the meeting on April 11th, 1930. Authority to proceed as requested was granted by the Council.

The Council then adjourned.

ORDINARY MEETING.

An ordinary meeting of the Society was held on February 21st, 1930. The President (Dr. J. J. Buchan) was in the chair.

The minutes of the last meeting having been approved and signed the following candidates were elected to the Society:—

As Fellows:

Boleyn, John George Wilson, M.B., CH.B., GLAS.; Bulman, Henry Allen, M.R.C.S., L.R.C.P., D.P.H.; Dodd, Robert Robson, M.B., B.S. DUBL.; Gawne, Stanley Clucas, M.D., B.S. LOND., M.R.C.S., L.R.C.P., D.P.H.; McEvoy, Mary Josephine, M.B., B.CH., B.A.O., N.U.I., D.P.H.; McMillan, Alan John, M.R.C.S., L.R.C.P.; McVitie, Grace Elliott, M.B., B.S. DUBL.; Smith, James Anstruther, M.C., M.B., CH.B. GLAS.; Smith, William Harden, M.B., B.CH., B.A., B.A.O. DUBL., D.P.H.; Wright, Edward Mandeville, B.A., B.M., B.CH. OXON.

As Associates:

Came, Digby F., L.D.S., R.C.S. ENG.; Holland, Hubert Marsden, F.R.C.V.S.

A number of nominations were received for the next election.

On behalf of the Welsh Branch, Dr. R. M. F. Picken asked the Society to accept a portrait of Dr. J. Howard-Jones as an addition to the series of portraits of past-presidents which adorns the council room. Dr. Picken hoped the picture would remain as evidence of the high regard in which Dr. Howard-Jones was held by his colleagues and a reminder of good service rendered to the Society over a long period of years. The President, in accepting the portrait, thanked the Welsh Branch for giving the Society a permanent memento of one who had been worthy of every honour that his colleagues could bestow. Dr. Howard-Jones briefly acknowledged the kindness which he had received on this and every other occasion from the Welsh Branch and from the Society as a whole.

There followed a discussion on "The Medical Officer of Health in Relation to the Slum Problem and Housing Procedure," opened by Dr. C. Killick Millard, Dr. A. J. Shinnie, and Dr. V. T. Thierens. Dr. Millard being detained at Leicester, his paper was read by the Executive Secretary. Other speakers included the President, who gave an interesting account of housing progress in Vienna and Hamburg, Drs. A. Stuart Hebblethwaite, Leonard Williams, Caryl Thomas, and T. W. Hill.

The proceedings closed with a vote of thanks, proposed by Dr. Charles Porter, to Drs. Millard, Shinnie and Thierens.

THE WELSH BRANCH.

President: Dr. R. M. F. Picken, M.O.H., Cardiff.

Hon. Secretary: Dr. D. J. Thomas, Deputy M.O.H., Rhondda.

A meeting of this Branch was held at the City Hall, Cardiff, on January 18th, 1930, when the President occupied the chair and twenty-four members and visitors were present.

Consideration was given to correspondence relating to a nomination for the Presidency of the Society, and it was decided that, though favourably disposed towards the nomination, the support of the Branch could only be provisionally given at this stage.

The President expressed his pleasure in introducing Dr. E. O. Lewis, Medical Inspector to the Board of Control, who addressed the meeting on the "Report of the Mental Deficiency Committee." Dr. Lewis laid stress on the significance of the problem of mental deficiency, especially in view of the cry of socialistic democracy for the equality of opportunities. Thinking men and women should be impressed by the problem implicated by the advocacy of this principle when they realised that 10 per cent. of the population were provided with sub-normal mental equipment and would, therefore, be unable to profit by such opportunities.

Dealing, in the first place, with child Dr. Lewis emphasised the fact that the Sunday schools, as envisaged in the Elementary Education (Defective and Epileptic) Act, 1914, had proved a failure except in a few large towns and a few large towns contributing towards the solution of the problem. A solution of the problem associated with the special schools for mental defectives should be obtained by limiting the number of children who were included in those entirely from the retarded children, with an average between 50 or 55 and 80 who were homogeneous to form a unit within the system, and it was not necessary to segregate such children by certification. A system of education should be utilised for special mentally defective children especially in view of the high physical defects amongst them. In post-primary education retarded children, amounting to 10 per cent. of the school population, should be catered for along practical lines and additional training should be included. Such children were allowed to attend occupational centres should be under the control of the education authorities.

As regards adults, the magnitude of the problem had been masked by the poor law authorities in superintending the control of mental defectives, and it was suggested that the expenditure incurred

been spent to the best advantage. On the other hand, 20 per cent. of the patients in mental hospitals were mentally defectives who did not need the special care bestowed on patients in those hospitals. The Mental Treatment Bill now under consideration could not be effectively operated unless the mentally defectives were excluded from the mental hospitals. All mentally defective adults should be dealt with by one authority, and as approximately two-thirds of all adult mentally defectives were already under the care of either poor law authorities, mental hospitals or mental deficiency authorities the re-adjustments required would not involve a considerable increase of expenditure. A large proportion of adults would have to remain in the community, and the socialisation of those persons constituted an important problem; proper social care had in some areas succeeded in their absorption in industrial life. Dr. Lewis desired to ascertain the views of the members present on a proposal to appoint "mental health officers" to be attached to public health centres.

ed with Dr. Lewis as regards special schools for mentally handicapped children. A fresh start had been made in the selection of the children to be admitted, strictly limited to such as were capable of benefiting, though the advantages of the system were not fully applicable to mentally handicapped children. The open-air school would be utilised for physically handicapped children, and the mental health department would be considered as the work of the health department.

E (Cardiff City Mental Hospital) - The importance of the social adaptation of the individual, rather than the intellectual problem, and in their absorption into the community by vocational guidance and other psychological formation was mirrored in the work done by Professor William D. Dill. Dynamic psychologists showed how the individual could be resolved into their proper place and frequently re-adjusted so as to fit the needs of character.

1 (School Medical Inspector, Glancil) said he was aware of the
2 re London County Council special
3 sults might be attributable partly
4 ation resulting in the admission
5 e merely dull or backward.

WILLIAMS (County Medical Officer organ) maintained that the problem entirely with the mentally defective being practically solved, but admitted reservations that the results obtained County Council schools had been very

Dr. T. EVANS (Medical Officer of Health, Swansea) referred to some administrative difficulties which might arise if the recommendations of the Report were adopted, especially in regard to the choice of children for admission to open-air schools and the localisation and control of occupational centres and practical classes. Agreement was expressed with Dr. Picken's remarks in regard to the " mental health officer."

Dr. C. J. McSWEENEY (Deputy School Medical Officer, Cardiff) emphasised the magnitude of the problem of ascertainment of the suggested new group of retarded children, and the possibility of its delegation to the education psychologist should be considered. If certification of educable defectives was abolished, what legislative powers were contemplated to strengthen the hands of education authorities, as the views of the parents frequently clashed with the opinions expressed by the certifying officers?

Dr. Lewis, in reply, stated that there should be some differentiation in the selection of children for open-air schools and their allocation therein; in many instances their stay in these schools would not be prolonged owing to the improvement usually exhibited. Except in a few large towns, special classes would be included in the elementary or junior schools, whilst post-primary schools of all grades could be located within the same curtilage. The objections of parents would be more easily met by such arrangements, and if classes were not too greatly differentiated it was not considered that special powers would be required.

A vote of thanks to Dr. Lewis for his address was proposed by the President and carried by acclamation.

THE WEST OF ENGLAND BRANCH.

President : Dr. E. Ward, T.O., South Devon.
Hon. Secretary : Dr. P. H. Stirk, M.O.H., Exeter.

A meeting of this Branch was held at Bristol, on Friday, January 24th, 1930. Members lunched together at the Royal Hotel, College Green, where the meeting was afterwards held. Seven apologies for non-attendance were received.

A letter from the Secretary of the Central Midwives Board regarding the Departmental Committee's Report on the Training of Midwives, was read. A report by the Executive Committee of the Branch on this subject (which had been forwarded to headquarters) was also submitted and approved.

A letter was received from Dr. M'Gonigle to the effect that the Northern Branch had nominated Professor Harold Kerr for the Presidency of the Society. After some discussion Dr. Crosslev proposed, and it was

resolved unanimously, that the West of England Branch nominate Dr. Ernest Ward for the Presidency. The Secretary was instructed to communicate this decision to all Branch Secretaries, and to ask them to support the nomination.

Dr. Ralph M. F. Picken, Medical Officer of Health, Cardiff, addressed the meeting on the new Local Government Act. Members of the poor law medical services had been invited to attend, and ten did so, several taking part in the general discussion, to which Dr. Picken subsequently replied. Dr. Ward proposed a hearty vote of thanks to Dr. Picken for his address, which was carried by acclamation.

Drs. Tangye and Crossley were appointed to audit the accounts, and the Hon. Treasurer was requested to present his report at the next meeting, the arrangements for which were left in the hands of the President and Hon. Secretary.

THE YORKSHIRE BRANCH.

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

A meeting of this Branch was held at the Education Offices, Calverley Street, Leeds, on January 31st, 1930, with the President in the chair, supported by Dr. J. J. Buchan, President of the Society, and seventeen members. Dr. T. N. V. Potts was welcomed on his first appearance at the meetings of the Yorkshire Branch after taking up his appointment as Medical Officer of Health of the West Riding County Council.

Apologies for absence were received from ten members.

The President of the Society was requested, subject to his convenience, to arrange that the Annual Provincial Meeting of the Society be held in Yorkshire. The feeling was unanimously expressed by those present that there should be no possibility of any other decision seeing that the Medical Officer of Health of a Yorkshire City is President of the Society this year. In his honour, if for no other reason, Yorkshire should be selected for the event.

A letter was submitted from Mrs. Francis, widow of the late Dr. T. E. Francis, thanking the members of the Branch for their expression of sympathy in her recent bereavement.

A letter was read from the Executive Secretary stating that he had again written suitable letters to the medical officers of ~~both~~ previously mentioned, reminding them that they are still described as members of this Society

in the Medical Directory and giving them a final opportunity of seeking election to the Society. Failing a satisfactory reply a communication is to be sent to the Editor of the Medical Directory.

Addresses by Mr. F. W. Richardson, F.I.C., West Riding County Council Analyst, entitled "So-called Tonic and Nourishing Wines," and by Mr. C. H. Manley, M.A., Leeds City Analyst, on "Food Standards," were listened to with keen appreciation. After the tea interval an interesting discussion was taken part in by Drs. Buchan, Galloway, Gibson, Holt, Jervis, Linton, Mair and Potts. A vote of thanks to the two gentlemen was proposed by the Hon. Secretary and unanimously accorded. It is anticipated it will be possible to forward the papers to the Hon. Editor of PUBLIC HEALTH in the near future.

The Council of the Branch and the County District Group met prior to the Branch meeting, and discussions which were mainly of a domestic character took place.

THE MIDLAND BRANCH.

President: Dr. W. D. Carruthers, County M.O.H.,
Staffordshire.

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

The fourth meeting of the Session of this Branch was held at the Medical Institute, 154, Great Charles Street, Birmingham, on February 6th, 1930, the President occupying the chair. Twenty-seven members were present. Apologies for absence were received from six members.

The President referred to the loss sustained by the Branch by the death of one of its oldest members, Dr. Boobhyer, of Nottingham. Members present expressed their sympathy by standing in silence. The Hon. Secretary reported that the Midland Branch were represented at the funeral by Dr. W. H. Parkinson.

A letter was read from the Northern Branch requesting support for their nomination of Professor Harold Kerr for the presidency of the Society. This was agreed to.

Consideration was given to a communication from the Ice Cream Association of Great Britain and Ireland with reference to (a), the legal definition of ice cream, and (b) the necessity for legislation to provide for the registration of premises at which ice cream was

manufactured and sold. After some discussion the Branch passed a recommendation approving of the inspection and registration of premises where ice cream is manufactured, stored, sold or exposed for sale, and in favour of securing legislation giving power to enforce the cleanliness of such premises and also of ice cream stalls and carts. The suggestion of a legal standard for ice cream was not approved.

Dr. W. H. Davison, O.B.E., J.P., H.M. Coroner for the City of Birmingham, read a paper on "The Coroner and the Medical Officer of Health." After defining the duties of the coroner and the relation of the registrar of births and deaths to the coroner, Dr. Davison proceeded to deal with certain aspects of his work of special interest to medical officers of health, including stillbirths, abortions, food poisoning and industrial diseases. The hope was expressed that the paper would appear in a future issue of PUBLIC HEALTH. The President and various members expressed their warm thanks to Dr. Davison for his informative address.

THE SCOTTISH BRANCH.

President: Dr. Thomas Adam, County Medical Officer of Health, Stirling.

Hon. Secretary: Dr. G. V. T. McMichael, Medical Officer of Health, Paisley.

A meeting of the Council of this Branch was held in the Sanitary Chambers, Glasgow, on February 8th, 1930. Nine members were present, and the President occupied the chair. Apologies for absence were intimated from four members.

Nominations from Branches for the Presidency of the Society for the Session 1930-31, were considered, and the general feeling of the members was that the Branch should support the nomination of Professor Harold Kerr, O.B.E.

Consideration was given to a letter from the Executive Secretary, asking for the observations of the Branch in regard to a communication addressed to the Association of Municipal Corporations by the Ice Cream Association of Great Britain and Ireland. It was unanimously agreed that local authorities should be empowered to exercise the same statutory supervision over the manufacture, storage, sale, etc., of ice cream, as they at present carry out in the case of the milk trade; it was pointed out that for many years Glasgow, Paisley, etc., have had such powers

under the provisions of local Acts. It was agreed to express no opinion regarding the question of a legal definition of ice cream.

A full discussion took place on a letter from Dr. J. C. Dunlop, Registrar-General for Scotland, asking for the observations of the Branch on the contents of the householder's schedule to be used at the next census in 1931. Ultimately, it was agreed to ask the Registrar-General for an interview at which various points bearing on public health work could be discussed, including (1) the date of the census, (2) the definition of a house, (3) the question of obtaining all relevant information regarding the volume and type of overcrowding, and (4) the date of publication of the results of the census. The following deputation was appointed to interview Dr. Dunlop: Drs. Adam, Chalmers, Macgregor, Buchanan, and McMichael.

THE NORTH-WESTERN BRANCH.

President: Dr. F. A. Sharpe, M.O.H., Preston.

Hon. Secretary: Dr. G. W. N. Joseph, M.O.H., Warrington.

A meeting of this Branch was held at the Biological Institute of Messrs. Evans, Sons, Lescher & Webb, at Runcorn, on February 14th, 1930, the President occupying the chair. Twenty-two members were present.

A report from the Committee in reply to a letter from the Ice Cream Association of Great Britain and Ireland (Incorporated) was approved and adopted, and it was resolved:—"That it be a recommendation to the Council of the Society (1) that as ice cream is a milk product it should be subject to the same surveillance as milk, and that suitable legislation such as that contained in Section 2 of the Milk and Dairies (Consolidation) Act, 1915, should be made applicable; (2) that a standard of composition of ice cream should be fixed, and in arriving at a desirable definition the Society of Public Analysts should be consulted as likely to be in possession of facts as to the best present trade standards."

At the close of the business the members were welcomed by the Medical Director, Dr. H. A. Mitchell, who said that the services of the Institute were placed at the disposal of medical men from a scientific point of view rather than a commercial one.

A most interesting tour of inspection of the Institute was made, and members had an opportunity of seeing the preparation of calf lymph for vaccination and bleeding of horses

for diphtheria antitoxin. The various laboratories were visited and the processes in the manufacture of sera and vaccines were witnessed. The preparation of different gland products and of Liverpool Virus was shown, whilst in the physiological departments the methods of standardisation of such substances as Infundibulin, Ergot, Squills, Digitalis, etc., were clearly demonstrated.

At the conclusion of the visit tea was provided on the premises. The hearty thanks of the members were accorded to Dr. Mitchell for the interesting demonstration, on the proposition of the President.

THE NAVAL, MILITARY AND ROYAL AIR FORCE HYGIENE GROUP.

President: Wing-Commander Andrew Grant, O.B.E., R.A.F.M.S.

Hon. Secretary: Lt.-Col. G. S. Parkinson, D.S.O.

A meeting of this Group was held at the

house of the Society on February 13th, 1930.

Letters of regret for absence were received from Surgeon-Captain Dudley, General Fawcus and Dr. McMaster.

It was proposed and carried unanimously that the Hon. Secretary should be instructed to send, on behalf of the Group, a letter of congratulation to Surgeon-Captain Dudley on his recent honour of winning the Chadwick Prize.

Wing-Commander Grant, O.B.E., then delivered his Presidential Address, entitled, "The Interpretation and Application of Health Problems in Relation to Aviation," and those present listened to a most interesting and instructive paper.

A vote of thanks was proposed by Major-General Sir Wilfred Beveridge, seconded by Major-General Barrow, and carried by acclamation.

The Literature of Preventive Medicine.

THE PRINCIPLES OF BACTERIOLOGY AND IMMUNITY. By W. W. C. TOPLEY, M.A., M.D., M.Sc., F.R.C.P., Professor of Bacteriology and Immunology, University of London; Director, Division of Bacteriology and Immunology, London School of Hygiene and Tropical Medicine; and G. S. WILSON, M.D., M.R.C.P., D.P.H., Reader in Bacteriology and Immunology in the University of London, London School of Hygiene and Tropical Medicine. London: Edward Arnold & Co., 1929. pp. 1,299. Price (two volumes) £2 10s. net.

There can be nothing but praise for this new text-book of bacteriology. Designed in the first instance for the use of post-graduate students taking a full-time course in bacteriology, it is certain to attract a much larger circle of readers. In several ways the treatment and arrangement of the subject matter in these volumes is unusual. By the omission of all detailed description of technical methods, much space is left for the adequate discussion of general principles. Bacteriological science has grown up, as the authors say, in a very haphazard fashion, owing to its having been explored almost entirely from a utilitarian point of view. There have been no pure bacteriologists. Men have been more interested

in what bacteria do than in what they are. Hence, for example, comes the hopeless confusion of bacteriological nomenclature. In the present work an attempt has been made, with considerable success, to arrange in a systematic manner what is known about bacteria.

Part I (General Bacteriology), after an interesting historical introduction, deals with the morphology and physiology, growth and death of bacteria, with the serum reactions and bacterial variation, the Twort-d'Herelle phenomenon, and the classification of bacteria. The authors follow with a few modifications the Bergey classification in so far as generic names are concerned. When they depart from this they have chosen the names which they think are most likely to be adopted in the international nomenclature of the future. *Fusiformis termitidis*, given as a type species in a preliminary list, is not mentioned later among the systematic descriptions.

Part II (Systematic Bacteriology) describes the first volume. In this, a description of the various genera and species is given without reference to their pathogenicity. It has been necessary to add a short chapter on miscellaneous bacteria which cannot at present be classified; and chapters on spirochaetes, Rickettsiae, and the filtrable viruses are also included.

Part III (Infection and Resistance) deals with bacterial toxins, virulence, and the mechanism of resistance in the normal and immune animal. The chapter on herd immunity will be of particular interest to public health officers as it summarises the results which have so far been attained in the experimental study of epidemics in the laboratory.

Part IV (The Application of Bacteriology to Medicine and Hygiene) deals with the various diseases in men and animals which are caused by bacteria. It thus includes all the matter which in the usual text-book would have appeared in Part II, and as the authors admit, the allocation of the matter to one or other of these two parts has been somewhat arbitrary. The arrangement has its advantages, but for the student of medicine or pathology it involves constant cross-reference from the one part to the other. This, however, is facilitated by an excellent index to each volume.

A SYSTEM OF BACTERIOLOGY IN RELATION TO MEDICINE. Vol. IV (Enteric Group: Vibrios: Pasteurella). By H. J. BENSTED, W. BULLOCH, L. DUDGEON, A. D. GARDNER, E. D. W. GREIG, D. HARVEY, W. F. HARVEY, T. J. MACKIE, R. A. O'BRIEN, H. M. PERRY, H. SCHUTZE, P. BRUCE WHITE, W. J. WILSON. Medical Research Council. H.M. Stationery Office, 1929. pp. 482. Price £1 1s. net (£8 8s. per set of nine volumes).

This is the second volume to appear of the system of bacteriology to which attention has already been called in the editorial columns of this journal. It deals with the enteric, dysentery, and cholera groups, *B. coli*, *B. proteus*, and the Pasteurellas. The high standard of excellence shown in the previous volume has been well maintained, and the various contributors have combined to produce a very full and interesting account of the present-day knowledge of these subjects. Dr. Bruce White's account of the Salmonella group is especially worthy of note for the clarity with which he describes and classifies the group and the originality of his point of view. The chapter on cholera by Dr. Mackie and Drs. Greig and Harvey contains the which will be of special interest to medical officers of health. The chapter on the colon and proteus groups by Professor Wilson is a good piece of work, but it is unfortunate that a claim for priority should lead to the clumsy name

"Wilson-Weil-Felix" for the diagnostic test in typhus fever, especially as the term "Widal reaction" is used throughout the rest of the volume for the agglutination test in enteric and cholera.

THE PHYSIOLOGY OF ORAL HYGIENE AND RECENT RESEARCH. With special reference to Accessory Food Factors and the Incidence of Dental Caries. By J. SIM WALLACE, D.S.C., M.D., L.D.S., Lecturer on Preventive Dentistry, King's College Hospital; formerly Dental Surgeon and Lecturer on Dental Surgery and Pathology, London Hospital. Second Edition. London: Baillière, Tindall & Cox, 1929. pp. 228. Price 10s. 6d. net.

The pioneer work of Dr. Sim Wallace is well known to readers of this journal; and the great efforts of preventive dentistry are largely inspired by his enthusiasm and keen zest. The leaflet for the prevention of dental decay which has been endorsed by the Society of Medical Officers of Health is based on his conception of oral hygiene; and if the advice which it contains is acted upon, the harvest should truly be great.

The book which is the subject of this note contains much sound advice which, if utilised, will go far towards reducing the appalling amount of dental sepsis and its unpleasant sequelæ. The author wisely makes physiology the starting point of his theme; and from among the confusion of various conceptions regarding the physiology of saliva and of mastication, he brings into prominence the great principle that oral hygiene is the main object of these functions.

From this basis, Dr. Sim Wallace makes his important point that caries is due to carbohydrate stasis, and emphasizes the paramount significance of tooth-cleansing foods containing the necessary physical consistency and the glandular stimulants required. Moreover, caries is not considered alone, for the object is also to make provision for the prevention of tartar, of pyorrhœa, and of irregularities of the teeth.

Perhaps some of the efforts made by Dr. Sim Wallace to overthrow everything connected with vitamins are too overwhelming and sweeping; for knowledge is still far from complete or perfect. Indeed, in the zeal to do away as much as possible with sugar, that "arch demon of dental decay," there is need for caution, lest this article should disappear,

only to be re-discovered perchance (ironical as it would be) as "Vitamin S" by future bio-chemists and physiologists in their race through the alphabet of accessory food factors.

It is good that a new edition of this work has been prepared. The book is most intensely interesting; and though every reader will not be able to agree with all that Dr. Sim Wallace states, he will agree that it is a most stimulating and invigorating study. The style is forceful, the book abounds with enthusiasm, the challenges are openly flung; and it is to be hoped that the volume will stimulate both physiologists and workers in preventive dentistry to find and proclaim the truth.

ULTRA-VIOLET RAYS IN THE TREATMENT AND CURE OF DISEASE. By PERCY HALL, M.R.C.S. (Eng.), L.R.C.P. (Lond.), Hon. Actino-Therapist, Mount Vernon Hospital, London and Northwood; Hon. Consulting Physician, Hull Municipal Light Clinic, etc. Fourth Edition. London: William Heinemann (Medical Books) Ltd., 1929. pp. 248. Price 12s. 6d. net.

When first issued, about five years ago, Dr. Percy Hall's book had an immediate success. It was, in fact, one of the first books on the subject published in this country, and obviously filled a long-felt want since a second edition was called for in something under six months. Since then new impressions and fresh editions have appeared almost yearly, and separate publication has been made on several occasions in America.

In the present edition all the newer views and discoveries in relation to the matter dealt with receive attention, and it appears certain that in spite of the fact that there has been a great increase in the choice of books offered to the reader, this of Dr. Hall will retain the commanding position it has deservedly gained.

In the case of a volume which has so rapidly and firmly established itself in the public favour that it passes through four editions in as many years, there is no justification and rarely need for anything in the shape of critical review. In this particular instance, since introductions are provided by persons of no less importance than Sir Henry Gairdner and Professor Leonard Hill, there is no room for anything save complimentary comment.

CHEMISTRY OF FOOD AND NUTRITION. By HENRY C. SHERMAN, PH.D., SC.D., Mitchell Professor of Chemistry, Columbia University. Third Edition. London: Macmillan & Co., Ltd., 1928. pp. 636. Price 12s. 6d. net.

Though in some ways a difficult book to read, this is an interesting and valuable addition to the literature of a subject of first importance.

That it has been appreciated by those for whom it was primarily intended, those attending college classes at Columbia University and elsewhere in the United States, may account for the fact that it has reached a third edition, but affords justification for the belief that it has appealed, as its author hoped and as it very well might, to other readers who grasped the importance of food and nutrition as factors in health.

The activity of research in the field has necessitated a complete re-writing of most of the text, and the addition of several new chapters.

All this additional work has been well done and was worth doing, and has greatly increased the value of a most useful book.

HYPOCHONDRIA. By R. D. GILLESPIE, M.D., M.R.C.P., D.P.M., Physician and Lecturer in Psychological Medicine, Guy's Hospital. The Psyche Miniatures—Medical Series No. 12. London: Kegan Paul, Trench, Trubner & Co., Ltd., 1929. pp. 104. Price 2s. 6d. net.

In reviewing a number of the little books in this series some time ago, these words were used: "It is possible to imagine elder daughters and kindly patients of family practitioners finding in the Psyche Series just the very things to send at Christmas. Equally it is easy to believe that, having received them, the doctor will find them attractive and both pleasant and profitable to read." Having regard to the fact that this example from the pen of Dr. Gillespie appeared just at the time when those who look ahead were taking the hint and timed their purchases accordingly.

If this is so, they could not have selected a better volume than this. The subject of hypochondria is dealt with in a most fascinating way. The views are sound and the writing is

Partly, and no one will read it without deriving both pleasure and profit. This applies even to the health officer for, though the title might suggest that the contents show nothing that can have much bearing on his work, there is much that may prove of extreme value and that has a definite apropos to certain of his activities, some of which he is asked to regard as of first importance.

In the Annual Reports.

FREE DUSTBINS.—In order to get the scavenging of the town on a uniform footing the council decided to provide a galvanised ashpan free of charge where the owner gutted the ashpit and built up the opening in the back street. A very poor response was made to the circulars sent round asking for the co-operation of owners in this matter, and conditions remain much the same.—*Dr. G. C. M. McGonigle, Stockton-on-Tees.*

GIBRALTAR'S MILK SUPPLY.—The bulk of the milk supply is imported goat's milk and is derived from sources over which the council have no control. Under the bye-laws for the control of the milk supply of Gibraltar this imported supply must be boiled in Gibraltar before retail. This is the best safeguard that could be obtained, and was considered in 1907 when it was introduced as a big step forward. This regulation has ensured that imported milk for local consumption has been sterilized before retail. Locally produced milk is very limited in amount (about 15 per cent.) and the conditions under which it is produced are not ideal.—*Lieut.-Col. W. C. Smales, D.S.O., R.A.M.C., Gibraltar.*

THE NOTIFICATION OF CHICKEN-POX.—With regard to the question of compulsory notification of chicken-pox, 1,815 cases were notified in Bristol during the nine months of the year in which chicken-pox was notifiable, and approximately 1,700 visits were paid to these by medical officers of the corporation especially skilled in the diagnosis of small-pox for the purpose of verifying the diagnosis. Is this labour justifiable? I think it is, as long as the epidemic of small-pox is within controllable limits. Three cases of small-pox were discovered amongst these 1,815 cases of chicken-pox, and I think the discovery of these three cases justified the 1,700 visits paid by the committee's doctors.—*Dr. R. A. Askins, Bristol.*

BEST TREATMENT FOR THE TUBERCULOUS.—More fillings completed than in previous years, and this is rather surprising, as one experiences considerable difficulty in persuading patients to have their teeth filled instead of extracted, the popular idea being that there is far less pain with extraction. While in some cases this may be so, extractions often mean the use of dentures, or failing these, loss of masticatory powers. These patients are generally more amenable to conservative treatment than those of the maternity clinic, but the aversion of the

latter to fillings may be due to the natural hypersensitiveness of the expectant mother.—*Dr. E. G. Annis, Greenwich.*

REFUSE DISPOSAL.—There has been considerable discussion as to the various merits of dumping opposed to those of a refuse destructor. Without entering deeply into the question, one or two facts have become obvious; that a refuse destructor is expensive to instal and expensive in its upkeep, whilst the question of rats still remains, and nuisance still apt to arise. On the other hand, if sufficient and suitable ground is available for dumping, and sufficient labour employed to keep the dump in order, it is possible to dispose of refuse by this method without creating nuisance or injury to health, but here I would insist that the falsest economy is to minimise the amount of labour on the refuse dump itself.—*Dr. D. H. Geffen, Enfield.*

MEMO. 131 B/T, recently issued by the Ministry of Health, provides in tabular form an analysis of the work carried out during 1928 in connection with the tuberculosis schemes of local authorities, as shown in the returns furnished in accordance with memorandum 37/T. The hope is expressed by the Ministry that the memorandum will be found helpful by local authorities in considering any revision of their schemes in order to secure the most efficient arrangements and full value for the expenditure involved in the treatment of the disease. Copies of the memorandum may be obtained on application to the Ministry of Health.

THE Medical Signpost and Directory of the London Health Services (1930) may claim to fulfil a long-felt want among medical men in the metropolitan area, providing the busy practitioner with a ready means of reference to a mass of information invaluable to him in his daily practice. The facilities afforded by the public health authority and other bodies concerned with the health work of the district are set out separately for each metropolitan borough, in addition to general information regarding ambulances, bacteriological diagnosis, radiography, accommodation in mental and nursing homes, pay beds in hospitals, special treatment, hospital hours, and a host of other services of which the practitioner is frequently in need. Compiled by T. T. B. Watson, M.B., B.Ch. (Camb.) and Alfred Welply, M.D., and published at 10s. net by Stanley Woodfield, 78, George Street, London, N.W.1, the guide, on account of its usefulness, is recommended to count on this metropolis. medical men in

PUBLIC HEALTH

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Editorial.

The Report of the Medical Research Council.

THE report of the Medical Research Council for the year 1928-29,* in addition to reviewing the work of the year, for the reason that at the end of 1929 the Council had achieved its third quinquennium, provides also a retrospect upon the experience of the past five years. Because it does so the report is all the more interesting and as reading all the more fascinating. In the section dealing with the studies made of virus diseases, the claim is made that no detective story has ever

offered more puzzling features to the curious mind than many that appear in connection with the investigations made in this field. Particularly true of the virus work perhaps, since so much of what is done is in the nature of the search for clues, of which, it would seem, myriads will be needed before the tale is completed, there is truth in the statement also as regards most, if not all, of the work with which the Council takes concern.

To those engaged on the preventive side of medicine it is of interest to note how very much of the investigation that is done has disease prevention for its aim. Interesting, too, to learn how many different classes of scientific researchers are employing themselves, each on his own particular branch of

* H.M. Stationery Office, 1930. Cmd. 3496. Price 3s. 0d. net.

science, and all with the object of discovering some means of ensuring health protection and safety from disease. Not unnaturally, the physiologist and the bacteriologist are most prominently in the field, but with them there are to be found pharmacologists, bio-chemists, and hosts of others. Nor is it entirely in the laboratory that the researches encouraged and supported by the Council are conducted. In the wards of innumerable institutions, clinicians are at work and so, too, are veterinary surgeons amongst herds of cattle in many different parts of the country. It is rather surprising, indeed, to find how very much of research work done has for its object disease prevention amongst animals. In relation to tuberculosis, upon which an army of workers is employed, this is understandable, but almost as much prominence is given, and clearly with justification, to the extremely interesting and valuable developments that have taken place in relation to the prevention of distemper in dogs and trypanosomiasis amongst cattle in various parts of Africa.

In the report the references to work done in relation to nutrition are very numerous, the patient and painstaking investigations into the vitamins and the advances that have been made and that continue to be made being noted particularly. Of extreme interest are those of Professor Mellanby and his co-workers upon vitamin A and its mode of action in septic conditions, the results of which may have a very definite effect in relation to puerperal sepsis and conditions like pneumonia, tuberculosis and rheumatic fever, with which preventive medicine is so very deeply concerned. Industrial health questions, the report shows, continue to receive the fullest attention and very many grants were made during the year to enable investigations to be made into the problems associated with dust inhalation, into pulmonary asbestosis, miners' nystagmus and sickness experienced amongst persons engaged in various forms of employment. Problems related to load carrying by transport workers have been and are being enquired into also, as well as others connected with industrial psychology. Of the necessity for every one of the investigations made or in progress there can be no question. Nor can there be doubt of the excellence of the work done or of the real benefit that has already resulted and that will ultimately be obtained as the investigations develop. All these things the report of the Council shows and sets them forth in such

a manner that the reading of them brings sensations not only of pleasure but as well of pride that it is here and by fellow countrymen and women the works are being done, and of hopefulness that the results to be obtained, like those already secured, will prove of value to those whose aim is the protection and preservation of the health of the people.

* * * * *

The B.M.A. Meeting in Winnipeg.

THE British Medical Association is holding its ninety-eighth annual meeting in Winnipeg between August 25th and 30th, 1930, on the pressing invitation of the Canadian Medical Association. The meeting is certain to be well supported in Canada, and it is hoped that a good representation of the membership of the Association may go from this side. The Association has sent out a circular letter to all local authorities, employing whole-time medical officers, as shown with, suggesting that in view of the importance of the occasion, as an Imperial as well as a medical event, the authorities should give a sympathetic hearing to any medical officer of health who asks for extended leave in order that he may attend. As usual, a Section of Preventive Medicine is being held, the officers of which are:—*President*: A. S. M. Macgregor, M.D., D.P.H. (Medical Officer of Health, Glasgow); *Vice-Presidents*: T. Eustace Hill, M.B., C.M. Ed. (Medical Officer of Health, County of Durham), W. G. Willoughby, M.D., D.P.H. (Medical Officer of Health, Eastbourne), Prof. A. J. Douglas, M.D. (Winnipeg), J. A. Amyot, M.D. (Department of Health, Ottawa); *Hon. Secretaries*: T. A. Pincock, M.D., 123, Parliament Buildings, Winnipeg, and C. T. Maitland, M.D., M.R.C.P., D.P.H., 11, Beechcroft Avenue, Golders Green, London, N.W.11 (one of the medical officers of the Ministry of Health).

Full particulars as to the itineraries and cost thereof may be obtained from the Financial Secretary and Business Manager of the Association at B.M.A. House, Tavistock Square, London, W.C.1. Three main tours have been arranged:—

Tour C, which will occupy 49 days, at an inclusive cost of £185 to £190, going right through Canada and returning either through Canada or by way of Minneapolis, Rochester, Chicago, Philadelphia, and New York.

Tour B, which takes 35 days at an approximate cost of £140. This tour only goes as

far as Winnipeg, but the return journey is made by way of Niagara Falls, Timmins and Ottawa. An additional week, including visits to the towns already mentioned in the United States, raises the cost to approximately £148.

Tour A, the shortest tour, designed to meet the convenience of members who can only spare 28 days, which costs approximately £120, and takes in the Niagara Falls on the return journey from Winnipeg.

All visitors from this country will be the guests of the profession during the week they are in Winnipeg. The meeting affords an opportunity of undertaking a journey which is full of interest, and during which visitors may expect every manifestation of the hospitality for which our Canadian brethren are famous. Medical officers of health who propose to attend, and it is hoped that many may, are asked to get into touch with Dr. Maitland, and offer what help they can give to the officers of the Section of Preventive Medicine.

* * * * *

Food Standards.

QUITE frequently it has been a matter for comment that so far as food standards are concerned the position in this country differs considerably from that existing elsewhere, and in the course of a paper read at a recent meeting of the Yorkshire Branch, Mr. Manley, the Public Analyst for Leeds, drew attention to a number of interesting points in this connection. According to the showing of Mr. Manley it would appear to be only in the case of foods intended for human consumption that unwillingness to fix standards exists, since, whereas the Fertilisers and Feeding Stuffs Act, 1926, defines thirty-one fertilisers and thirty-six feeding stuffs, milk and its various products (condensed, dried and skimmed milk, and butter), margarine and spirits are the only foods used for human consumption for which legal standards are imposed. Of these it may be said that they do not err on the side of generosity to the consumer. In the case of milk, the minima of 3.0 per cent. fat and 8.5 per cent. non-fatty solids, required by the Sale of Milk Regulations, 1901, are decidedly on the low side. The average composition of many thousands of milks, some of them drawn from widely separated districts of England, during recent years is approximately 3.7 per cent. fat and 8.8 per cent. non-fatty solids, these milks including adulterated

as well as genuine samples. It follows that the average composition of genuine milk will be appreciably higher than is represented by these figures. Some analysts hold that not only should the standard be raised, but that any deviation below the standard should be treated as an offence, quite irrespective of the fact as to whether the milk was sold as it came from the cow or not. They argue that the plea of poor feeding and the use of Friesian cows (yielding milk large in quantity and poor in fat) should not be accepted as an excuse for supplying a section of the public with an inferior article.

As regards other foods, whilst tea, coffee, sugar, flour, mustard and pepper present little difficulty where a question of purity is involved, the question as to what constituted cocoa formed the basis of an important law suit in 1911 (Fulham Borough Council v. E. T. and J. R. Miller). In this case it was decided that 20 per cent. of shell must be regarded as the maximum amount that can be allowed in a genuine cocoa.

For cheese (whole-milk) the courts usually accept as a standard a butter-fat content of 45 per cent. calculated on the dry material, whilst in shredded suet one stipendiary magistrate fixed a maximum of 15 per cent. of desiccated rice flour, the presence of a certain proportion of the latter being recognised as necessary if the fragments of suet are to remain separate.

For sausages, worse might be done than a return to the requirements demanded for the minimum percentages of meat in the two grades that were recognised during the War. For another meat product, *viz.*, potted meat, there is no standard, but it is suggested that a maximum of 70 per cent. of water with the exclusion of all starch products (*e.g.*, rice flour and bread crumbs) would be a fair one.

An important ruling in the Divisional and High Courts concerning non-alcoholic meat and malt wine (Bowker v. Woodruffe) in 1927 is of supreme interest in connection with foods for which no standard is defined by legislation. The Lord Chief Justice said that, though there was no standard fixed by legislation, it was no answer to say that therefore there was no standard. The magistrate must look at the evidence to see what the standard was. It was the duty of the Court to fix some standard, not necessarily a quantitative one, but to have regard to a minimum, and here the Salford public analyst, supported by another public

analyst, had shewn authority for laying down as standard a 5 per cent. minimum of meat and malt extract in the wine.

On the ruling in this case it may be submitted that, in spite of the comparative absence of legal standards, there is ample opportunity for active local authorities to take proceedings where no such standards exist. At the same time, however, the fact that there is room for divergence of view and for difficulties in relation to administration must be borne in mind, and full support should be given to the project of making regulations whereby an adequate number of standards for foods for man should be set up comparable in comprehensiveness with those which exist for the welfare of plants and animals.

* * * * *

The Aspiration Treatment of Laryngeal Diphtheria.

THE toll of human lives exacted by laryngeal diphtheria in pre-antitoxin days may be realised from the experience of one of our most distinguished fever clinicians who relates how, as a junior, he performed the operation of tracheotomy in 30 successive cases of croup with a mortality of 100 per cent. The advent of diphtheria antitoxin enabled a considerable reduction to be made in the fatality rate and, equipped with this remedy and a reasonable experience of the operative procedures for the relief of the respiratory obstruction which is the immediate threat to life in diphtheritic croup, it is to be assumed that the clinician has secured the maximum benefit that could be expected from these measures in the years that have elapsed since antitoxin was introduced. The fatality rate, however, in cases requiring operation still remains high, and from the Annual Report of the Metropolitan Asylums Board for 1928-29 it appears that of 222 cases of primary or secondary laryngeal diphtheria submitted to the operation of tracheotomy or intubation, or both, 60 died, a case mortality of 27 per cent.

A method that promises to reduce this figure is well worthy of investigation, and some interest, therefore, attaches to a report recently addressed to the Metropolitan Asylums Board by Dr. Alex. Joe, of the North-Western Hospital. Dr. Joe, at the request of the managers of that body, recently studied at first hand a new procedure that has been developed at the Willard Parker Hospital,

New York, during the past few years. Briefly, as performed there, it consists in bringing the larynx into view by means of a direct laryngoscope of the Jackson type. This enables a clinical diagnosis—all cases of croup are not diphtheritic—and a direct culture to be made. If obstructive symptoms are present a suction tube attached to a portable electric pump of the Sorensen type is then introduced into the larynx and an attempt made to relieve obstruction by removing membrane, mucus and debris. Any slight oozing of blood is then dealt with by swabbing with adrenalin, and after an appropriate injection of antitoxin the patient is treated on the conventional expectant lines. It may be necessary to repeat the suction on one or more occasions if obstructive symptoms return, and if unrelieved by aspiration the operation of tracheotomy or intubation is resorted to. In the hands of an experienced operator the whole process can be carried out in a few minutes, no anæsthetic is required, and the instruments employed are in every-day use in laryngological work and should not be difficult to obtain in this country.

In spite of the fact that the operation has been taught to a considerable number of interns in the Willard Parker Hospital, the only trauma so far encountered is the loss of an occasional milk tooth. The advantages claimed by the New York workers are that accurate diagnosis can be made, and that by suction, membrane blocking the airway can be removed; thus the percentage of cases requiring operative interference, practically always in the shape of intubation in America, is materially reduced. This diminution in the number of operations has been followed, it is claimed, by a reduction in mortality; and, also a matter of considerable importance, the number of children with retained tubes has almost disappeared.

In a report on the subject, such figures as could be obtained from three of the hospitals in the Contagious Diseases Service of the New York City Department of Hospitals are set out, but the comment is made that while these are suggestive, statistical proof awaits the accumulation of more complete data. Dr. Joe, however, had the opportunity of seeing the application of the method in several cases, in two of which the relief of obstructive symptoms was remarkable. From his personal observations he is definitely of the opinion that the aspiration treatment of laryngeal diphtheria marks a distinct advance on the

methods at present at our disposal for dealing with this condition. He also makes the suggestion that those who are wedded to the operation of tracheotomy might with advantage employ aspiration through the tracheotomy tube in cases in which the operation had not brought about the relief expected.

The managers of the Metropolitan Asylums Board are to be congratulated on their public spirited action in making accessible to the profession in this country the practical details and technique of an operation of which hitherto only the most general outlines had been available.

* * * * *

The Health of Glasgow: 1818-1925.

THE publication of a volume on the Health of Glasgow from 1818 to 1925, which the author, Dr. A. K. Chalmers, formerly Medical Officer of Health for the city, describes as an "Outline," is an event of first-rate importance, and perusal of the volume justifies the highest praise. The writer is well known as one who has influenced, in many directions, the public health system of the country. He has occupied his leisure since he retired in 1925 in threading his way through a century of public health activity, and depicting the struggles of a great city to escape from the grip of the industrial era. He traverses the experiences of the past, and traces through a mass of detail the history of the great movements out of which have emerged the public health ideals of the present day. Dr. Chalmers follows in the present volume the example he himself set thirty years ago, when he published a Memorial Volume of Dr. Russell's historical and descriptive papers. He now employs a much larger canvas for his picture, extending it to cover the period since 1898, during which he was the moving spirit in evolving the more modern principles and practice of public health as applied in his own city.

Each of the twenty-six chapters is descriptive of the evolution of a particular branch of public health activity. The volume naturally commences with a historical account of sanitation in the nineteenth century, a period noted for the rapid growth of population, the consequences of overbuilding, the occurrence of great epidemics and, above all, the recognition of the association between disease and congested areas, which led to reform in burgh administration, to the formation of a sanitary

department and to the first City Improvement Act (1866). Descriptions of the conditions of those days furnish grim and unaccustomed reading to the modern student of public health. This chapter, which contains a brief review of the nineteenth century as a whole, is an excellent example of compact and graphic writing. Considerable space is devoted to a historical survey of the improvement in housing standards. His experience in Glasgow has made Dr. Chalmers a consistent supporter of housing reform, and his discussion of the relationship between overcrowding of houses on sites and of persons in houses, on the health of the inmates, is the work of one who has made this subject peculiarly his own. He is out for high standards, and is apprehensive lest these should become unduly low.

Then follows a chapter containing studies of death-rates, changes in the principal causes of death, and the relation of these causes to housing conditions as exemplified by minute studies of the differential rates which were occurring in the wards of the city; he also describes the powerful effect which these studies had upon legislation and social reform. The nineteenth century was the great period of environmental medicine which brought into being the basal health services, scavenging, water supplies and sewerage. Coming to more recent times, Dr. Chalmers points to the "challenge of physical deterioration," the immobility of infant death-rates, the physique of school children in relation to housing and nutrition as constituting problems requiring special attention. In the efforts put forward he himself exerted a powerful influence. The growth of the services which fell to be administered by the city, such as tuberculosis, maternity and child welfare, venereal disease, etc., the incidence and methods of control of the infectious diseases, the decline in diarrhoeal diseases, the epidemic diseases of the central nervous system, and air purification, are all discussed separately in their historical setting. It is impossible to do more than mention them. Each of these branches would require an appreciative essay to itself.

This volume leaves the reader with several impressions. It will take its place as a valuable work of research into first principles, fully documented and annotated. It is a treatise on municipal government. The author shows very clearly the effect which the incidence of disease and recurring pestilences had on civic administration. The necessity for taking

action in the face of these experiences was one of the prime factors which led to reform in burgh administration, just as to-day public health has supplied the principal argument for the further reforms embodied in the Local Government Act. Dr. Chalmers contrives, with conspicuous success, to serve a double purpose. He presents a wealth of detail invaluable to the historian of social affairs and to the student of preventive medicine. At the same time, he rarely loses sight of his rôle as social philosopher, while his keen sense of historical values and logical reasoning stamps this volume with his own distinctive personality. Glasgow is honoured in its historian.

* * * * *

The Retirement of Dr. Eustace Hill.

ON March 20th, 1930, the medical profession of the North of England united to honour Dr. T. Eustace Hill on his retirement from the appointment of Medical Officer of Health of Durham County Council, which he has held for nearly forty years. The dinner was arranged jointly by the North of England Branch of the British Medical Association and the Northern Branch of the Society of Medical Officers of Health. There were about 150 present, fully one-third of whom were members of the public health service. The diners included all the best-known figures in medicine, together with a number of distinguished legal colleagues, while women members of the public health service were well represented.

Mr. R. J. Willan, M.V.O., President of the North of England Branch of the British Medical Association, was in the chair, and was supported by Dr. G. C. M. M'Gonigle, President of the Northern Branch of the Society of Medical Officers of Health.

After the loyal toast there was a good deal of movement amongst the company which added considerably to the sociable atmosphere.

The health of "The Guest" was proposed by Sir Robert Bolam, one of his oldest friends, in most felicitous terms. Referring to Dr. Hill's unique personality, he declared that there had been no more powerful influence in the consolidation of the profession, particularly as between the public health service and other branches, than that of Eustace Hill. The present gathering was the finest evidence of the honour in which he was held by all classes of practitioner. During his tenure of office he had entirely reversed the character of the

County of Durham in regard to health. Indeed, he had worked a veritable miracle there, and had changed what was on his accession one of the blackest spots in England to a county whose mortality statistics were second to none and far in advance of most. He had seen many changes in the constitution of his County Council, particularly during the last dozen years or so. It appeared to matter little to Hill what was their political or social bias; they all reposed complete trust in him, and followed his advice implicitly. Dr. Hill had also made himself famous as an expert in extension of boundaries cases, in which his evidence was in great demand by County Councils. Indeed, Sir Robert suggested that he belonged, like the late Sir Henry Littlejohn, to a special category—witness (some use another term), expert witness, and Eustace Hill. Sir Robert referred to Dr. Hill's social qualities and his notable prowess in bridge and in golf, and, as a small tribute in evidence of the affection in which he was held by all, handed over to him a fine bag of steel-shafted golf clubs, wishing him long life and ever-increasing energy to pursue the insidious game.

The toast was received enthusiastically and drunk with musical honours.

Dr. Hill responded in his characteristic way, thanking Sir Robert and the company for their never-failing kindness to him during a long and strenuous life among them. He referred to some of his earliest experiences, mentioning those two other great pioneers in the preventive medicine service, his father, Dr. Alfred Hill, first Medical Officer of Health of Birmingham, recently deceased at the ripe old age of 96, and his brother Bostock, still one of our lusty young men, the first Medical Officer of Health of Warwickshire, as he himself is of Durham County. All three have passed through the Presidential Chair of the Society of Medical Officers of Health, and Eustace has, in addition, been President of the North of England Branch of the British Medical Association.

Dr. Hill, whose retirement under the age limit seems an absurdity to all who know him, is going to live at Bournemouth, which it is shrewdly anticipated will be unable to provide sufficient attraction to restrain him from frequent excursions into professional work. Indeed, it would be a thousand pities if it did.

"The North of England Branch of the B.M.A. and the Northern Branch of the

Society of Medical Officers of Health" was proposed by Dr. R. H. Smallwood, who emphasized the altogether exceptional concord that existed in the North between the public health service and the rest of the profession, and he ascribed this to the influence of such leaders as Hill and Bolam. He also referred to the virility of the Society in the North, and asked how could that be otherwise when nearly every member was also a good B.M.A. man or woman.

Mr. Willan and Dr. M'Gonigle replied in clever speeches, and after several hearty musical numbers by Residents from the Royal Victoria Infirmary, the company slowly and unwillingly dispersed.

An occasion that will be a lasting memory.

* * * * *

The Health and Cleanliness Council.

THE fourth annual general meeting of the Health and Cleanliness Council was held at the Hotel Cecil, London, on March 19th, 1930. The meeting was preceded by a lunch at which Professor Dame Louise McIlroy, D.B.E., M.D., D.S.C., Director of the Obstetrical and Gynaecological Unit, Royal Free Hospital, London, was the guest of honour. In proposing the health of the Council, Dame Louise warmly supported the campaign of cleanliness in various directions, and included a plea for the abolition of the long skirt. Turning to more urgent matters, the speaker referred to the influence that cleanliness had exerted in the child welfare movement, and stressed the need for scrupulous cleanliness in childbirth. Dame Louise urged her hearers not to pin their faith to antiseptics and disinfectants, but to secure protection from infection by normal physiological means, and the use of "common or garden soap and hot water." She concluded with a warm tribute to the work carried out by Dr. George F. Buchan as President of the Health and Cleanliness Council.

Dr. Buchan, in reply, dealt with the extensive growth of the Council's work during the short period of four years, and referred to the general desire for cleanliness which existed in the country to-day, and the need for arousing still further the cleanliness consciousness of the nation. Dr. Buchan supported Dame Louise McIlroy in advocating the importance of cleanliness in connection with child welfare and, more particularly, maternity work. The slogan "Cleanliness First," he added, should

also be adopted in factories, especially those concerned with food.

The Society of Medical Officers of Health was well represented at the meeting by members from all parts of the country, the following being among those accepting invitations:—

Professor H. R. Kenwood, C.M.G. (Member of the Advisory Board of the Health and Cleanliness Council); Dr. D. J. Thomas (Acton); Dr. Ruby Thomson (Fulham); Dr. C. Leonard Williams (Barking); Dr. D. M. Connan (Bermondsey); Dr. J. W. McKeggie (Bilston); Dr. J. S. Peebles (Bridgend); Dr. J. Holroyde (Chatham); Dr. G. A. Dawson (Darlington); Dr. F. L. Keith (Deptford); Dr. T. Orr (Ealing); Dr. Wm. Grant (Easington); Dr. Wm. Benton (East Ham); Dr. H. W. Harding (Edmonton); Dr. D. H. Geffen (Enfield); Dr. P. H. Stirk (Exeter); Dr. A. A. Turner, M.C. (Finchley); Dr. W. A. Muir (Gillingham); Dr. C. A. Harvey (Hartlepool); Dr. G. R. Bruce, O.B.E. (Hastings); Dr. H. C. Jennings (Holland, Lincs.); Dr. R. P. Garrow (Hornsey); Dr. A. M. N. Pringle (Ipswich); Dr. J. R. Fairer (Leicestershire); Dr. A. G. M. Severn (Pontypridd); Dr. R. J. Maule Horne (Poole); Dr. Wm. Barr (Rotherham); Dr. Charles Porter (St. Marylebone); Dr. Frank Hauxwell (St. Helens); Dr. Maitland Radford (Shoreditch); Dr. G. C. M. M'Gonigle (Stockton-on-Tees); Dr. F. G. Bushnell (Torpoint); Dr. G. W. N. Joseph (Warrington); Dr. W. J. Cox (Watford); Dr. F. Garland Collins (West Ham); Dr. R. H. H. Jolly (Wolverhampton); Dr. M. Manson, M.C. (Wood Green); and the Executive Secretary of the Society (Mr. G. S. Elliston).

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The Wassermann Test.

AFTER twenty-five years of universal trial, the Wassermann test for syphilis and its modifications remain to-day the most valuable laboratory procedure known to medicine. So much is this a fact that both the Medical Research Council and the League of Nations have spared no effort to determine which modification of the Wassermann test is least liable to yield non-specific and untrustworthy results and whether the more recently perfected precipitation tests are to be preferred. In 1928 a specificity trial was held at the League of Nations Serological Conference. This showed clearly that the most trustworthy tests for syphilis were the Wassermann techniques of Harrison and Wyler and of McIntosh and Fildes, and the precipitation reaction of Kahn. In this country the Wassermann reaction is more extensively performed than are precipitation tests, and even in America, where Kahn's test is more used, Kolmer¹, with his wide experience of the clinical and serological aspects of syphilis,

considers that where possible both a Wassermann test and a precipitation test should be done; where one test only is feasible then a Wassermann reaction is preferable. The reliability of the Wassermann test is entirely dependent on the technical skill of the worker, so that it is possible to obtain the best results in large institutions only; places where the tests can be performed in bulk by highly trained specialists. With a view to standardizing the methods in use and of rendering the results of one institute comparable with those of another, the Medical Research Council have supplemented their previous publication on the technique of the Wassermann test² by issuing the complete technical details of the Harrison-Wyler method as practised by Dr. Wyler³. Dr. Wyler's method is the one strongly recommended by the Medical Research Council, and the publication on the subject should be used as an exact guide by all who practise the Harrison-Wyler technique.

¹Jour. Amer. Med. Assoc., 1929. 93. 1429.

²The Wassermann Test. Medical Research Council Special Report Series, No. 14 (1921).

³The Wassermann Test. Modified Technique. By E. J. Wyler, M.C., M.D. LOND. Medical Research Council Special Report Series, No. 129 (1929). H.M. Stationery Office. Price 9d. net.

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Obituary.

By the unexpected and tragic death of Dr. Richard Herbert Vercoe, of Chelmsford, which occurred on March 22nd, the public health service has lost one of its keenest and most devoted members. Dr. Vercoe received his professional education at Cambridge, where he graduated B.A., and at King's College, London, after which, in 1910, he obtained the M.R.C.S. and L.R.C.P. (Lond.) qualifications. In 1917 he obtained the D.P.H. of Oxford University.

After holding a resident appointment at the Prince of Wales's Hospital, Tottenham, he spent several years in general practice at Southall. His work at Southall was interrupted by military service in the Great War. On demobilisation, Dr. Vercoe entered upon public health work, which always had an attraction for him. He received his practical training at Ealing. Later he acted as Assistant Medical Officer of Health at Colchester and at Willesden, at both of which districts he threw himself into the work with enthusiasm. Seven years ago Dr. Vercoe was appointed Medical Officer of Health for Chelms-

ford. Here he continued his enthusiasm for public health work and carried out some important enquiries in relation to the health of school children and took part in discussing subjects, such as birth control, and rheumatism in children, which were prominently before the profession. He was most regular in his attendance at meetings of the Society, and more particularly the Home Counties Branch, to which he was attached, and in which he took great interest.

In carrying out his public health work, Dr. Vercoe showed a thoroughness in execution, a sustained interest, a strict conscientiousness, and a consistent devotion to duty. In his association with others he was extremely courteous. He had, however, the defects of his qualities for he did not spare himself and no doubt his health suffered as a result. He received criticism very badly, and was apt to worry over difficulties which were not readily surmounted. Perhaps the attack of trench fever from which he suffered during the war left some permanent bodily weakness and accounted to some extent for his over-anxiety in his work.

He was devoted to the arts, and was no mean artist in water colours, some of his pictures having been shown at a very successful exhibition of pictures by medical men a few years ago.

Dr. Vercoe was not a little backward at making friends, but when he made them he was staunch and true. By those who knew him personally his loss will be greatly felt.

To his wife and young family of five, his friends and colleagues will extend the sincerest sympathy in their great bereavement.

"EDUCATION for the Care of the Public Health" will be the subject for discussion in the Preventive Medicine Section of the Royal Sanitary Institute Congress, to be held in Margate, from June 21st to 28th, 1930. Two days will be devoted to the question. On the first day (Tuesday, June 24th) the subject will be considered in regard to the training of medical students and candidates for the diploma; and on the second (Wednesday, June 25th) from the point of view of the education and training of sanitary inspectors, health visitors, etc. The President of the Section is Sir Andrew Balfour, K.C.M.G., C.B., M.D., F.R.C.P., Director of the London School of Hygiene and Tropical Medicine, and the Recording Secretary, Dr. Charles Porter, Medical Officer of Health, St. Marylebone.

Modern Methods of Refuse Disposal.

By J. C. DAWES, O.B.E., M.I.MECH.E., Public Cleansing and Salvage Inspector, Ministry of Health; CHARLES PORTER, M.D., B.SC., M.R.C.P., Ed., Medical Officer of Health, St. Marylebone; and A. E. KENNEDY, M.R.SAN.I., Superintendent of Cleansing, Kensington.

The subject of refuse disposal is somewhat prominently before the public at the moment, and in these papers, read at an ordinary meeting of the Society held in London, on January 17th, 1930, are given the views of three officers more or less intimately concerned with the solution of the problem.

MR. DAWES.

DUMPS and dump fires have come down from the Mosaic period, and appear always to have been regarded as inevitable; just necessary evils for which there was no remedy. About half-a-century ago a change took place in the outlook of a number of those responsible for cleansing work because someone said, and tried to demonstrate, that if the fire were placed under control in furnaces and the resultant gases discharged to atmosphere at a fairly high altitude, the difficulties associated with refuse disposal would disappear, and all would be well. Thus it came to be thought that the problem of disposal was solved, and officers and members of local authorities put their whole faith in the thing they conveniently but erroneously termed a destructor. In those days the "sanitary sense" was only beginning to develop, and such things as nauseating burning odours were considered a great improvement on the smells associated with bad dumps, and were quietly tolerated.

As the "sanitary sense" developed, objection was raised to these odours and, to avoid them, forced draught superseded natural draught with a view to obtaining higher temperatures; and again all seemed to be well. The public considered the resultant dust discharge a mere detail. But as education in sanitary matters went forward this dust was objected to, and rightly so, and with the further refinement of the "sanitary sense" the original trouble of objectionable odours was found in some cases only to have been moderated, and not abated; and so, gradually but surely, a number of the so-called early destructors came to be regarded as perfectly efficient rate destroyers, but only moderately successful in the matter of refuse disposal.

This very brief sketch brings us to the mid-war years, when a completely new idea was introduced, and this changed the outlook of the few who were trying to understand the problem technically. It is very probable that the change

would have occurred earlier had not the work of public cleansing been regarded as an out-cast, almost untouchable, service. The difference between modern practice and pre-war practice is that we now consider first and last the refuse itself, whereas formerly it was just rubbish, and not considered at all.

To proceed now to the subject to be discussed. May I say first of all something about the principles to be observed in refuse disposal work, and then indicate the best way of choosing a disposal method. Also, I want to refer to the defects in some of the older methods of disposal in order to make clear the advantages of the newer ones.

There are three principles to be observed in this matter of refuse disposal: (a) The method must be sanitary; (b) the work should be completed at one operation, and without recourse to the storage or prolonged exposure of raw refuse; (c) where several alternative methods are available, and each conforms to principles (a) and (b), the one which will give the lowest cost per ton should be adopted.

There are six distinct methods of disposal now in use: one wholly bad, four which can be reasonably good, and one which is rarely satisfactory. Sometimes a combination of two or even three of the four satisfactory methods is adopted, and when this is done the disposal plant is known as a "composite" plant. In choosing a method it is usual first to decide which of the approved methods, when viewed in the light of local conditions, conforms to the principles I have already mentioned, and then by a process of elimination seek to discover which is likely to be the cheapest.

The six methods now in use are as follow:—

1. Indiscriminate dumping.
2. Controlled dumping.
3. Separation.
4. Incineration.
5. Pulverisation.
6. Dumping into the sea.

No. 1 is definitely unsatisfactory, and without a redeeming feature, unless it is cheapness, and often this claim can be challenged because of the cost of finding sufficiently well isolated sites. Personally, I am unable to say a single word in favour of indiscriminate dumping. It always causes annoyance and often gives rise to nuisances. Annoyance is caused by house flies, rats, and crickets; and nuisances arise from noxious odours and noxious smoke (when the refuse is on fire). My experience has been that annoyance and nuisance co-exist at badly formed dumps, and trouble can arise from the five causes at a single dump, even a small one.

The difficulties which arise from indiscriminate dumping are very real, and frequently cause great trouble in a public health department, but the provision of a costly mechanical disposal plant is not the only alternative, and it does not follow in all cases that a local authority must be advised to incur an expenditure of 5s. per ton of refuse disposed of or, perhaps, an additional rate of 3d. or 4d. in the £. This is very important, and brings us to method No. 2, which is the newest of the six, and is proving satisfactory in some areas. The principle of this method of disposal is the deposition of the refuse on suitable land by means of what is now popularly known as "controlled tipping." The system is based on the Ministry of Health precautions, which were issued in 1922, and require, *inter alia*, that refuse exceeding 100 cubic yards in amount must comply with the following rules:—(1) The deposit to be made in layers; (2) no layer to exceed 6 ft. in depth; (3) each layer to be covered, on all surfaces exposed to the air, with at least 9 ins. of earth or other suitable substance, not more than 100 sq. yds. to be left uncovered at any one time; (4) no refuse to be left uncovered for more than seventy-two hours from the time of deposit; (5) sufficient screens or other suitable apparatus to be provided, where necessary, to prevent any paper or other debris from being blown by the wind away from the place of deposit.

It is important that sufficient and competent labour be provided in connection with the deposit to enable the necessary measures to be taken for the prevention of nuisance.

By prompt and effective covering the vital content (the putrescible element in the refuse) is broken down and the residue rendered innocuous and often useful, *e.g.*, in connection with stock brick-making and land reclamation. Another advantage is that controlled tipping stops "totting" on the dump.

When the necessary precautions are observed, the various nuisances already mentioned may be avoided.

(Mr. Dawes exhibited a series of slides showing how the method of controlled dumping had been adopted with success in Bradford, and also the most recent developments in mechanical disposal plant.)

We must now pass to the first of the mechanical methods which is comparatively new and is known as disposal by separation. Among the advantages of this system mention may be made of the following: Money is not spent in an attempt to incinerate incombustible dust; the combustible material is incinerated at maximum temperatures; pollution of the atmosphere is reduced to a minimum; while saleable products are recovered mechanically. This method is growing in favour and many ordinary incinerator plants have been converted to separation plants.

The next method to be referred to is direct incineration. Here the temperatures are lower than with separation. There is also risk of smoke emissions and grit discharge. Certain factors are common to the separation and incineration methods. With the separation system, however, the recovery processes are cleaner.

The cost of the pulverisation method depends upon the income from the sale of crushed refuse, and in some cases where it is employed, difficulty is found in finding suitable markets or inexpensive and continuous outlets for the material.

Disposal at sea is a method practised on the north-east, north-west and south coasts, but it can only have a limited use. The method is unpopular in many places, and has been succeeded in a number of cases on the Tyne by controlled dumping.

DR. CHARLES PORTER.

It is not easy to see how usefully a medical officer of health can add to a discussion on the subject of refuse disposal. True, he is required specifically to make reference to it in his annual report, and in the event of troubles arising in relation to it, he is invariably called upon by the ratepayers and the Ministry officials to bear a share of the brunt of complaints and criticisms. In general, however, matters are so arranged that he has practically no concern whatever with the work, and commonly is never asked for advice or expected to offer opinion.

That any advice he could give would be of any particular value is difficult to say. That

there is a health side to the problem of dealing with the refuse of a community is so readily accepted by everybody that it is unnecessary for him to insist upon it.

That neglect to deal with it properly will lead to conditions injurious to health and even to the occurrence of disease is so unhesitatingly believed that he is not called upon, fortunately perhaps, to produce evidence thereof.

In a word, everybody is so convinced that refuse disposal is one of those things that something must be done about, that in regard to it the medical officer of health is relieved of all trouble so far as the production of jeremiads is concerned.

Because in the something or things that must be done there is involved, in the words of the introductory note to Mr. Dawes' report, "a high degree of technical skill if it is to be carried out in an efficient, cleanly and economical manner," and this skill is not of the type that he can be expected to possess, the medical officer of health can hardly be looked to to contribute very much in the way of helpful guidance.

Speaking generally, indeed, in regard to this problem the medical officer of health would appear to have little to do, various other officers being willing to relieve him of everything except blame when trouble arises.

Thus relieved, practically all the part that is left for him to play is that of critic. Even this he cannot play properly, or, at any rate, not so well as the man in the street, for the reason mainly that he knows something of the nature of the problem and the difficulties that interfere with its solution.

In face of this and other reasons, the part I propose to take on this occasion is that of critic, and in doing so, find myself in excellent company, including that of several distinguished contributors to an organ of no less importance than the *Spectator*, and Mr. Dawes himself.

The report of Mr. Dawes is in the main, a volume of criticism, his strictures applying chiefly to the metropolis and to every stage of the process from collection and storage within the premises of the producer of the refuse to the method of treatment adopted by the authority for the purpose of its disposal.

For a variety of reasons criticism of procedures followed in the metropolis—in any metropolis, indeed—is simple, the general conditions existing in very large communities making for difficulties not easy to overcome.

In relation to domestic refuse these difficulties

are enormous, and are experienced by everyone, from the householder who makes the refuse, to the sanitary authority and every officer and servant in their employ who has to deal with it.

Apart from the fact that the householder in the larger communities appears to be compelled to make a large amount of waste, the chief difficulties he is up against are that in the construction of his home the possibility of his making any refuse at all has been overlooked entirely.

Even in modern structures the builder and the architect, both of whom regard it as necessary and provide for the collection of excreted refuse and soiled and waste waters and their carriage to the sewers which transport them to the disposal plant, have failed to recognise the necessity for provision of suitable accommodation for collection and storage or disposal of domestic refuse and convenience in connection with its removal for disposal by anybody.

This neglect in these regards forms the foundation of the whole body of difficulties and nuisances with which the business of dealing with refuse is beset.

"The beginning is something, but the end is everything," said the Greek; but when the beginning is hopelessly wrong, the end is hardly likely to be entirely right.

Frankly, though what I have said may suggest that the builder and the architect are to blame for the defects in the building in this connection, the fault is not wholly theirs. Rather in my view, it is due to a lack of foresight on the part of the organisers of our sanitation and a failure to recognise the existence of another class of refuse than sewage.

Failing in these regards, they failed also to make the necessary provision for imposing the duties upon builders and owners and occupiers of property and upon local authorities, and giving all the powers in connection therewith, that would ensure an adequate system with all the parts dovetailing the one into the other.

Without full power to compel the introduction of proper arrangements within the buildings the local authorities at the start found themselves under the necessity of adapting any provision they might make in relation to refuse removal to the conditions existing upon the building.

Inevitably such provision was associated with undesirable conditions affecting such matters as time of removal, placing of refuse containers on the footway, and a hundred and

one others, all of them causative of nuisance or inconvenience.

It was not entirely defects in the building arrangements, of course, that led the authorities into bad ways in relation to removal.

These contributed no doubt, but the real trouble was, and is, the absence from the laws relating to health, of such directions to the authority as would compel them to view seriously their duties in this connection.

And so it was, and is, all through the piece, with local authorities exerting little in the way of special effort in the direction of getting away from making the best and towards doing the best, mainly because of the absence of a real spur to progress in the shape of duty imposed and enforceable.

It is not my intention nor is there need to give details of the improper and inadequate arrangements made under the *laissez aller* policy followed by the local authorities in this relation.

The individuals who write to the Press and the journals in order to tell what their friends from America, forgetting what they must have seen in New York and others of their own cities, have to say about us, have done it already.

So also has Mr. Dawes, and in the hope, no doubt, of shaming some authority into doing better, no matter how much it may cost, he has said it with photographs.

Nor is it my intention to offer suggestions as to how refuse collection and removal, and particularly the apparatus connected therewith, might be improved.

The suggestion that "high technical skill" is necessary frightens me too much.

Also, there appears to be no necessity to enter into competition with the multitude of people who are ready and willing at any moment to produce and demonstrate the perfect dust-cart with the aid of a diagram or an attractive model, and without the assistance or perhaps the complication provided by the dustman and the material he commonly handles.

In any case, the position the medical officer of health should occupy, if my colleagues, the cleansing superintendents, will permit me to say so, is rather as a receiver than a giver of suggestions upon which he should give an opinion after examination. From the hygienic point of view, at any rate, such an opinion should be of some value and should be given consideration.

In respect of refuse disposal, which, judging from the title of the discussion, is the chief matter for consideration here, it appears to

me, that, with the possible exception of the War, nothing is more responsible for the present unsatisfactory state of affairs than the absence of the legislative spur to local authorities to which I have already referred.

The responsibility of the War I think considerable, because it stopped many authorities who were quite properly and appropriately destroying refuse by fire from making progress in this direction, and set them to sorting and salvaging, and introduced practices in relation to these processes which I find most objectionable. That sorting and salvaging have advantages from the economic point of view and in relation to dumping of refuse is undeniable, but these advantages can be over-estimated. It is my firm belief, indeed, and this based upon experience, that if members of local authorities, those with imagination particularly, knew what these procedures actually involved in the way of degradation of human beings, they would be less favourably inclined towards them; more inclined, perhaps, to press for an examination of existing methods of disposal, and the discovery of something really deserving of being described as a "modern method."

The absence of legislation with specific reference to refuse disposal and designed to hold in check local authorities inclined to pay little regard to what may happen in the way of nuisance production in their choice of a method, I consider of serious importance.

In the case of the sister problem of sewage disposal it seems clear that but for the existence of the various provisions relating to sewers, sewerage and the prevention of pollution of rivers and the formation of rivers' boards, there is little doubt that matters would be in a much more backward state than they are now.

Local authorities have been forced to ponder the question of what to do about sewage refuse, to have in view always the necessity for so treating it that it shall cause nuisance and disturbance and injury to nobody and to devise schemes accordingly.

It is easy enough to find explanations for the absence of like provisions in existing legislation relating to the disposal of those forms of refuse now under discussion.

Because it would take too long to set out these explanations I hesitate to do so. I hesitate also about offering the suggestion which, in the light of my opinion with regard to the effect of the absence of the provisions, seems obvious, *viz.*, that the legislation should be made now.

I do offer it, however, being convinced that it

is essential and that it would have a beneficial effect.

Legislation, if made, should cover the whole field. It should have reference to buildings, new and existing, and should affect architects, builders and occupiers of property, imposing duties upon them just as exacting as those relating to drainage. Local authorities should be given power of enforcing provisions relating to refuse sanitation equal to that given for dealing with sewage sanitation. Particularly, however, there should be provision made for compelling local authorities to deal properly with those matters affecting refuse collection and disposal which are placed in their charge. To those who may have the drafting of such legislation there could be no more useful guide than that relating to sanitary appliances, drainage, sewerage, and sewage disposal.

If there is anything more unpopular with municipal officers than a suggestion that additional legislation should be promoted, it is one involving the creation of a new authority.

Mr. Dawes will perhaps forgive me if I say I am surprised at him, and if I criticise his view that a central body should be set up to control cleansing throughout the metropolis.

To me the idea does not appeal at all, and as one who has had quite a long experience in the metropolis and knows, or thinks he knows, something of the local authorities in that area, it is my opinion that it would not be acceptable or successful.

Presumably in putting forward his suggestion, Mr. Dawes had in mind such bodies as the Metropolitan Asylums Board and the Metropolitan Water Board, both of whom have worked most amicably with the various local authorities.

The reason for the success of these boards is not far to seek: both are engaged in carrying out absolutely essential services for the local authorities, services recognised by each individual authority as more conveniently and economically provided on a London than a borough basis.

More important still, the services rendered by the Boards has not necessitated possession by these bodies of anything resembling control over the local bodies, and has not involved criticism of or dictation to the councils by the boards or of the officers of the former by those of the latter.

In a word, the boards are not in any sense supervisory and the officers of the two bodies are colleagues purely. It is only when one local government body is placed in such a position that actually or apparently it becomes superior

to another local body that trouble arises.

It is then that the officers of the two bodies cease to be colleagues; fail not only to be leagued together but actually are separated by a wall of suspicion and distrust.

That this is in general and not in London alone the melancholy situation so far as county and non-county councils are concerned is notorious.

The body envisaged by Mr. Dawes appears to me to be certain to partake of the character of the superior local government body. It will have to be invested with supervisory and dictatorial powers over the local authorities. It will have a hoard of officers who will not only be in a position to criticise local officers, but, worst of all, will work in the area of the local officer. That they will be able to work without friction seems to me highly improbable, and unless there is complete absence of friction the work will not be properly done.

In any case, is it a fact that cleansing can be better and more efficiently done on a large rather than on a small scale?

The fact that individual householders continually, and often injudiciously and thoughtlessly in my opinion, are recommended to destroy their own refuse rather suggests a recognition of the fact that the best way to deal with refuse is on a small scale, on or as near to the place at which it is produced as possible.

Viewed as a whole, the problem of dealing with the refuse of London appears vast and difficult to the point of hopelessness.

Regard each borough, however, as a separate and distinct problem, and this I contend is not either improper or impossible, and the situation contains less of reason for despair.

Put it up to each local authority that this is a problem with which they must deal; advise, assist and guide and check them when necessary, and I believe that immense improvements could be made.

But do not arrange for the guiding and checking to be done by a new body of the superior local government type.

For a certainty such a body would be unpopular, and it would assuredly be extremely expensive.

If a body with more directional and supervisory powers over local authorities is required, let it be formed within the Ministry of Health. All that is necessary could be done by setting up a division of public cleansing. The subject is of sufficient importance to warrant it, and if adequately and properly staffed and backed

by legislative powers such as those outlined, I believe that all that Mr. Dawes requires would be secured.

Two things I find that I have not referred to. One curiously enough, is modern methods of refuse disposal, and the other is the financial aspect of the problem. Of the modern or present-day methods all I have to say is that though in many, if not all, of them, there is very little that we moderns of 1930 have much to be proud of, there is still something to be claimed for most of them.

In favour of indiscriminate dumping of crude refuse little or nothing can be said, though there may be situations in which it might be done safely and advantageously.

Very much the same remark applies to each of the other methods. There are situations in which they might with propriety and appropriately be employed, subject, of course, to the taking of very obvious precautions. Here, as in relation to several other matters, one of the troubles is that so many people believe that what is wanted is complete uniformity and the employment of one method only. In relation to refuse there cannot be uniformity, and the proper plan is to consider which of all the methods is most appropriate for each particular area. This I believe is what was at the back of the mind of Mr. Dawes, when he suggested the setting up of a special central cleansing organisation, and what I am sure would be equally well secured if the line I have suggested is followed.

On finance, vastly important as it is, I have nothing to say, except that, costly as the process is at present, heavier costs still will have to be incurred before a really satisfactory scheme is found and put into operation.

It will cost everybody more, and the individual ratepayer, in addition to finding the local authority spending more money on his behalf, will be forced himself to spend more in order to make the arrangements he has to provide fit properly into the scheme operated by the authority for the benefit of the area as a whole.

MR. KENNEDY.

I am glad to see that at last the cleansing service, long considered a nuisance among municipal activities, is receiving attention by the central governing authorities, who are realising that the time has arrived when scientific officers and experts must be secured in connection with the work.

Efficiency, a foremost point in any service,

is absolutely essential in relation to refuse disposal schemes, and if the work is properly and economically carried out, the cost will be justified.

Disposal, in my view, commences with the tipping of the refuse storage receptacle into the removal vehicle. In regard to frequency of collection, it is an advantage to have refuse cleared more frequently as it is received in fresher condition at the dump or depot. It should be possible to obtain a twice a week clearance if the service is properly organised.

A special problem arises in and around London owing to the difficulty of obtaining suitable covering material for refuse dumps. Despite this and other difficulties, it is not, in my opinion, necessary for refuse disposal in London to cost more; in fact, economies should be possible.

Finally, all plants, modern or otherwise, can be a nuisance unless proper and efficient control is exercised.

DISCUSSION.

Dr. T. Shadick Higgins (Medical Officer of Health, Capetown), said that in his district refuse was disposed of by a system of controlled dumping similar in principle to that adopted in England, and he had never seen any reason for recommending abandonment of the dumping method in favour of some other system. The great advantage of dumping was the enormous improvements that could be effected. Miles of foreshore at Capetown had been reclaimed to a considerable depth by the deposit of house refuse, and old excavations which were a nuisance had also been filled in with the material. Trenching into the ground was another method practised, and this had improved the prospects of afforestation schemes. Capetown was favourably placed in regard to the frequency of refuse collection; in the central part of the city there was a daily clearance, and in most of the remaining districts collection was made three or four times a week.

Dr. John Tate (Medical Officer of Health, Middlesex County Council) said he regarded the question of refuse disposal from an angle rather different from that of medical officers of health of metropolitan boroughs, owing to the fact that in Middlesex other people's problems had to be faced. Probably years ago when the county was sparsely populated, indiscriminate dumping was not too great an annoyance; but to-day, the dumps along the side of the Grand Union Canal were an intolerable nuisance. The district councils were, on the whole, comparatively small bodies with very little standing from the financial point of view, and their medical officers of health were at present in many cases part-time officers. Rubbish was brought down from large and wealthy London boroughs and dumped in those poorer districts, and the question of pressing the wealthy borough to make some improvement in its method of refuse disposal was an urgent one. In some cases the dumping was done by a contractor employed by the local authority. The dumps could not be defended from any point of view, and it appeared

to be doubtful if dumps of a satisfactory nature could be made having regard to the conditions that obtained in Middlesex. Dr. Tate had inspected the Bradford dumps, and there was no question that they were really satisfactory. Two points with regard to them had not been mentioned. Night-soil was added in Bradford, and street sweepings were used as a covering material for the dumps. The soil in Middlesex consisted of clay, and no satisfactory covering material was available. It was for the local sanitary authorities that produced the refuse to see that it was thoroughly disposed of and not dumped in the area of another authority. More information from Mr. Dawes on the subject of pulverisation would have been of interest.

Dr. D. H. Geffen (Medical Officer of Health, Enfield, Middlesex) said that in his area all the work in connection with refuse, including disposal, was carried out. The cost of controlled tipping was governed largely by the covering material that could be secured, and the success of the method depended mainly upon the amount of labour that the local authority would allow to be employed on the dump. In Enfield, it was the practice to use sleepers in order that the vehicles might run over the dump and so assist in compressing the material, but even so, the question of shrinkage had to be dealt with. Road sweepings were found to be very untidy to deal with, and created considerable nuisance. In districts where there were brickfields, refuse could be dumped there direct, provided it was covered with sifted refuse as a covering material. In Enfield, brickmakers were anxious at times to obtain refuse for use in connection with the making of stock bricks, but they usually wanted it in the winter and not in the summer. Dr. Geffen added that there was nothing more loathsome than the sorting of refuse.

Professor W. W. Jameson (Division of Public Health, London School of Hygiene and Tropical Medicine) moved a vote of thanks to the speakers. In some quarters, he said, it was held that refuse disposal was not a matter which should concern the medical officer of health. The health service, however, had to concern itself with any matter which affected the public comfort, and refuse disposal was certainly one of those. Professor Jameson added that among the special lectures recently given at the London School of Hygiene and Tropical Medicine, none had created greater interest than those by Mr. Dawes on refuse disposal.

The President (Dr. J. J. Buchan), in seconding, said that the subject under discussion had greatly changed in its methods and outlook, and was one in which the medical officer of health ought to take an active interest, for it affected the health and well-being of the people in the community. Like Dr. Porter, he had been trained to believe that there could be no good in dumping—an opinion that had held sway until quite recently. A severe critic when the system of controlled tipping was first thought of, he afterwards became convinced that it was really a sanitary process, though the last word would not be said for many days. In Bradford, it had been found that at the end of six or nine or twelve months the tip had ceased to exist, anaerobic organisms carrying on the disintegration of the material if air were excluded.

No difficulty should be experienced in finding suitable covering material for a tip once it had started.

The President, in calling upon the openers to reply, reversed the order in which they had first spoken.

Mr. Kennedy, in acknowledging the vote of thanks, said that he would have liked to have seen the word "Collection" included in the title of the discussion.

Dr. Charles Porter also agreed that the discussion should have included something more than mere disposal. Returning to his main points, Dr. Porter stressed the necessity for power to compel people who were putting up buildings to make proper provision therein for the storage and collection of refuse. Power was also needed to ensure that the dustmen were afforded proper access to premises. On the question of the proposed central body he was afraid that it could not make a success of the undertaking. Finally, he disagreed with Mr. Kennedy that the service was not going to cost more.

Mr. Dawes replied at some length to various points raised. Referring to the problem of refuse disposal in London, he said that an answer might be found in his report,* which was being considered by a departmental committee. He disagreed with many of the things that Dr. Porter had said. Where there was scientific and intensive management, an improved service cost less. On the subject of incineration, the effect of the War had been, not to stop the method but to indicate what material should be incinerated, and how the work could be done without nuisance or complaint. Mr. Dawes referred to the effect upon industry, if it were to be deprived of the use of various materials of value recovered from refuse. In this connection, no textile material should be taken from refuse and put on to the market unless it were rendered absolutely sterile, and plants were now operating successfully in that direction. Referring to Dr. Tate's remarks, Mr. Dawes held that a sanitary authority in London was not performing its duties properly if it caused nuisance in an outside area. Old refuse could be made to form very good covering material, but it must be absolutely "dead" and applied properly. In conclusion, Mr. Dawes said he thought there was much to be said for making the refuse receptacle part of the collection system under municipal ownership.

THE Minister of Health has appointed Sir Harry Goschen, Bt., K.B.E., to be a member of the Board of Management of the London School of Hygiene and Tropical Medicine, in the place of Lord Melchett, whose term of office recently expired, and the Board has elected Sir Harry Goschen as its Chairman in succession to Lord Melchett.

* PUBLIC CLEANSING. Being a Report of an Investigation into the Public Cleansing Service in the Administrative County of London. H.M. Stationery Office, 1929. Price 15s. net.

Ut Ita Dicam.

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

The Health and Cleanliness Council.

The annual meeting of the Health and Cleanliness Council appears to have established itself as one of the events of the year quite as definitely as the Congress of the Royal Sanitary Institute, for example, or the annual meeting of the British Medical Association. That of this year, to me, was more enthusiastically supported than any of previous years, the attendance of medical officers being large and representative. The luncheon, always a feature of the meeting, had as chief guest, Dame Louise McIlroy, who is becoming better and better known in preventive medicine circles. The speech she made in proposing the toast of success to the Council, its work and its President, Dr. George F. Buchan, was very bright and attractive and entirely to the liking of the company. Dr. Buchan, to whom the occasion always means a very great deal of work, since not only must he preside at the lunch but also take the chair at the Council meeting, made, as usual, a very effective reply. Effective also and concise and businesslike was his report on the work of the Council during the year, the figures given in regard to lectures, posters, leaflets and so on being even more astounding than those for last year. That there is growth in popularity of the Council amongst persons concerned for education of the people, more particularly school children, in cleanliness and its relation to health, there is every evidence. That such persons are desirous of seeing the work increased, the attitude of various representatives present at the meeting most definitely showed. Requests for suggestions as to new lines of work that might be followed, though they brought forth many expressions of goodwill, did not produce much in the way of new ideas, many of the speakers being apparently more anxious to make pronouncements upon their individual fads than to offer information likely to prove of practical value. Myself, I only heard one good suggestion and that came from Dr. Buchan himself. This was to the effect that there was need for education with regard to cleanliness amongst persons engaged in the preparation and handling of food articles. It may be hoped that the advisory committee

of the Council will examine this suggestion and make exploration with a view to discovering modes of approach to food handlers in factories, restaurants and elsewhere, for the purpose of educating them on the possible danger to consumers of contaminated food, their own responsibilities in this connection, and the ease with which they may minimise the danger.

The Sexologist Speaks.

While on the subject of cleanliness and propaganda I should like to refer to two books that I should have mentioned before, since they have been on my table for some time. These are "Sex and its Mysteries," by one, George Ryley Scott, described in the leaflet accompanying the volume as a "sexologist" (my God!), and "Mother England," by Dr. Marie Stopes*. In addition to being a sexologist, Mr. Scott, again according to the publishers' circular, is "one of the most daring and advanced thinkers of the age," and the book reads almost like it. His thought with regard to sex teaching appears to be that it is unfortunate that it is necessary to give it but, since it must be given, let us make up our minds to give it and give it hot and strong. In believing that instruction is needful I think Mr. Scott is probably correct. Without it, it seems to me, the young will be quite unable to understand the literature of to-day and to appreciate to the full particularly the modern American novel. In my young day anything more than the information casually collected from one's companions and during visits to farmer relatives was probably unnecessary, the French novels of the period calling for comparatively little knowledge of the subject with which incidentally they dealt. Times change, however, and one is forced to recognise that it is necessary to have acquaintance with something more than the mere superficialities. Mr. Scott's book is an admirable introduction to all that is most widely boomed in literature. Indeed, I am not sure that it does not deserve to be regarded as something more than an introduction to modern novels. Some that I have read

* London: John Bale, Sons & Danielsson, Ltd. Price, 10s. 6d. net each.

go almost as deeply into the subject as he does, which seems to suggest that his book might be classed as one with them. A great point made by Mr. Scott is that his book is not intended for "infants," as he calls them, "either in years or intelligence." It is for medical and legal students, teachers, lecturers, preachers and sociologists, who, it is hoped, will pass on the vastly important knowledge they have obtained from it; who can, in fact, as the author himself puts it, "use its information for the edification of the young and unlearned with whom, professionally or otherwise, they come in contact." It is the word "edification" I like best, though I am not prepared to swear that it is one that appears to me entirely appropriate for use in connection with what is commonly accepted as the correct method of instructing the young and unlearned in the subject of sex hygiene.

Mothers who have had enough.

Dr. Marie Stopes' book, with its title "Mother England," is a curious one. As a fact, probably because I am dense, I cannot make out why she calls it "Mother England," since it consists essentially of letters from mothers who have had enough of being mothers and want Dr. Stopes to tell them how to meet the situation. Dr. Stopes herself has reproduced the letters in the hope of inducing the powers that be to permit of instruction on methods of birth control being given at welfare and ante-natal centres. Whether or not this is a good way of securing attention to the point desired to be made is difficult to say. Personally, I should think not. The book is priced at half-a-guinea, and it is unlikely, I imagine, that the people Dr. Stopes believes to be responsible for the creation of the situation she finds so distressing will buy it. Even if they did, I am a little doubtful if the things she says about them in commenting upon the letters are likely to be regarded as at all conciliatory. Some of her statements, indeed, they would probably consider lacking something of sweet reasonableness and almost too harshly critical to be encouraging; as, for instance, this written by way of peroration: "Mother England! When will your slavery to ignorance and corruption cease? When will the chains forged upon you by the perversity of priests and politicians be struck from your aching limbs and you be free to obtain the knowledge of how to bear in health and joy the beautiful and happy scions of an

Imperial Race that might even yet flower from our ancient stock?"

The Last of the Hills.

Dr. Eustace Hill, of Durham, retires from office on April 30th, and elsewhere in this issue there appears a description of a dinner given to mark the occasion. At this dinner there were several speeches, all expressive of the regard, naturally great, felt for Dr. Hill, and the regret, naturally extreme, experienced at the thought of his departure. Curiously, there was no reference to the rather pathetic fact that after April 30th, 1930, for the first time for many a long day, the public health which for a period had as many as three members of the family engaged upon it will be without one single representative. Probably it is not this aspect of Dr. Eustace Hill's retirement that has been worrying the County Council, the officers and people of Durham for some time. It is the thought that they are losing the services of one who has been acceptable in every sense; one who on account of his personal qualities has been regarded with real affection, and because of his attainments has been found reliable and sound in every phase of the health work of the county and its people. It is not in his own county alone that the going of Dr. Hill is looked upon as something of a calamity. Throughout the public health service and beyond it in other branches of the medical profession where there are people who have given preventive medicine and those who specialise in it a thought, there is no man who has been held in higher esteem; whose advice and opinion have carried greater weight. To such as those, more capable perhaps than a health authority of estimating the value of a health officer, Eustace Hill has always seemed to occupy the highest place. To him in that place they have looked up in respect and admiration, and from him have received a lead both in practice and in policy. The loss that Durham feels so strongly is no less deeply felt by those who have hailed him as friend and as guide. Two hopes, however, they nourish: one, that his retirement may be sufficient to ensure him the peace and rest that he has earned by all the years of unremitting and enlightened service he has given; and the other, that his withdrawal will not be so complete as to deprive the preventive branch of medicine of one whose influence and counsel it will assuredly be difficult to replace.

Precept, Practice and the Measle.

I got it so bad luck with my baby, Nurse!
 I feed her every time she hungry but she not
 get fat.
 I keep her good and warm but she cry all day.
 She sleep with my big girls so she not get
 lonely in the night.
 So now—such luck—she get a measle.
 My little baby—
 But, ach, the sickness comes from God!

This sad story, told to a public health nurse, I have taken from the *Health News* of the New York State Department of Health. And talking of the State Department, I wish to put on record my regret that Dr. Mathias

Nicoll, junr., has resigned his position as Health Commissioner. Dr. Nicoll was well known personally to many members of the health service here because of his work and because of the kindness of the welcome he always extended to any who visited him at Albany. Into the new work he has taken up he may be sure that he carries all good wishes from his colleagues on this side, and Dr. Thomas Parran, junr., who leaves the United States Public Health Service to succeed him, may be assured of the extreme willingness of all here to maintain the same spirit of friendliness that was planted in the days of Biggs and that flourished so strongly throughout all the days of Nicoll.

P.

Dental Propaganda.

By J. SIM WALLACE, M.D., D.S.C., L.D.S., Lecturer on Preventive Dentistry, King's College Hospital.

In choosing dental propaganda as the subject of his Presidential Address to the Dental Officers' Group of the Society, Dr. Sim Wallace selected one of interest, not only to the members of the Group with which he has been so long connected, but to all engaged in health education work. In setting out so clearly the fundamental truths of disease prevention, so far as the teeth are concerned, he has rendered a most useful service.

SOME months ago, Dr. Harry Campbell, the Editor of *The Medical Press and Circular*, referred to dental propaganda as follows:—"Efficient propaganda regarding the fundamental truths concerning diseases of the teeth is still sadly lacking . . . This is greatly to be regretted, since the causation of both dental caries and pyorrhœa alveolaris may be said to be thoroughly understood. It cannot be repeated too often that dental caries is essentially a *post-partum* phenomenon, due, not to defectively organised teeth, but to defective "oral hygiene" which allows saccharide food (sugar and starch) to accumulate about the enamel, and by its acid fermentation to corrode the enamel, and expose the dentine to the attack of pathogenic microbes. It is much to be regretted that this elemental truth is constantly being obscured by the publication of inconsequent experiments purporting to show that dental caries is largely due to diminished resistance of the enamel to the action of the acid produced by carbohydrate fermentation, and that this diminished resistance is

due to defective nutrition, the result of defective food. It is of the utmost importance to impress upon mothers, and children from a tender age, the importance of keeping the teeth clean, not so much by the use of the toothbrush, which, unless carefully employed, is apt to do more harm than good, as by eating food calculated to keep them clean, *e.g.*, by spending their coppers (and the children of the masses manage to get more of these coins than is generally supposed) on fruit rather than on sweets."

Some of you are aware that Dr. Campbell is unique among medical men in having studied the subject longer and more thoroughly than any living physician. His contributions to medical periodicals have not only helped medical men to a more correct understanding of the subject, but he has also contributed many reliable observations of importance, for which the dental profession is indebted, and of this I am sure, we must all agree more or less completely with the ideas I have just quoted from his editorial article.

Many different views are submitted from time to time by different individuals; those who have studied the subject longest and most thoroughly are, however, almost always in close agreement. I noticed this particularly in America, where many different theories have been put forward, yet among those most thoroughly acquainted with the subject and whose names are best known, there is but little difference of opinion. From their writings and from my conversations with men like Dr. Leon Williams, world-famous for his work on enamel, Professor Russel W. Bunting and Dr. F. E. Rodriguez, similarly famous for their bacteriological work, and Dr. Frederick S. MacKay, the leading authority on mottled enamel, it did not appear to me that there is now any essential difference in their beliefs from those that are held by leading authorities in this country, which have been officially recognised for pretty well twenty years. Nevertheless, we still find most conflicting, erroneous and dogmatic views expressed even by dentists and medical men holding quite authoritative positions. The following is an illustration: "The prevention of dental disease itself belongs essentially to the ante-natal and infant department and comes but little within the province of the school dentist; for the main causes of dental disease cease to operate before the teeth erupt, and though something may be done to keep the teeth when they have appeared, we cannot expect to do much in the way of preventing the occurrence of caries after the age of five"! I am afraid the writer of the above has been somewhat bemused by inconsequent experiments. Such a statement as this is altogether at variance with all reliable evidence and the accepted teachings of well-accredited dental authorities in this country. I think we may fairly say that inferences in flagrant opposition to accepted teaching, from experiments whether consequent or inconsequent, should not be made, at least by those without expert knowledge, till they have been verified or fully and impartially discussed. Can we indicate what is accepted by competent authorities in this country? I think we can. The quotation which opens this address is perhaps enough for present purposes, but it may be well also to recall the fact that a few years ago the Society of Medical Officers of Health authorised a leaflet indicating quite clearly that dental caries was a *post-partum* phenomenon, and that preventive methods were effectual any time throughout life. More-

over, with our present knowledge it is easy to show the absurdity of conflicting views.

As it is generally useful for the propagandist to take a note of current events which point a moral, I should like to refer to an item of interest which recently found its way into the newspapers. The following notice, taken from the *Sunday Times*, will recall it to your memory:—"No Sweets: Good Teeth. Skye Island Record for Scotland. The school children of the lonely Gaelic-speaking township of Aird-of-Sleat, in the extreme south of the island of Skye, so isolated that it is approached only by a footpath, hold the dentistry record for Scotland. On his last inspection, Mr. W. J. Inglis, the dental officer of Inverness-shire Education Authority, failed to find a single tooth that showed the slightest defect. 'There is no doubt,' he states, 'that the natural food of the children in these lonely island districts is the chief factor in the preservation of their teeth. Many of them do not eat a single sweet from one year's end to the other, and the contrast between them and town children is so marked that it is impossible to overlook the moral.' " Mr. F. Breese went to the trouble of obtaining some more information, and found from an equally reliable source that in many remote areas in Ross-shire the teeth were as a rule free from caries. The diet was plain, consisting chiefly of porridge, fish and home-made scones. The bread when bought is obtained by steamer from Glasgow and is usually from two to three days old before being used. In addition, the areas referred to have no shops, so that the children seldom have sweets or biscuits; in fact, Mr. Breese was informed that "these people could not afford them were they available." On being questioned as to the use of the toothbrush, almost invariably our informant was told that they do not possess one.

As the result of carelessness, insufficient knowledge, or some prejudice, comments often only tend to distort and destroy a simple and important lesson. In the *British Dental Journal* (August 1st, 1929) the foregoing incident was referred to as follows:—"To be remote from many of the concomitants of civilisation has compensations to which attention has frequently been called, and one that has perhaps been rather anticipated than realised is an immunity from dental disease. It is, however, interesting to find that the dental officer for Inverness-shire who recently inspected the children of an isolated township in the Island

of Skye, did not find a carious tooth amongst them. Whilst this may be due in great measure to the energetic propaganda of the head mistress, who encourages dental hygiene in every possible way, it is only reasonable to suppose that healthy environment, simplicity of life, suitable and nutritious food have contributed largely to this striking divergence from the characteristics of a typical town-bred community." This is not a very illuminating editorial comment. Indeed, I think it distinctly diverts attention from the essential facts.

Before leaving this part of the subject, it might be well to note a point which is somewhat apparent, not only in the foregoing, but generally; namely, that food, though of a starchy nature, if not sweetened with sugar, is relatively at least, not very liable to cause caries. Saliva can generally wash through starchy foods and so neutralise or render harmless any acid which may form. For this, and other reasons, it is important to direct special attention to the harmful effects of sugar in all its viscid forms, e.g., sweets, jam, sweet biscuits, etc.

The next point to which I would like to refer is State-aided propaganda. I do not know whether you recognise the Dental Board of the United Kingdom as a State-aided institution, but at least the State has aided this Board by taxing the young qualified dentists in order to let it carry on its work. It co-operates with the Medical Research Council and so appears to have a prejudiced interest in the "inconsequent experiments" for which they may be responsible. In addition to this, propaganda seems to be included in the work of the Dental Board, and large sums of money have been disbursed. About two years ago the Dental Board published a little book, rather expensively got up, entitled "Hygiene of the Mouth and Teeth." I understand it was widely distributed gratis to school teachers. Like the curate's egg, this book is "excellent in parts." Where it follows the views I hold, I have naturally nothing to say against it, and as perhaps nine-tenths of the book is descriptive of anatomical and other facts, which are not controversial, no reference need be made to them here.

When possible it is undesirable to introduce controversial subjects in a book intended for laymen. When, however, this is necessary, the two sides of the question should be put forward impartially. This, however, does not appear to have been done. The way is, inad-

vertently no doubt, prepared for a biased view by introducing two paragraphs on immunity. The supposition that there is immunity to caries in the teeth is controversial. We agree with what is said with regard to the external local causes, immediate and predisposing. These predisposing causes, whether of the anatomical, mechanical or physiological variety, which favour carbohydrate stasis, vary, and no doubt account for varying susceptibility in different dentures. Admittedly, the disease is microbic, and it is noted that "the microbes do not, at first at any rate, feed on the teeth themselves In the course of their feeding they manufacture an acid which dissolves the enamel of the tooth at the particular spot where the microbes have accumulated in greatest numbers, causing at first a small depression, but later on a hole or fissure penetrating through the enamel into the softer dentine beneath." It thus is clearly admitted that acids generated by micro-organisms outside the enamel initiate the carious process. Now we do not speak about immunity to acid. The enamel of the tooth is subject to decalcification by lactic and other acids. There is no immunity in this any more than there is in the decalcification of marble by acid; nor is there anything living in enamel capable of resisting the action of the acid on the inorganic salts, of which the enamel is composed. The cells in the mucous membrane of the stomach are alive, but if a poisonous dose of carbolic acid is swallowed we do not speak of immunity to the action of the acid, even though some patients may recover. Sometimes this supposed immunity in enamel is spoken of as vital resistance. I criticised this idea in my last paper on "Recent Research on Enamel and the Incidence of Dental Caries,"* and had the opportunity of submitting it to an eminent physiologist, Professor Fraser Harris, and a short time afterwards he wrote to me saying: "The use of the term 'resistance,' which can only mean 'vital resistance,' as applied to the enamel, I consider not only unphysiological, but childish. Only when the enamel is in the state of living cells—adamantoblasts—can you speak of it as endowed with any vital properties. After calcification it is virtually inorganic prisms. Even if it had 100 per cent. of 'organic material,' that would not entitle us to speak of it as alive. All this is due to inaccurate thinking and to

* PUBLIC HEALTH, August, 1929, p. 372.

losing sight of one or two fundamental principles about bioplasm. Neither katabolites, urea, uric acid, etc., nor "paraplasts" such as mucin, keratin, elastin, are alive."

Now let me quote again from the Dental Board's "Hygiene of the Mouth and Teeth": "Common experience shows not only that decay occurs in many mouths where the teeth are well arranged and well cleansed, but that, conversely, many neglected mouths are remarkably free from dental disease. There must then be other causes affecting the liability to decay, besides those in the mouth itself." This quotation indicates how completely the Dental Board has ignored the true explanation of why teeth may be remarkably free from dental disease, even though the teeth have been neglected. Neglected mouths may be thick with micro-organisms of the proteolytic type; tartar may have accumulated about the necks of the teeth, and pus and proteid matter may be exuding from the gums; tobacco stains may increase the unhygienic appearances produced by neglect; but none of these conditions gives rise to acid production; in fact, they are actually antagonistic to the conditions which cause caries. On the other hand, when the teeth are well arranged and artificially apparently well cleansed with a tooth-brush, we know that the gummy and often rather invisible matter associated with fermenting sugars is generally left in the retention areas, and so is remarkably likely to give rise to the disease.

Clinging to erroneous suppositions the book goes on to indicate the probable causes of the assumed defective structure. Unfortunately for the Dental Board, before, and even more since, their book was published, the suppositions about caries resulting from structural defects and the structural defects resulting from deficient calcifying vitamins, have been shown to be completely untenable. We were assured in the introduction to the Dental Board's book that it was "extremely carefully written by extremely competent people, who know all there is to be known about the subject." Why then did they not refer to the fact that an important part of the work of this present century was to show that the theory of structural defects being the chief cause of the predisposition to caries was untenable? All the assumptions of Miller and his followers about "*loci minoris resistentiae*" were erroneous. More careful examination showed these "*loci minoris resistentiae*" to be merely maxi-

mum carbohydrate retention areas, and that these retention areas accounted for the predisposition to caries exactly when and where the carbohydrates lodged unduly. These views which the Dental Board's book ignores were to be found in current dental literature and even in text-books, notably in N. T. Bennett's "Science and Practice of Dental Surgery," published about fifteen or more years ago. But the "extremely competent people" who were supposed to "know all there is to know about their subject," do not seem to have seen the section on the Etiology of Caries in Bennett's book or such other books and articles as maintained the same views. We were further informed that the Dental Board's book was a "labour of love." There is abundant evidence of this—for love is blind.

Further on it refers to the effect of diet on the formation of the teeth and concludes by saying that "in the meantime we can safely recommend a diet in which butter, milk, eggs, animal fats, and cod-liver oil are well represented, as holding out the best hope of attaining this end," that is to say, making the teeth more or less "immune" to caries. When, however, we consider recent research on cod-liver oil and note "that the fact that the administration of cod-liver oil is by no means an invariably safe proceeding, is becoming increasingly clear" (*British Medical Journal*, August 24th, 1929), we see that we cannot safely recommend this drug to be well represented in the diet. Moreover, we know that practically all animals, many savages, and our prehistoric ancestors never partook of butter and milk, and only ate eggs and animal fats when they could get them, and that generally was but rarely; nevertheless, caries is quite exceptional amongst them.

Then it goes on to talk of the benefit of sunlight. But sunlight really does not seem to have anything to do with susceptibility to caries, for in Australia and New Zealand caries is even more rampant than in England. On the other hand, it would be difficult to find a more sunless spot on the British Isles than Aird-of-Sleat, yet the children of that village would appear at present to hold the record for good teeth, or rather teeth free from caries.

A few days ago, a little pamphlet of about fifteen pages was published and distributed by the Dental Board on "Children's Teeth and How to Use Them." It takes the form of simple questions and answers, and some stand, Leys.tion is no doubt given. Again,

I am glad to say it recognises the value of certain detergent foods, such as "fresh fruits, raw vegetables, and coarse, hard foods, such as dry toast," but I am sorry to say it distracts attention from important matters by introducing talk about vitamins. It says children "should have plenty of the foods that contain mineral salts and vitamins," and mentions "milk and other dairy produce, green vegetables, especially uncooked vegetables, fresh fruit, bread and cereals in which the whole grain is used," as containing these salts and vitamins. I am glad to see in this later pamphlet, cod-liver oil is not well represented in the dietary; in fact, it is not mentioned at all. Whether this omission results from recent research in Scandinavia on the harmful effects of this drug, or from the fact that the Dental Board seems to have got its inspiration from the American Academy of Periodontology and the New York Tuberculosis and Health Association, I do not know definitely. I assume, however, it has, as indicated, obtained its views from America, because the items of diet cited indicate perhaps more especially the value of vitamin C and vitamin B. For a long time there really have been two dominant schools of thought with regard to vitamins and dental caries; what we may call the American school rode the vitamin C horse, the English school first rode the fat-soluble A horse, though they changed their mount for vitamin D. The vitamin C school, however, rather deride the vitamin D school, and, as far as I know, the vitamin D school up to date ignored the existence of the vitamin C school. Where the vitamin B school comes in, I can hardly say. This vitamin has recently undergone a process of disruption and has become vitamins B.1 and B.2. Partisanship for this vitamin in England is divided; at least one school that thinks that rickets and teeth liable to decay are closely related, maintains that the former disease, at any rate, is to some extent caused by wholemeal bread. The other school lauds the excellence of wholemeal bread. Vitamin X came out for a short run but was soon scratched. Before leaving the question of vitamins, to build sound teeth or to keep the deciduous teeth healthy, it may be noted that the word "plenty" is ambiguous. It may mean a sufficiency or a large amount. It is practically impossible to exclude a sufficiency of vitamin, for if we are to put any importance on experiments such as those of Sir Gowlay is, as

it would appear that a daily allowance of milk, in which the total solids were 4 per cent. or less of the whole food eaten, was "plenty" to restore rats to health after this had been injured by complete depletion of vitamins. No doubt this explains Dr. Frederick S. MacKay's observations that "search as we may through the dental literature, there is yet to be found any illustration or description of a typical damage to the structural components of human enamel, brought about by, or associated with, deficiencies in the diet."

Then two simple and pertinent questions are asked. The first is: "What causes dental caries?" and the answer given is: "Food particles left on the sheltered surfaces of the teeth where bacteria, protected by their glue-like covering, produce acid which dissolves the tooth structure." We may well let this pass, although jam, honey, syrup, etc., may lodge on sheltered surfaces but they can hardly be described as "food particles." The next question is: "Are all teeth equally liable to caries?" The answer the Dental Board's pamphlet gives is: "No. Those which have been soundly built and are nourished by food that has plenty of the necessary elements in it, are usually able to resist this disease." We have not any evidence to show that, for example, the molars and the premolars are less soundly built and nourished than the lower incisor teeth. Indeed we know that the lower incisor teeth are not infrequently hypoplastic, while the premolars and second molar teeth are rarely defective in this respect. Yet it is the lower incisors that most frequently remain free from caries. Surely the answer to the question: "Are all teeth equally liable to caries?" should have been; "No. Those which do not present carbohydrate retention areas are usually not liable to the disease." In other words, the lower incisor teeth are not at all liable to caries, while the molar teeth are particularly likely to decay. How much the nourishment of the tooth has to do with caries may be indicated by extirpating the living pulp and substituting for this, paraffin, gutta percha, cement, or some antiseptic substance; in fact, doing what is called a root filling. Many a time have we all performed this tedious operation, yet like other dentists we have noted that the teeth so treated do not become any more liable to caries than they were before it was done. What then is the sense of talking about inconsequent variations in the nourishment of teeth, as if this would appreciably

affect their ability to resist decay?

I doubt if institutions of a political nature are at all well adapted for appreciating, much less for settling, the problems which underlie scientific controversy, or for the diffusion of useful knowledge. They may be able to advertise their wares, and those who get grants from the Medical Research Council or the Dental Board may provide ample applause for the researches conducted under the auspices of these wealthy institutions, but that does not necessarily make their research work trustworthy, nor do I think that the Dental Board should, at lavish expense, distribute gratis, what appears to be misleading literature to school teachers, who do not know and are not told the difference between the acid and the alkaline type of oral malhygiene, and indicate to them that the prevalence of dental caries is not necessarily due to conditions in the month brought about by fermentable carbohydrates which tend to lodge in and about the retention areas of the teeth.

From the foregoing observations it would appear that propaganda based on erroneous inferences and inconsequent experiments is unsatisfactory and, further, that government institutions which have invested money in fos-

tering such experiments cannot be relied on to take unprejudiced views with regard to them. It appears to me that the duties and interests of Fellows of the Society of Medical Officers of Health should lead them to take up the subject much more enthusiastically than they so far have done, for it is admittedly of the greatest importance from the point of view of public health. The leaflet which their Council has authorised is all to the good. Nevertheless, this is not enough. Perhaps we in this Group have been somewhat remiss. Perhaps the papers we have contributed have not been sufficiently stimulating, authoritative or illuminating. However that may be, I am sure that we, and the readers of PUBLIC HEALTH generally, would all be delighted to have a paper that was "extremely carefully written by extremely competent people who know all there is to know about their subject." A discussion frequently helps to bring out points with greater clearness than the original communication itself. This, no doubt, would also be published with pleasure and the public health service of this country would no longer be deprived of the priceless benefits which should surely be derived from those who know all about their subject.

The Society.

Reports, Proceedings and Announcements.

THE HOME COUNTIES BRANCH.

President: Dr. E. H. T. Nash, M.O.H., Heston and Isleworth.

Hon. Secretary: Dr. A. A. Turner, M.C., M.O.H., Finchley.

The third meeting of the 1929-30 session of this Branch was held at the house of the Society on January 3rd, 1930. Twelve members were present. In the absence of the President, Dr. F. C. Linton took the chair. Apologies for absence were read from seven members.

A letter was read from the Central Midwives Board asking that the Memorandum on the Report of the Departmental Committee on the Training and Employment of Midwives and the Board's Observations on the Committee's Recommendations be brought before the meeting of the Branch. As these documents had

been referred to a Special Committee of the Council of the Society it was agreed to take no action in the matter.

Consideration was given to a letter from the Executive Secretary, asking the views of the Branch on a communication received by the Association of Municipal Corporations from the Ice Cream Association of Great Britain and Ireland, suggesting that a standard should be fixed by statute for ice cream. It was agreed unanimously that the standard suggested, viz., 8 per cent. butter fat and 18 per cent. total milk solids, should be enforced and that a bacteriological standard should also be demanded.

Dr. R. H. Vercoe opened a discussion on "Sunlight Therapy" and showed a very interesting series of lantern slides illustrating the methods employed at Alton, Hayling Island, Leysin and Carshalton, as well as

numerous cases of surgical tuberculosis and rickets before and after treatment. He discussed the value of open air schools, artificial sunlight and Vita glass, and exhibited two specimens of mustard and cress, one grown under ordinary glass and the other grown under Vita glass, the latter being by far the more vigorous.

Drs. Willoughby, Leonard Williams, Muir and the Chairman took part in the discussion which followed, and Dr. Vercoe was cordially thanked for his interesting paper.

A meeting of the Branch was held at the London School of Hygiene and Tropical Medicine, on February 7th, 1930. Some sixty members were present.

After a number of medical educational films of extreme interest had been exhibited, tea was provided in the common room. A tour of inspection of the building followed, during which a large number of microscopical and museum specimens were shown in the advanced laboratory of the Division of Medical Zoology.

Dr. Linton, supported by Dr. A. E. Porter, extended to Sir Andrew Balfour and Professor Jameson the cordial thanks of the Branch for arranging such an interesting and instructive meeting.

A further meeting of the Branch was held at the house of the Society on March 7th, 1930, when the President and seventeen members were present. Apologies for absence were notified from three members.

Letters were read from the Northern and West of England Branches asking the Home Counties Branch to support the nomination of Professor Harold Kerr and Dr. Ernest Ward respectively as President of the Society for the coming year. It was decided to deal with this question at a future meeting.

Dr. K. E. Tapper opened a discussion on "The Transport and Handling of Various Foodstuffs." Dr. Tapper pointed out that any improvement that had taken place in the transport and handling of foodstuffs, other than meat and milk, was not due to any action on the part of the Ministry of Health, local authorities or medical officers of health, but had been effected by traders themselves because it paid them to do so. The handling of fish at the quayside, the transport by rail in dirty boxes, and in vans not kept at a

sufficiently low temperature, left much to be desired. All vans for the transport of meat should be registered and inspected regularly, while poultry and all cooked meat foods should be brought within the scope of the Public Health (Meat) Regulations. Vegetables could be transported in any sort of vehicle and stored in any sort of outhouse, stable or cowshed. He maintained that the time had arrived when steps should be taken to ensure the more sanitary transport, storage and handling of foodstuffs, especially those not subjected to cooking before being consumed.

A lively discussion took place in which a number of those present took part. Dr. Tapper was thanked for his very interesting contribution, and thereafter the following resolution was proposed by Dr. Belam, seconded by Dr. Tapper, and carried unanimously:—

"That this Branch asks the Society to consider the unsatisfactory manner in which foodstuffs which are not to be subjected to cooking are handled, and suggests the possibility of some recommendation being made to the Ministry of Health with a view to obviating the present state of affairs."

THE NORTHERN BRANCH.

President: Dr. G. C. M. M'Gonigle, M.O.H., Stockton-on-Tees.

Hon. Secretary: Prof. Harold Kerr, O.B.E., M.O.H., Newcastle-upon-Tyne.

A meeting of this Branch was held at the Medical Institute, 7, Windsor Terrace, Newcastle-upon-Tyne, on February 7th, 1930, the President occupying the chair. Thirty-four members and several visitors were present.

Dr. A. S. Hebblethwaite, having given notice at the last meeting, moved the following:—"That Dr. James M. MacLachlan, formerly Medical Officer of Health, Blyth, be elected an Honorary Member of the Branch." Dr. Hebblethwaite said that owing to illness, Dr. MacLachlan, who had been a member of the Branch for many years, resigned his post some time ago. The motion was seconded and carried unanimously.

The Chairman, on behalf of the members, congratulated Drs. C. Franks and G. Lilico on their recent appointments as Medical Officer of Health to the Durham County Council and Derby County Borough, respectively. Dr. Lilico thanked the members for their good wishes.

The meeting confirmed the action of the senior members of Council in allowing the circular with regard to the Milk Course for Health Visitors at the Armstrong College (February-March, 1930) to state that the course was under the auspices of the Branch.

A communication was read from the Ice Cream Association of Great Britain and Ireland (Incorporated), addressed to the Association of Municipal Corporations and referred by the latter body to the Society for its views. It was agreed to refer the matter to the Branch Council for consideration and report.

The following were elected as members of the Branch:—

Barrie, Jessie Lingard, School Oculist, Durham, C.C.; Buchanan, David Sheret, Assistant S.M.O., Durham C.C.; Cockill, William Baron, M.O.H., Combined Districts of Westmorland; Dunlop, Jas. Alistair, Assistant M.O.H., West Hartlepool; Gaspey, Ernest Thomas, T.O., South Shields; Geddes, John Erskine, Medical Superintendent, Seaham Hall Sanatorium; Harker, William Edmund, O.B.E., M.O.H., Tyne Port and Inspector of Aliens; Kirk, Thomas James, M.O.H., Stockton R.D.C., and Billingham U.D.C.; Locke, Robert William, Assistant S.M.O., Durham C.C.; Macbean, Daniel Steel, Deputy M.O.H. Stockton; Morgan, Lewis, District T.O., Durham C.C.; Pinkney, William Cecil, M.O., Earl's House Sanatorium; Stobbs, Joseph Arnold, M.O.H., Alston, with Garrigill R.D.C.; Warren, Stanley Herbert, Director of Public Health Laboratories, Armstrong College, Newcastle.

Dr. T. Eustace Hill proposed that Dr. Harold Kerr, Medical Officer of Health, Newcastle-upon-Tyne, be nominated as President of the Society for the Session 1930-1931. He felt sure that the nomination would receive the unanimous approval of the different Branches, several of which had already agreed to support it. The interests of the Society could not be in better hands than those of Dr. Kerr, who has a great reputation, not only in the North of England, but throughout the country.

The Chairman seconded the motion, which was carried unanimously.

The Hon. Secretary reported that the North of England Branch of the British Medical Association had decided to make Dr. Eustace Hill the guest of the evening at a dinner to be held on March 20th, and had suggested that the Northern Branch of the Society of Medical

Officers of Health should join them at the function. The proposal was agreed to. It was also suggested that the North of England Branch of the British Medical Association be asked to send an invitation to all members of the medical profession in the North of England.

Correspondence between the British Social Hygiene Council and the Hon. Secretary of the Branch was referred to. As the matter concerned had solved itself it was agreed that no further action was necessary.

Dr. Ralph P. Williams read a paper on "Mental Deficiency," and after discussing the various groups into which mentally defective persons may be classified, gave a short history of the subject and of the Acts of Parliament dealing with lunacy and mental deficiency.

The recent report of the Committee of the Board of Education and the Board of Control was discussed, and the methods of dealing with feeble-minded children and retarded children were illustrated by the classes established in Lowestoft and Barnstaple.

A further meeting of the Branch was held at the Medical Institute, Newcastle-upon-Tyne, on March 14th, 1930. Twenty members were present. In the absence of the President, Dr. Hislop was voted to the chair. Apologies for absence were received from the President and Drs. Eustace Hill, F. H. Morison, and A. F. G. Spinks.

A letter was read from Dr. J. M. MacLachlan, thanking the members for electing him an Honorary Member of the Branch.

The following were elected as members of the Branch:—

Boleyn, J. G. W., District T.O., Durham C.C.; Dodd, R. R., A.S.M.O., Sunderland; McVitie, Grace E., Assistant W.M.O., Durham C.C.; Tyrell, James M., 176, New Bridge Street, Newcastle (transfer from North-Western Branch).

At this stage of the meeting the Vice-President (Dr. C. Franks) took the chair.

It was agreed that the following report of the Branch Council on the question of ice cream (see proceedings of previous meeting) be confirmed and forwarded to the Council of the Society:—

1. Ice cream shall contain not less than 8 per cent. milk (butter) fat and not less than 18 per cent. of total milk solids.

2. *Bacterial Standard.* Milk before being used for the manufacture of ice cream shall contain not more than 200,000 bacteria per c.c., and ice cream shall contain not more than 200,000 bacteria per c.c. at any time, and neither shall contain *B. coli* in one-hundredth of a cubic centimetre.

3. Ice cream shall only be manufactured and sold by persons registered by the local authority, the premises where such manufacture or sale is conducted being also subject to approval and registration by the local authority.

4. Ice cream shall not be sold elsewhere than on registered premises except in a package covered and sealed at the place of manufacture.

Reference was made to the pending retirement of Dr. James A. Hislop, Medical Officer of Health, Tynemouth, in accordance with the age limit defined by the Local Government and Other Officers' Superannuation Act, 1922. General regret was expressed, but it was ascertained that the date of his actual cessation was not yet settled.

Dr. J. Stanley White, of Messrs. Parke Davis and Co., London, gave an address, together with a film display on "Vaccine and Serum Therapy." This dealt with the preparation of these remedies and their use, with a most lucid demonstration of the Schick and Dick tests. Dr. White's clear and informative explanation was thoroughly enjoyed by those present, who expressed their warm appreciation of his address. Only the advanced hour prevented a keen discussion of what had been shown.

THE YORKSHIRE BRANCH.

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

A meeting of this Branch was held at the Meat Market and Public Abattoir, Kirkgate, Leeds, on February 28th, 1930, with the President in the chair, supported by twenty-three members. Apologies for absence were received from the President of the Society and five members.

Correspondence was received from (a) Dr. Belam, Medical Officer of Health, Guildford, expressing good wishes to his late colleagues, the members of the Yorkshire Branch; (b) Dr. Banks, expressing his intention to resign his membership of the Branch Council and the Branch; (c) Dr. Stirk, Hon. Secretary, West of England Branch, requesting the support of the Yorkshire Branch for Dr. Ernest Ward's candidature as President of the Society for the ensuing year; and (d) the Executive Secretary, respecting Dr. Knott, of Middles-

brough. It was unanimously resolved that: (1) The Hon. Secretary be instructed to inform Dr. Banks that his membership of the Council of the Branch is continued by virtue of the fact that he is the immediate Past-President of the Branch and, in consequence, no action could be taken to fill this vacancy until the election of officers for the new session; (2) Dr. Stirk, on behalf of the West of England Branch, be informed that the Yorkshire Branch is already pledged to support the Northern Branch in promoting the candidature of Professor Harold Kerr; and (3) Mr. Elliston be informed that whilst Dr. Knott has been a Fellow of the Society for many years he did not attend the meetings of the Yorkshire Branch, although one of its members. Dr. Knott may, however, be well known to the members of the Northern Branch. In any case, in view of Dr. Knott's seniority in the service it was unanimously resolved that the Council of the Society be recommended to retain his name on the Roll of Members.

Sincere regret was expressed at the news of the death of Dr. J. Wright Mason, formerly Medical Officer of Health for Hull, and President of the Yorkshire Branch in 1894. The Society was represented at the funeral by Dr. Whitelaw, Deputy Medical Officer of Health, Bradford, representing the President of the Society, and the Yorkshire Branch was represented by Dr. R. L. Thornley, a Past-President of the Branch. As a mark of respect to the memory of their late colleague all present stood in silence.

Attention was drawn to a letter sent by the Chairman of the Public Health Committee of the North Riding of Yorkshire County Council, respecting the question of the salary of Dr. Harry Mason, County Hall, Northallerton, Medical Officer of Health to that Council, which appeared in the *Yorkshire Post* on February 28th, 1930. After discussion it was unanimously resolved that a copy of the letter be sent to the Executive Secretary of the Society and the Medical Secretary of the British Medical Association with a request that such action may be taken as may appear desirable.

The members then visited the Public Abattoir, where a masterly demonstration of Diseased and Unsound Meat was given by Major J. A. Dixon, M.R.C.V.S., Chief Veterinary Officer, City of Leeds. A large number of carcasses and organs of various animals was

shown. Questions were asked by the members and replied to by Major Dixon. Very great interest was shown by all present, and it was agreed that a most instructive and profitable afternoon had been spent.

An adjournment was made for tea, provided through the generosity of the Leeds City Markets Committee, when there was a discussion upon the subject of Meat Inspection. A unanimous vote of thanks to Major Dixon was very heartily accorded on the proposition of Dr. Mair, Medical Officer of Health, Harrogate, seconded by Major D. S. Rabagliati, F.R.C.V.S., who recounted some of his experience in Egypt, and supported by the Hon. Secretary, to which Major Dixon replied.

THE MIDLAND BRANCH.

President: Dr. W. D. Carruthers, County M.O.H., Staffordshire.
Hon. Secretary: Dr. R. H. H. Jolly, M.O.H., Wolverhampton.

The fifth meeting of the Session of this Branch was held at the County Health Offices, Stafford, on March 6th, 1930, the President occupying the chair. Forty-three members and two visitors were present. Apologies for absence were received from nine members.

The President informed the members of an offer by Sir John Robertson to arrange a demonstration of milk pasteurisation and sterilization. The offer was accepted, and a meeting in May was suggested as suitable.

Dr. John Menton, Bacteriologist, County of Stafford, read a paper on "Bovine Tuberculosis in Relation to the Public Milk Supply." Commencing with a brief description of the methods of differentiation of the bovine bacillus from its human prototype, the speaker then dealt with the improbability of the immunization of human beings by the consumption of tuberculous milk, and the significance of the latent focus. The prevalence and age incidence of bovine infection in man were illustrated. New standards for graded milks were submitted, and the importance of the biological test for tuberculosis was emphasised. The paper concluded with a summary of the disadvantages and loopholes of commercial pasteurisation.

After the address the members inspected an exhibition at the County Laboratory which

demonstrated the various aspects of the bacteriology of milk and the differences between bovine and human tubercle bacilli which had already been described in the paper; and, in addition, a paretic curve in the Lange Gold Chloride as well as the Wassermann, Kahn and Sigma reactions.

Several members took part in the discussion which followed, and at the conclusion Dr. Menton was heartily thanked for his paper.

The members were afterwards entertained to tea by the President.

THE NORTH-WESTERN BRANCH.

President: Dr. F. A. Sharpe, M.O.H., Preston.
Hon. Secretary: Dr. G. W. N. Joseph, M.O.H., Warrington.

A meeting of this Branch was held in Manchester on March 14th, 1930, the President occupying the chair. Twenty-six members were present.

A discussion on "The District Medical Services, including Vaccination, as affected by the Local Government Act, 1929," was opened by Dr. R. Veitch Clark. With regard to vaccination there would be very little change, and the public vaccinators would become purely public health officers. He mentioned some points in connection with their contracts. Functions as regards the district medical officers might be kept by public assistance committees or delegated to public health committees or be the subject of a declaration for the domiciliary treatment of all sick. Whilst this service was an integral part of any properly devised public medical service, the district medical officer had, necessarily, very extensive relations with relief and must work in close connection with the relieving officers. The admission of destitute persons would still come through district medical officers and relieving officers. In the case of a declaration, admissions cease to be poor-law admissions and there was no necessity to legalise them with any kind of order as at present. It would be useful still to send cases through a relieving officer who could make out an "admission record," which would be necessary for the public assistance committee in assessing the past five years' cost to be paid by the patient for medical treatment. A recommendation had been made.

assistance should be rendered by a whole-time member of the staff of the health department, but Dr. Veitch Clark was opposed to this as the time was not ripe for such a change. In time the district medical service would inevitably be linked up with the National Health Insurance Service, although it could not become part of that. One aspect of district medical work might be tackled, and that was to see to what extent the medical officer could be of use in research into the incidence and aetiology of incapacitating disease.

Dr. F. T. H. Wood thought there was now a very useful opportunity to get vaccination into closer touch with the public health service. A great deal of assistance might be rendered to vaccination officers by the health visitors who, he suggested, might deal with form "Q" at about three months. The vaccination officer would follow up with form "K," etc., those who were not vaccinated. There must be close collaboration of the district medical officers with the public health staff, and the vaccination officer might act on the recommendation of health visitors, school medical officers, etc. The only instance in which the medical officer of health was mentioned in the draft regulations was in connection with those officers, and it was laid down that the district medical officer shall furnish to the medical officer of health such information as the Ministry of Health or local authority shall direct with regard to sickness or death returns.

Dr. Mussen said he did not agree that the vaccination officer was the chief person instrumental in obtaining successful vaccinations, as much depended on the personality of the public vaccinator. The problem of the district medical officer was very difficult. In Liverpool everything would be transferred at first to the public assistance committee, and in time the functions would be sorted out and distributed to the committees that could best undertake them. He was doubtful whether the ordinary district medical officer could undertake much research work.

Dr. Stallybrass thought that a district medical officer should be able to call in the services of a nurse in cases requiring it. The institution of any whole-time service of district medical officers might cause trouble with general practitioners.

Dr. McClure considered that for rats should not be admitted through the services of the officers. Once a patient was and (d) the fly sheets could be furnished to Mr. Knott, assistance

officer, who would have staff to make necessary inquiries.

Dr. Spence mentioned the question of maintaining a dossier of all assistance rendered by a local authority, including provision of milk to necessitous mothers, etc.

Dr. G. G. Wray advocated an extension of the number of practitioners in an area who could act as public vaccinators, and thought that government lymph should be available for any doctor desiring it and fulfilling certain conditions (e.g., as were required for the supply of salvarsan). Similarly an increase in the number of district medical officers might provide better service.

Dr. Bennett, speaking as a public vaccinator of many years standing, said that they welcomed the transfer of their duties to health departments. If efficient vaccination were wanted, it must be done by men who specialised in it. He pointed out the difficulties of keeping accurate records, etc., in the event of any general supply of lymph to doctors. He hoped that if health visitors assisted the work of vaccination officers this would not in any way mean a diminution of the remuneration of the latter officer, who was poorly paid at present.

A vote of thanks, proposed by Dr. Wood and seconded by Dr. Mussen, was conveyed by the President to Dr. Veitch Clark, who, in his reply, said he would be interested to see how the relationship of the health visitor to vaccination developed. He thought it inadvisable for the health visitors to refer cases to the district medical officer, and they had no legal status for doing so.

It was announced that the next meeting of the Branch will be held in Manchester on April 4th, instead of April 11th, when a discussion on "The Hospital Services in Relation to Epidemics, e.g., measles, pneumonia, whooping cough, etc., under the Local Government Act, 1929," will be opened by Dr. N. Gebbie.

A special meeting of the Branch will follow, on the evening of April 4th, for consideration of the salary scale. The meeting will be addressed by Dr. G. F. Buchan, amongst others, and all junior members of the public health service, whether members of the Society or not, will be welcome.

A visit to the new Birkenhead Health Clinic will take place on Friday, May 9th, and not on April 11th as arranged in the programme of the session.

THE METROPOLITAN BRANCH.

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

A meeting of the Council of this Branch was held at the house of the Society on January 24th, 1930, the President occupying the chair. Eighteen members of the Branch Council were present.

The Hon. Secretary was instructed to convey to Sir Andrew Balfour, K.C.M.G., the hearty congratulations of the Branch on the honour recently conferred upon him.

Attention was drawn to a report made by Mr. Dawes, of the Ministry of Health, on refuse collection and disposal, which is now being considered by a Departmental Committee. There was a discussion upon the proposal advocated in the report in regard to the establishment of an executive central authority, and the Branch Council decided to ask the Metropolitan Boroughs' Standing Joint Committee to give this matter careful consideration.

A meeting of the Branch followed the Council meeting. Dr. Quin Lennane occupied the chair, and twenty-four other members were present.

Mr. Taylor, on behalf of the Vita Glass Marketing Board, gave a very interesting lecture and demonstration on the ability of "Vita" glass to transmit certain invisible ultra-violet rays present in the solar spectrum to which ordinary window glass is opaque. A hearty vote of thanks to Mr. Taylor, moved by Dr. Lennane and seconded by the Hon. Secretary, was unanimously accorded.

The Hon. Secretary read a communication from the National Safety First Association asking if the Branch would send a representative to a Conference in connection with National Safety Week, to be held in May. It was decided to ask the President to represent the Branch on this occasion.

A further meeting of the Branch Council was held at the house of the Society on February 14th, 1930. The President and twelve members of Council were present.

A letter from Sir Andrew Balfour, K.C.M.G.,

was read, thanking the members of the Branch for their letter of congratulation on his recent distinction.

The Hon. Secretary read a letter from the Joint Secretary of the Departmental Committee on London Cleansing, asking the Branch to send one or more representatives to give evidence before that Committee on methods of refuse collection in the London area. The Branch Council decided that the preparation of evidence could best be undertaken by a representative sub-committee, and appointed the President and Drs. Charles Porter, Keith, Thompson, Clark Trotter and Borland to serve thereon. The President and Dr. Charles Porter were asked to present the views of the Branch to the Departmental Committee.

The Hon. Secretary reported that he had received a communication from the Metropolitan Boroughs' Standing Joint Committee intimating that they would give the Dawes Report their consideration.

A letter from the West of England Branch was read, asking if this Branch would give support to the nomination of Dr. Ernest Ward for the Presidency of the Society in the ensuing year. In view of the fact that the Branch Council had already decided to support the nomination of Professor Harold Kerr, O.B.E., it was decided to take no action on the letter.

The Hon. Secretary submitted a letter from Dr. Maitland Radford, stating that a great number of visits paid by his nurses under the measles scheme seem to be wasted owing to the inaccurate information supplied by school nurses. The general feeling of the Branch Council was that the measles scheme was working satisfactorily, and they decided that no action was necessary.

BERWICK County Council have increased the salary of Dr. A. A. McWhan, C.M.O., to £900 per annum.

SURGEON-CAPT. SHELDON FRANCIS DUDLEY, O.B.E., M.D., B.S., D.P.H., D.T.M., has been awarded the Gold Medal and Prize of £100, given under the Scheme of the Chadwick Trust, to the Navy Medical Officer who, during the past five years, has specially assisted in promoting the health of the men of the Navy.

The Literature of Preventive Medicine.

DISEASE AND THE MAN. By GEORGE DRAPER, M.D., Associate Professor of Clinical Medicine, Columbia University. A volume in the Anglo-French Library of Medical and Biological Science. Edited by F. G. Crookshank, M.D., F.R.C.P., and René Cruchet, Professor in the University of Bordeaux. London: Kegan Paul, Trench, Trubner and Co., Ltd., 1930. pp. 270. Price, 12s. 6d. net.

Science demands accuracy, and accuracy together with records beget standards; and possibly standardisation has become almost a fetish. Things commercial have long been subjected to this procedure, and now man is to be divided into different types. In the book on *Disease and the Man*, there is an attempt to discuss those factors in the human constitution which determine the nature of the reaction of the individual to his environment. From the oriental custom of spreading a portrait across a Coromandel screen, the analogy is drawn that the four panels of man may be anatomical, physiological, immunological and psychological characters. And it is only by obtaining information concerning all the panels, and by putting the panels together, that a complete portrait of the individual is obtained.

It is suggested that patients suffering from the same disease often displayed close similarity among characters of one or more of the panels; and while it must not be presumed that the possession of a certain set of morphological or psychological characters causes the disease, yet the presence of these features has been an aid in diagnosis. The subject is worked out with great detail in the fields of heredity and of morphology, while the influence of sex is also discussed; the psychological panel is the theme of a lengthy chapter dealing with many cases of neurosis and with psycho-therapy.

The clinic for the presentation of constitutional type is described to demonstrate the relationship of constitution and disease; but it seems rather excessive to use such a heavy procedure in the attempt to see the man as a whole. Indeed, while the book usefully draws attention to the necessity for the physician to keep the complete individual in

view, there is just the tendency to over-estimate its importance. There may arise, after reading the book, a feeling of being bewildered, overwhelmed, and whirled into confusion by the rather vast and comprehensive stage-effect. Perhaps, as George Eliot put it: "If we had a keen vision and feeling of all ordinary human life, it would be like hearing the grass grow, or the squirrel's heart beat, and we should die of the roar which lies on the other side of silence."

THE A.B.C. OF FOOD. By S. HENNING BELFRAGE, M.D. London: Faber & Faber, 1929. pp. 63. Price 1s. 6d. net.

This is a little paper-covered book which has on the title page, in addition to the author's name, the words: "Health and the powers of mind and body are more dependent on the quality of the daily food than on anything else that money can buy." It follows the not uncommon plan of considering the human body as a machine and the food as fuel.

ON PRESCRIBING PHYSICAL TREATMENT. By MATTHEW B. RAY, D.S.O., M.D. (Edin.), Physician to the St. Marylebone General Dispensary, etc. London: William Heinemann (Medical Books), Ltd., 1929. pp. 179. Price 10s. 6d. net.

This book is written to assist the medical profession, and especially the busy practitioner, to prescribe in exact detail those forms of physical treatment which are generally undertaken by skilled non-medical attendants, but it also refers to the therapeutic indications for each form, and, although it is the object of the volume to be strictly practical, the anatomical and physiological principles on which the treatment is based are described.

The subject matter is dealt with under the following headings: (1) Surface thermal applications (hot-air baths, vapour baths, immersion baths, douches and sprays, with and without manipulations); (2) massage and manipulations; (3) electric currents; and (4) ultra-violet irradiations.

A chapter is devoted to heliotherapy and to the various forms of lamps used in artificial

actinotherapy. A description is given of the different wave-lengths employed, the dosage, the technique, and the therapeutic indications. In relation to heliotherapy, climatic factors are considered and attention is directed to its superiority over artificial irradiation, in that it is assisted by the beneficent action of the fresh air on the surface of the body.

To those for whom it is intended the book will be found extremely interesting and of great practical value.

In the Annual Reports.

EDUCATION OF THE EXPECTANT MOTHER.—The more the general physical condition of the community is studied, the more we try to probe into and to eradicate the causes which act as a drag on healthy adolescence, whether in the home, in the school, or in the factory, the further back we are driven in our search for a means to fight these root causes, until we are forced to the conclusion that it will not do to wait until the school age to commence investigation and treatment. The beginnings of defective eyesight, of defective teeth, of "mouth breathing," are to be sought for and counteracted in the infant. The "adenoid face" is reflected in the mother's bosom. It is not sufficient that the mother should breast-feed her baby. It is necessary that she should know the correct way to do it, and how she can keep herself fit to continue the process. This is education, and education means not elementary lectures on physiology, but "bringing out," as the word implies, what is latent in every expectant mother, the capability of rearing a healthy child on lines that nature, and not artifice, indicates. But if the expectant mother herself is physically handicapped, should she be allowed to run unguided into a danger which may cost two lives? And, in so far as this work fails to reach that section of potential motherhood which is either too poor, too timid to seek advice, thoughtless, improvident, involuntarily ignorant, or unconscious of impending difficulty, so far will it fail in its purpose.—*Dr. R. J. Maule Horne, Poole.*

SLUM DWELLING.—The essence of the slum problem is rent. So far as Ipswich is concerned, it is the exception to find in the slums, people who are in a position to pay the rent of a decent house; in other words, an economic rent as modern conditions go. The slum dweller lives in a slum because he can get a house within his rent capacity only in a slum. He is there from economic necessity, because his earning power is insufficient to find the rent of a decent house. Thus the slum population contains the lowest paid workers, that is to say, the unskilled labourers, and other people, widows and so on, subsisting on the most slender means, who must sacrifice house rent for food and clothes. These people are not now, and many are never likely to be, in such an economic position as to be able to afford the rent of a proper house. Therefore, the abolition of the slum carries with it the

solution of the problem as to what is to be done with people whose economic position is such that they cannot pay economic rents for the houses into which they go when their slum dwellings are demolished. The solution does not lie within the capacity of the slum dweller himself. It can be found only in two ways: (1) by raising the economic position of this group of people so as to render it possible for them to pay the rent of a decent house, or (2) by the letting to them of decent houses at a rental within their reach. This means part payment of their rent either by the State or the local authority or both in agreed proportions.—*Dr. A. M. N. Pringle, Ipswich.*

THE MEASUREMENT OF PROGRESS.—There is one outstanding difference between the work of the practitioner of curative medicine and that of the practitioner of preventive medicine. The results of the former are quickly to hand; successes may be mixed with failures, but the successes spell the preservation of a life, the saving of a limb, or the restoration of health to the stricken. In the latter field the results are further to seek; many seasons may have to wane before the results of community hygiene may be apparent; to the short memoried none will be apparent at all; many of the effects, for example, of the institution of a system of medical inspection of school children have slowly evolved; but the improvements effected in the general health of the school children have been there and have been great, although they cannot be measured by any mathematical standard. Certain advances, however, are measurable. Length of life is measurable, and when the average span of life of a community is extended, success to that extent may be claimed by communal hygiene (of all sorts), including preventive medicine. Death rates are facts, and when the number dying per thousand is found to diminish, success again can reasonably be claimed.—*Dr. E. H. Snell, Coventry.*

SASH-LINES.—A frequently recurring trouble in connection with tenement houses is the broken sash-line. In this connection representations have been put forward that the substitution of chain lines in place of cord lines for sashes would be an advantage. As a result of enquiries made in the matter, it would seem that the general opinion of builders is in favour of the retention of cord lines, except perhaps for very heavy windows. The objections raised to the chains are (i) the cost—several times that of cord, without a correspondingly greater length of life, (ii) oxidation of metal chains, especially if not kept oiled, (iii) noise, and (iv) the necessity for special pulleys. The usual causes of short life in a sash cord are (i) poor quality cord, (ii) pulley not running freely or defective and cutting cord, (iii) nail fixing bead projecting into the frame and cutting cord. If good quality cord is used, pulleys kept in good order and heads fitted with screws instead of nails, sash-lines should give a minimum of trouble. It has been found wise to advise owners of tenement houses to renew both sash-cords when one breaks and perhaps even all four cords to the window. One builder, who has a contract in the borough to maintain windows and sash-cords in a number of boarding houses, states that he always substitutes cords for broken chains.—*Dr. C. W. Hunt, Holborn.*

Correspondence.

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

PIONEERS IN INFANT WELFARE.

To the Editor of PUBLIC HEALTH.

SIR,—In your February issue, Dr. Pooler deals with early phases of infant welfare work in this country, and I should like to supplement his remarks by adding information of the early efforts in the Royal Borough of Kensington.

In December, 1904, the late Dr. T. Orme Dudfield, the Medical Officer of Health and a Past-President of our Society, submitted the following recommendation to the Borough Council:—

"That in view of the high infantile mortality rate, it is desirable to appoint a properly qualified woman to act in the capacity of health visitor, and also to circulate leaflets for the guidance of mothers with regard to feeding, clothing, etc., of young children and the management of the home."

In March, 1905, the council appointed their first health visitor. It should be mentioned here that this council were the first to employ women sanitary inspectors, the pioneer inspectors being Miss Deane and Miss Squire, who commenced work in the borough in 1893.

On March 22nd, 1905, the then Mayor of Kensington (Mr. Percy Gates) presided at a meeting held at the Kensington Town Hall, at which a Kensington Health Society was founded for the purpose of securing the services of qualified ladies to undertake practical health work with a view to reducing the infantile mortality and the spread of consumption.

In those early days, the Society decided to organise lectures on health matters, to distribute health propaganda leaflets and to arrange for home visiting of mothers and children. The lectures were commenced in 1905, and during the year voluntary workers commenced home visiting in conjunction with the borough council health visitors.

In May, 1907, some ladies secured a room from which they began to supply dinners to nursing mothers. At the end of the year, over four thousand dinners had been provided.

In 1907, the Health Society instituted infant consultations, and the first of these was held on November 28th, 1907, by Dr. Ronald Carter at No. 215, Walmer Road, Notting Hill. At these consultations, babies were

weighed and submitted to a thorough medical examination. The voluntary visitors to homes attended the consultations in order to be in a position to follow up with advantage many of the cases which required special supervision.

Thus, the first infant welfare centre was established in Kensington in November, 1907, although infant welfare work had commenced in March, 1905, when the council's first health visitor commenced duty.

I am,

Yours faithfully,

JAMES FENTON,

Medical Officer of Health.

Town Hall,
Kensington, W.8.
March 11th, 1930.

THE late Dr. T. F. Dewar, C.B., of the Department of Health for Scotland, left personal estate in Great Britain to the value of £9,450.

HACKNEY Borough Council have increased the salary of Dr. G. H. Dart, M.O.H., from £1,450 to £1,600, rising by two annual increments of £50 to a maximum of £1,700.

THE Royal Sanitary Institute announces the holding of the following sessional meetings:—Chatham (April 11th and 12th): "Administrative Control of Infectious Disease" (discussion to be opened by Dr. W. A. Muir); "Modern Elementary School Construction" (Mr. R. L. Honey, F.S.I.); "Special Difficulties in Housing" (Mr. T. Topping, F.S.I.A.); Chairman: Mr. Edward Willis, M.INST.C.E. Tunbridge Wells (May 2nd and 3rd): "The Maternity Home as a Health Asset" (Dr. F. Churchill Linton); "Can the Slum Problem be Abolished?" (Mr. H. T. Taylor, M.S.I.A.); Chairman: Mr. Edward Willis. Blackburn (May 30th and 31st): "Reorganisation of Poor Law Hospitals under the Local Government Act" (Dr. J. J. Buchan); "Need for further Legal Powers with respect to Ice Cream" (Dr. V. T. Thierens); "Provision and Maintenance of Dustbins" (Mr. H. M. Webb, A.M.INST.C.E.); Chairman: Professor Harold Kerr, O.B.E. Full particulars relating to each meeting can be obtained of the Secretary of the Institute, 90, Buckingham Palace Road, London, S.W.1.

PUBLIC HEALTH

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Editorial.

The Housing (No. 2) Bill.

IT is generally conceded that, although the need for new houses is still far from being met, the time has arrived to concentrate upon the problem of the slum. In 1922, the Government of the day sought to induce local authorities to speed up slum clearance and re-housing by offering to pay 50 per cent. of the loss on such schemes. Comparatively little advantage has been taken of the offer. For this, and other reasons, and although housing law was consolidated so recently as 1925, a new Bill—the Housing (No. 2) Bill—has been introduced and passed its second reading in the House of Commons on April 7th. It consists of fifty-six clauses and five schedules, covering in all, fifty-five pages, and is more than half the size

of the Housing Act, 1925, which it amends, extends and partially revokes. No fewer than fifty sections of the latter are completely, and three partially repealed, and three whole schedules go by the board. It is, therefore, a Bill which must be taken seriously and should be carefully studied by every officer concerned with housing. The proposal which has evoked most interest and discussion is the introduction of a new basis for grants, depending upon the number of persons rehoused. The grant will normally be 45s. per person rehoused, but this will be increased to 50s. in the case of agricultural parishes, and 70s. in large towns if it is necessary to erect tenements of more than three storeys in height for this purpose. The Government appear to be aiming at a differential rent for houses occupied by former slum-

dwellers. It is doubtful whether special consideration for such people is workable in view of the very great amount of unemployment and poverty among the occupants of the houses which the authorities have already provided under less favourable conditions as to grant and therefore rental. Mr. E. D. Simon's well-known scheme of family allowances, which he put forward again in the debate on April 7th, deserves careful consideration, and appears to be receiving it from the Minister, but, as Dr. Killick Millard has pointed out, the problem it is intended to solve is just as urgent in existing estates as in any new rehousing schemes. It is also proposed to facilitate the building of smaller and less costly houses for elderly couples, a sound proposition if reservation for this purpose can be ensured.

These matters, however, may well be left to others, certain proposed alterations of the law which have received little publicity, but which may affect the work of health departments fundamentally, being of more immediate concern. The repair and closure sections of the Act of 1925 will go, and with the former the descriptive phrase "in all respects reasonably fit for human habitation" which, since it first appeared in 1909, has come to be recognised as the measure of a health department's case for demanding repair, as distinct from closure. The corresponding condition is now expressed by the words "in any respect unfit for human habitation, but . . . capable at a reasonable expense of being rendered fit for human habitation." A definite financial line of demarcation is therefore introduced to distinguish such a house from one which ought to be closed, and which is now described as "unfit for human habitation" but "not capable at a reasonable expense of being rendered so fit." In this connection gratification may be expressed at the disappearance of the words "so dangerous or injurious to health" as a qualification of the condition of fitness. The departments and the courts had come to a fairly stable understanding as to the respective meanings of "unfitness" and "not reasonable fitness," and there may be some difficulty in establishing a *modus operandi* under the new phraseology. Moreover, it is conceivable that a house might require closure for repairs or alterations which, though they cannot be carried out while it is occupied, are yet capable of being done without unreasonable expense. In such a case difficulties might arise if the situation is altered as proposed. A provision that calls perhaps for more serious

consideration by health authorities and their officers is that involving the return to the old practice of appeal to a court—in this Bill the county court—instead of to the Ministry. This is in accord with the general policy which the Ministry are at present pursuing, partly no doubt, because of the agitation by members of the legal profession, and partly because the Minister finds himself and his department unable to cope with the volume of appeals with which they are inundated. To any who have had experience of both systems this reversion to the older method cannot but be regarded with misgiving and as a retrograde step.

Interesting innovations are to be found in clauses 1 and 5, which introduce the terms "clearance area" and "improvement area" to describe parts of a district which, in the one case, require to be cleared of all buildings, and, in the other, permit of improvement by demolishing or repairing some houses, clearing congested parts and generally abating overcrowding. In this connection the term "overcrowding" requires some explanation, as its use in Clause 6 (1) (iii), in relation to the making of bye-laws, suggests that congestion *within*, rather than *of*, houses is meant.

Local authorities are to submit a housing programme in 1930 and every five years thereafter, so that the health departments will require to get down to business if this Bill passes. Perhaps more mature consideration may convince that doubts on some of the points raised are unfounded. It is open to claim, however, as has been claimed so often already in other cases, that before drafting the Bill the Ministry might well have consulted bodies such as the Society of Medical Officers of Health, which represent those who really have to work the most important parts of the law relating to unfit houses and slum areas, and have very definite views on such subjects as, for example, the advisability of adopting reconditioning of slum property as a national policy. The Municipal Corporations Association and other similar organisations, it is understood, have been consulted, but not unnaturally these bodies have concentrated upon the financial provisions, believing that the advice and opinion of those with actual knowledge and practical experience of slums and houses and housing and the difficulties associated therewith had been taken. So far as the Society, at any rate, is concerned, this belief, unfortunately it may be feared, is erroneous.

The Diphtheria Carrier Clinic.

IN July, 1926, a clinic was formed at Guy's Hospital for the investigation and treatment of school children carrying diphtheria bacilli; and last year (1929) a most useful report was issued* dealing with the results of this work. It was hoped that the outcome of curing school carriers would be a considerable reduction in the incidence of the disease in elementary schools; but the problem is beset with many difficulties.

It was found that an out-patient clinic is not the ideal procedure for investigating the carrier problem; bed accommodation is essential for thorough expert treatment. The constant and efficient detection of all school-age carriers is cumbersome; and the advantages to be gained by eliminating these carriers would probably be few, as susceptible children would still be in contact with diphtheria and with carriers other than those of school age. The alternative method, Schick-testing and immunisation, is simpler and cheaper; and the authors of this interesting report maintain that it would probably eliminate diphtheria from the London County Council schools. Meanwhile, the out-patient clinic is a valuable station for children found to have positive swabs, and for the investigation of the virulence of suspicious organisms.

* * * * *

The Teaching of Preventive Medicine.

ALTHOUGH the Society of Medical Officers of Health numbers among its members the majority of the teachers of preventive medicine in this country, it has, so far, taken no active part in the numerous discussions on the education of the medical undergraduate. A few months ago, however, the Council appointed a strong and representative Committee to consider the whole question of the teaching of preventive medicine to medical students, and this Committee has now produced an admirable report, which, it may be hoped, will prove of great assistance to all those concerned with medical education. The report, which is set out in full elsewhere in this issue, should carry

* Report on the Diphtheria Carrier Clinic, Guy's Hospital, London. (By L. W. Cann, M.B., Assistant Bacteriologist, Guy's Hospital, and R. J. Cann, M.B., Chief Clinical Assistant and Registrar, Throat Department, Guy's Hospital). Reprinted from Guy's Hospital Reports, July, 1929.

additional weight, inasmuch as it has been adopted unanimously by a meeting of teachers of preventive medicine called by the Council of the Society on March 25th.

Of recent years, problems of medical education have caused great concern to medical schools all over the world, and not the least pressing of these problems is how best to introduce ideas of prevention into the ordinary curriculum. Interesting experiments have been tried in the United States particularly, and signs are not lacking that many of the continental schools also are giving serious attention to this matter. This country, being naturally slow to move, has done very little. In Scotland, where great importance has always been attached to systematic teaching, medical schools have made reasonable provision, at all events so far as *ad hoc* courses of instruction are concerned, for the training of their students. In the English provincial schools the situation, though not so good as in Scotland, is fairly satisfactory. In London, however, it is safe to say that the teaching of preventive medicine is in a far from healthy condition. This very largely is due to the fact that London schools provide and quite naturally, just the sort of instruction demanded in the examinations for which their students normally enter. The report of the Committee directs attention to the requirements of the various examining bodies and shows that in at any rate two of the examinations favoured especially by London students, questions on preventive medicine are conspicuous by their absence.

The Committee's recommendations in brief are that a minimum of twenty-four lectures should be given in each medical school by the special lecturer on preventive medicine; that these lectures should be given not earlier than the penultimate year of medical study; and that no student should be allowed to obtain a registrable medical qualification unless he has sat and passed an adequate separate examination in preventive medicine. It is significant that the Committee state definitely that they are of opinion that an *ad hoc* course of instruction in preventive medicine, even if based on the model syllabus outlined in the report, is quite insufficient to meet modern requirements so far as a knowledge of preventive work is concerned. The suggestion definitely made is that the responsible authorities in each medical school should get together and see in what way each teacher can lay proper emphasis on the preventive aspects of his own particular subject. Until some such step is taken it is idle to

imagine that the medical student can obtain the sort of training he will find he needs when he enters upon the practice of his profession. The fact of the matter is that the training given in our medical schools has been built up, in the main, by separate specialists each with an obsession that the securing of a qualification will end the period of studentship and struggling to obtain as much prominence as possible for his own subject. Additional courses of instruction have been added to an already overburdened curriculum and no attempt has been made to omit many things that the average student may very well be left to acquire for himself once he has been taught the use of the tools of his trade. A great opportunity awaits the medical school sufficiently courageous and progressive to break with tradition and to re-model its whole curriculum upon completely new lines. This can be done only with the goodwill and co-operation of all members of the teaching staff. The report of the Committee does not, however, touch upon such speculative subjects as these. Even to those who may be inclined to belittle the preventive side of medicine it must appear reasonable in its statements and its recommendations. It impresses because it conveys the obvious desire of the Committee to secure the help of their colleagues in the medical schools in the solution of what has become one of the main problems of medical education.

If the best type of recruit for the public health service is to be secured, and the Service needs none but the best, and if medical practitioners are to realise that the practice of their profession brings with it communal responsibilities that are only too apt to be ignored at the present time, the way lies through an improved and more enlightened system of medical education. To that way this report is a reliable guide.

* * * * *

A Newark (U.S.A.) Health Report.

THE Department of Health of Newark, New Jersey, is indeed a live and vigorous organisation; and the record for 1928 makes good reading. A feature of the report is the section dealing with the medical examination of food handlers, and Dr. Charles V. Craster, the Health Officer, is to be congratulated on the thoroughness of this work; it should go far towards abolishing the tragedies of carriers like "Typhoid Tony," a man "who had to

his credit 35 cases of typhoid fever and 3 deaths in the City of Newark, and 72 cases and 3 deaths in the State of New Jersey, before he was finally rounded up and segregated." There is abundant evidence of the value of the examination of food handlers, which will remain an integral part of public health work.

In the year under review, there was a high prevalence of diphtheria and of measles; and the report illustrates at some length the need for immunisation in preventing diphtheria. The type of disease was severe, and although the physicians acted promptly in giving anti-toxin, the cases were all too frequent in which no doctor was called until the symptoms had become urgent. No deaths occurred in immunised children, and the report states that "the main lesson to be drawn from this useless slaughter of children's lives is the absolute necessity of having children immunised against diphtheria at the earliest possible moment after the first six months have passed."

* * * * *

Family Council Law in Europe.

THE problem of dealing with the weak-willed, irresponsible, temperamentally unstable individuals on the borderline of certification makes an anxious and difficult task; and as the family council has no equivalent in this country, a study was undertaken by the Eugenics Society among the different continental nations.* There the laws dealing with the guardianship of minors and weak-willed persons are embodied in three systems; the oldest is the family council, then came the "conseil judiciaire" (an institution similar to that of the trustee of England) and the more modern methods of the German and Scandinavian nations, whereby, instead of the responsibility of placing a person under guardianship resting with one or more members of a family or upon the certificated opinions of medical men, the State assumes responsibility and arranges for the care of the patient.

The detailed accounts include the provisions in the various countries, together with a most useful tabulated summary of family council law and of the methods of dealing with cases of dipsomania, prodigality, and border-line

* London: The Eugenics Society, 20, Grosvenor Gardens, S.W.1. pp. 86. Price 3s. 6d.

patients. In this country, also, it would seem that there is need for some satisfactory guardianship for those unstable or weak-willed individuals who by certain continuous behaviour are a menace to their own happiness and the comfort of their family. Legal enactments require frequent adjustments, alterations or additions, lest haply they defeat their own ends by archaic stagnation.

In addition to the legal side, there is the eugenic aspect. In regard to this it is hoped that this enquiry may prove of direct value, particularly, as the Chairman of the Committee, Mr. C. J. Bond, C.M.G., F.R.C.S., points out, in "cases in the well-to-do classes, in which, owing to the family substance having been dissipated in one generation, the next finds itself seriously handicapped for parenthood, although in other directions the natural endowment of its members may be well worth preserving."

* * * * *

Post-Operative Tetanus.

THIS interesting yet extremely practical and important report* is a corollary to Professor Mackie's *Inquiry into Post-operative Tetanus*, published by the Scottish Board of Health in 1928. The original report was based on an investigation into a series of eleven post-operative cases of tetanus; and it was shown that the evidence pointed to surgical catgut as the source of infection, the various methods of preparing sterilised surgical catgut being unreliable. Professor Mackie devised a procedure for eliminating the most resistant spores and showed the absolute necessity of applying standard methods in the sterilisation of catgut, and a standard technique of preparation, which can be checked by bacteriological tests of the products.

The present report considers the various factors favouring the proliferation of the tetanus bacillus in the body; it is seen that the spores may be ineffective in healthy tissues and that some adjuvant agent is generally required to promote the development of the

* Certain Factors that Promote the Development of the Tetanus Bacillus in the Tissues, with Special Reference to Post-operative Tetanus—An Experimental Inquiry. By T. J. Mackie, M.D., D.P.H., D. G. S. McLachlan, M.B., and E. J. M. Anderson, B.Sc. (From the Bacteriology Department, Edinburgh University). A Report to the Department of Health for Scotland. H.M. Stationery Office, 1929. pp. 31. Price 2s. net.

vegetative forms of the organism with resulting disease. The experiments show the extreme danger of using surgical catgut which is not sterile, especially in certain abdominal and gynaecological operations; for the work reveals various factors such as the presence of intestinal organisms, of sepsis, of cold, etc., which favour the development of the tetanus bacillus. It is probable that a combination of these factors exerts the maximum influence.

The valuable work of Professor Mackie and his collaborators has rendered possible the inclusion of sterilised surgical catgut in the schedule of the Therapeutic Substances Act, which should result in the prevention of these unfortunate cases of post-operative tetanus.

* * * * *

The Medical Superintendents' Society.

THE Annual Dinner of the Medical Superintendents' Society took place at the Holborn Restaurant, London, on March 28th, 1930, under the chairmanship of Dr. E. W. G. Masterman, President of the Society. Amongst the ninety-three members and guests present were Dr. Barrie Lambert, Chairman of the Central Health Committee, London County Council; Drs. Daly, Brander and Brincker, Principal Medical Officers, London County Council; Miss Brannon, Principal Matron, London County Council, Miss Wamsley, Inspector, Ministry of Health; and Dr. J. J. Buchan, President of the Society of Medical Officers of Health. Dr. F. N. Kay Menzies, Medical Officer of Health of the County of London, was unavoidably unable to be present.

Dr. Daly in proposing the toast of the Society, recalled some of the past history of the Society, which was formed in 1887, and Dr. Masterman, who replied, pointed out that the name of the Society had been changed from Infirmary Medical Superintendents' Society so as to enlarge its membership, which now embraces medical superintendents of all public hospitals and of voluntary hospitals, and whole-time medical officers in responsible charge of patients in public hospitals or institutions for the sick.

Dr. Barrie Lambert, in reply to the toast of the guests, emphasised the enormous work the London County Council had undertaken and stressed the need for co-operation between the County Council and the medical superintendents; while Dr. J. J. Buchan referred to the necessity for co-ordination between the curative and preventive branches of medicine.

The Slum Problem and Housing Procedure.

By C. KILLICK MILLARD, M.D., C.M., D.Sc., Medical Officer of Health, Leicester; A. J. SHINNIE, M.D., CH.B., D.P.H., Medical Officer of Health, Westminster; and V. T. THIERENS, M.B., CH.B., D.P.H., Medical Officer of Health, Blackburn.

Since the matter of slum clearance is so prominently before Parliament and the country at the moment, there is a distinct appropriateness in these three papers, submitted at an ordinary meeting of the Society held in London on February 21st, 1930, by members of the public health service who have given real, serious and practical consideration to the problem and have views on the method of its solution.

DR. KILLICK MILLARD.

DIFFERENTIAL RENTING AS A REMEDY FOR OVERCROWDING DUE TO LARGE FAMILIES.

I THINK that most medical officers of health will agree that the slum problem is essentially a child life problem. If there were no children in the slums, the slum problem would be of only secondary importance.

Not much is gained, from the public health point of view, by "rooting out" old people, who have lived all their lives in the slums, and endeavouring to transplant them into model dwellings at a distance from their accustomed haunts. Indeed, the forcing out of old couples from condemned houses, in which they have probably lived for years, often entails very real hardship.

But with children the case is entirely different. They have everything to gain and nothing to lose by being moved from a bad into a good environment, and the claims of the children—especially where there are large families living in tiny houses, or parts of houses—ought to be kept in the forefront in all efforts to deal with the slum problem.

One of the worst aspects of the slum problem is the overcrowding that exists in the slums, as testified to in the reports of medical officers of health from all parts of the country. This overcrowding is largely due to the large families which still obtain amongst so many of those who constitute the population of the slums.

It is a most unfortunate biological fact that there is a definite correlation between poverty and fecundity. The two factors work in a vicious circle. Poverty seems to favour fecundity, and fecundity is certainly a cause of poverty. Obviously, with a given wage, the larger the number of mouths to be fed the smaller the margin available for rent, to be

short of food is a greater evil than to be overcrowded. This fundamental fact is at the bottom of the problem of overcrowding in the slums, and it is useless to ignore it.

Medical officers of health as a class realise better than anyone else the evils of overcrowding. In my own experience I have found as many as twelve persons—father, mother and ten children, the eldest being adult boys and girls—all sleeping in two beds in one tiny bedroom. The father and mother had gone into this little two-roomed house in their early married days when they had only one child, and with the advent of each addition to their family their chance of getting into a larger and better house by their own efforts became smaller and smaller. They fell into arrears with their rent, and what landlord wants a couple with a big family and without a clear rent book!

I have no doubt that most medical officers of health have had similar experience. I have tried repeatedly to get council houses for overcrowded families in the slums, but the usual reply is that their financial position is not strong enough to enable them to afford the rent of a council house, which varies from about 12s. to 14s., including rates.

The Housing Act, 1924, stipulated that, in the allocation of municipal houses, preference should be given to large families. But in practice the large families are all too often disqualified, as has been said, on economic grounds. The result is that to-day municipal houses are largely being occupied by a comparatively well-to-do class with small families.

On the largest and latest municipal building estate in Leicester, 1,200 acres in extent, with some 1,730 houses already erected (and another 250 probably being erected this year), I took a random sample of over 200 houses and found that the number of children per

house was only 1.5. It is hoped, of course, that the number of children will increase, but judging by the thrifty and superior character of most of the tenants it is highly improbable that many of them will go in for large families.

It is true that on our earlier municipal housing estates the number of children is somewhat greater. But I am inclined to think it was because it was found that the people with large families did not make the most satisfactory tenants that the original policy was modified.

Now if this experience is endorsed by that of other towns the question necessarily arises: Are we getting the greatest possible advantage from our municipal houses from the point of view of relieving overcrowding? I do not think that we are, and the one fundamental obstacle is the inability of the low-wage earners with large dependent families to afford the rents charged for our municipal houses.

What then is the remedy? It is quite unnecessary to further reduce the rents of municipal houses *all round*. This would only mean further subsidising many municipal tenants who really do not need subsidising at all. The burden on the community for housing is already so heavy that we ought to be quite sure that any additions to this burden will really yield value for money.

The only satisfactory solution that I can see is in some system of differential renting, so devised as to give a preference to the man with a large family. In other words, to offer a rebate off the rent based on the number of dependent children.

A scheme of this kind has been recommended in the Report of a Special Committee of the National Housing and Town Planning Council (of which Mr. E. D. Simon, M.P., was Chairman) and published as a brochure under the title of "A Policy for the Slums." This excellent report should be studied by all. The scheme there advocated is that a rebate of 3s. off the rent should be given where there are three children, and 1s. for each additional child (up to a maximum). In order to reduce the cost of the scheme it is proposed to have an income limit. This income limit would, I fear, raise considerable difficulty in practice, as a man's income is an uncertain factor.

Sir Theodore Chambers, at Welwyn Garden City, has devised a different scheme. At Welwyn they began by putting up the "appropriate normal" rent by 9d. per week. They

also placed a tax of 1s. per week on all lodgers where these were allowed. This enables them to allow a rebate of 6d. per week for each child below school-leaving age, the scheme on this basis, it is claimed, being virtually self-supporting and adding practically nothing to the cost of the housing scheme. There is no income limit and the scheme is open to any bona fide working-class family employed in Welwyn.

The writer has visited Welwyn and inquired into the working of the scheme on the spot. It has been in operation for four years and applies to over 400 houses. The differential renting adds somewhat, of course, to the work of administration, but it has been quite successful and there appears to be no thought of abandoning it.

The principle of the Welwyn scheme is excellent, but it is open to one obvious criticism, *viz.*, that the amount of the rebate per child is inadequate. Allowing for the initial increment, the rebate on a family of, say, four children, is only 2s. less 9d., or 1s. 3d. nett, *i.e.*, about 4d. nett per child. It has to be remembered that in addition to the increase of rent when a slum family moves into a municipal house, there is usually an increase in transport charges (bus and tram fares) owing to the increased distance from place of work. It appeared to the writer that something approaching a net rebate of 1s. per child was necessary, and he therefore set to work to evolve a scheme which, whilst affording substantial relief to the family with dependent children, would not add materially to the present cost of providing municipal houses.

Details of Scheme of Differential Renting.

It is well known that although children in working-class families are a serious liability while they are dependent, they become a valuable asset after they leave school and go to work, so long as they continue to live at home. A couple with, say, six children, may be below the poverty line whilst the children are young—eight mouths to feed and only one wage-earner—but when two or three of the children are at work and still living at home the family becomes comparatively well-off. This is especially the case in industrial districts where young people can get employment sufficiently near their homes to enable them to go on living with their parents.

The details of the writer's scheme are as follows, though the exact figures can, of course, be modified as thought desirable.

1. Begin by increasing the "appropriate normal rent" by 1s. 6d. This is referred to as the "initial increment." It is done once for all and would soon be forgotten. The increased rent becomes the "standard rent."

2. Grant a rebate off the standard rent of 1s. 6d. for each of the first three children, and of 1s. for each child after the first three up to a maximum of six children in the case of an A3 (non-parlour) house, or of eight children in the case of a B3 (parlour type) house.

3. This rebate to cease automatically as each child leaves school. (This date could easily be ascertained by returns furnished periodically by the education authority.)

4. As soon as a child obtained work, a "child lodger tax" of 1s. per week to be imposed (up to a maximum of 3s. above the standard rent). It might be simpler if this were automatically imposed after the lapse of a certain time from leaving school, say, after six months. Discretionary power to rest with the committee to remit this in cases where they are satisfied that a child was below normal working capacity, or to defer it in cases where a child failed to obtain work.

5. In cases where the taking in of lodgers is sanctioned, a "lodger tax" of 1s. 6d. per adult lodger to be imposed. This could be remitted in special cases, e.g., old people or invalids who were not wage earners.

It is easy to work out a scheme on these lines and apply it to hypothetical families of different sizes and different ages in order to gauge how it would work out in practice.

An example is appended of a couple who become tenants of an A3 house (the appropriate normal rent of which is 11s.) when they first get married and who have six children, one every two years. They begin by paying 12s. 6d. The rent falls to 5s. when there are six children all dependent, rises to 15s. 6d. when three of the children are living at home and going to work, and falls again to 13s. 6d. when all the children but one have married and left home.

The rent to be paid over the whole married life would average in such a case 10s. 11d., or practically the same as the appropriate normal rent with which we started. Under the scheme very substantial relief would be granted during the difficult years when the children were young and earning nothing.

It may, of course, be argued that not all families after they had received the benefit of

A3 HOUSE. APPROPRIATE NORMAL RENT, 11s. FAMILY OF SIX CHILDREN.

1	2	3	4	5	6	7	8
Year of Marriage.	Children.			Rental.			
	Total at Home.	Not at Work.	At Work.	Abatement.	Tax.	Nett Rent.	
				s. d.	s. d.	s. d.	
1	—	—	—	—	—	12 6	
2	1	1	—	1 6	—	11 0	1st child born.
3 & 4 ..	2	2	—	3 0	—	9 0	2nd " "
5 & 6 ..	3	3	—	4 6	—	8 0	3rd " "
7 & 8 ..	4	4	—	5 6	—	7 0	4th " "
9 & 10 ..	5	5	—	6 6	—	6 0	5th " "
11 & 12 ..	6	6	—	7 6	—	5 0	6th " "
13 & 14 ..	6	6	—	7 6	—	5 0	
15 & 16 ..	6	5	1	6 6	1 0	7 0	1st child at work.
17 & 18 ..	6	4	2	5 6	2 0	9 0	2nd " "
19 & 20 ..	6	3	3	4 6	3 0	11 0	3rd " "
21 & 22 ..	6	2	4	3 0	4 0	13 6	4th " "
23 & 24 ..	6	1	5	1 6	4 6	15 6	5th " "
25 & 26 ..	5	—	5	—	3 0	15 6	6th child at work and 1st child gets married.
27 & 28 ..	4	—	4	—	3 0	15 6	2nd " "
29 & 30 ..	3	—	3	—	3 0	15 6	3rd " "
31 & 32 ..	2	—	2	—	2 0	14 6	4th " "
33 & 34 ..	1	—	1	—	1 0	13 6	5th " "
35 & 36 ..	1	—	1	—	1 0	13 6	6th child does not marry.
				Average ..	..	10 11	

the rebates whilst the children were dependent would remain to pay the enhanced rent when children were older and became liable to the lodger tax. I believe that the children would themselves veto this. Young people when they approach marriageable age become rather sensitive of the kind of house in which they live. They like to have a decent home to which they can invite their friends. Few families, I believe, after they had enjoyed the benefit of a good municipal house, with all its amenities, would wish to return to the slums for the sake of escaping a few shillings increase on the rent, for they would still be getting good value for their money.

Doubtless, for various reasons, some families would leave, but any loss due to this cause would be much more than compensated by the fact that additional municipal houses would thus become available for the relief of further families, so that fewer new houses would need to be built.

It must never be forgotten that under the present flat-rate system of renting, everyone who is fortunate enough to secure a municipal house is being subsidised to the extent of, say, 5s. per week, or thereabout. And this subsidy is not for a few years only, whilst their children are young and the family may need some relief, *but for all time*, so long as they live and like to go on enjoying the subsidy. Their children grow up, their circumstances improve, they may own a motor car or keep a servant, but they still continue to enjoy the subsidy, whilst other less fortunate families with many children continue to live under intolerable conditions of overcrowding in the slums. The present system is clearly wrong.

Another objection which may be urged is that the scheme is too complicated to be practicable. Judging by the Welwyn experience, I believe that the difficulties would not really be very great. No doubt the staff of rent collectors might need to be increased to some extent. But beyond that there should be no other increase in administration expenses. Most of the rent adjustments, being based upon the number of children—easily ascertainable—would be made by the rent collector as a matter of routine. Only occasionally would special cases need to be referred to the committee.

Two other criticisms have been levelled at the scheme: one, that it is too generous, and would entail too heavy a burden on the com-

munity; the other that it is not generous enough, and that it would be cruel to impose the suggested child lodger tax.

It is quite possible by modifying the suggested figures to make the scheme more or less generous as desired, but one or two considerations should be borne in mind.

1. It is false economy from the national point of view to rear our children in the slums. It is worth paying something, even though it be a substantial amount, to get the children out of the slums.

2. The proposed scheme would "deliver the goods," *i.e.*, it would definitely make it possible for low wage earners with large families to pay the rent of municipal houses. Only so far as it succeeded in this would the scheme cost anything.

3. The present system of flat renting is costing the nation many millions, but is not achieving its object. To a large and increasing extent the people who are occupying municipal houses could very well be catered for to-day by private enterprise.

DR. SHINNIE.

The housing problem is fundamentally an economic one, as Dr. Killick Millard points out, and I shall endeavour to bring to your notice some of the difficulties with which we are faced in a central metropolitan area.

Housing slowed down very much before the War, and, of course, there was a total arrest of operations in that direction during the War. Then followed the feverish activity all over the country when the Addison Act came into force. A survey was carried out in my own area and a large conversion scheme put forward to the Ministry of Health, who rejected it.

In Westminster we have been subjected to a good deal of criticism—much of it unfair—at the hands of the press and platform speakers. As a matter of fact, while there are isolated groups of slum houses there are no slum areas in the city.

As regards working-class accommodation there are three types: (1) old cottage property; (2) larger houses; and (3) industrial dwellings. In the last-named type of accommodation there has probably been in Westminster a greater development than in any other metropolitan area, over seventy blocks housing some 30,000 people.

The problem of overcrowding is associated with illegal occupation of basement dwellings;

decay and general dilapidation, and insanitary conditions. These matters are dealt with under the Public Health (London) Act, 1891, and, generally speaking, its powers have proved to be adequate. Overcrowding exists both from the point of view of the By-laws and in the social sense, and is fairly extensive throughout the poorer parts of the city. The question of the illegal occupation of basements presents some curious features in a riverside area such as Westminster, where, owing to the sloping character of the land, quite a number of rooms, though at basement level in front, are at ground or even first floor level at the rear. This point alone has formed the basis of misleading statements in the press and elsewhere. The problem of overcrowding is further accentuated by the steady decrease in the number of dwellings. A few years ago a number of overcrowding cases were taken to court but were lost, the magistrate holding the view that in the absence of means of re-housing no good could come of proceedings instituted by the local authority.

To return to the 1919 period; it was said that the solution of the housing problem in the city did not rest with Westminster but with the suburban estates. The county council estates, however, ruled out a large number of people, and many of those who are accommodated in that way are sacrificing something in order to pay the rent. There is a section of the population who, owing to the nature of their employment in Westminster, are almost compelled to live near by, and to whom the suburban estates make no appeal. This applies even to those who may be able to afford the rent and the necessary train fares, etc.

To meet this and other demands, a number of housing schemes have been carried out in the city, while further schemes involving the building of a thousand flats are contemplated, despite the great expense of land and buildings. The lowest figure in Westminster is £2 per square foot, as compared with something like 2s. per square foot in some country districts.

In the case of the Millbank Improvement Scheme, one of the largest of its kind, providing for over 600 flats, the owner of the land and the city council together prepared a private bill which received the sanction of Parliament and cost no more than if proceedings had been taken under the new housing law. The scheme cost £773,000, the value of the

land representing £310,000. Even where land is free there is still a deficiency, and a flat costs about £700. Where land is bought or leased, the figure rises to nearly a £1,000 per flat, while in Soho a flat would cost approximately £2,000, or £750 for land alone.

DR. THIERENS.

Housing is a many-sided problem, presenting such a wide range of difficulties in the different parts of England, that I will confine myself to the problem as it is presented in Blackburn, a moderately large sized county borough with no well-defined slum areas in it. I do not profess that Blackburn possesses no insanitary dwellings; insanitary dwellings there are, as in all other towns, and these are being dealt with. Again, there are many occupied dwellings which only just satisfy the essentials of habitable fitness, dwellings old and semi-decayed, the majority of which have been scheduled for closure and demolition at some period when the housing shortage shall have become less acute. As these dwellings are nearing the end of habitable usefulness, the corporation has demanded of their owners only such works as have rendered the premises habitable for the time being, and has not required structural refinements. The scheduled houses are not so grouped together that they could, even had their structural condition warranted such a course, be dealt with by means of a slum clearance scheme; they form isolated groups of two to six dwellings, are scattered in various parts of the town, and are to be found not only in the poorer districts but in the midst of good working-class, and even residential, property.

Conditions, as regards the number of houses per acre, cannot be considered unsatisfactory. The number of houses per acre for the whole borough is 4.03; the most populous ward has a house density of 21.81 per acre; the least densely populated, 1.55.

The Blackburn Improvement Act of 1882 contains in section 99, sub-section 1, a provision for the control of density of dwellings. This sub-section reads as follows:—

“With respect to every dwelling-house hereafter to be erected within the borough the following provisions shall have effect, namely: (i) the area of such dwelling-house, with the yards thereto belonging and adjoining, exclusive of any back road or cross road, and the footpath of any back road or cross road, and the footpath of any street in front thereof,

shall comprise a space of ground of not less than 84 square yards, of which space 20 square yards at least at the back or side of, and immediately adjoining to, such dwelling-house shall be for ever left open and unbuilt upon.”

Compared with the standard of 12 houses per acre allowed by the Town Planning Regulation, the number of houses per acre allowed by this sub-section is high, as 84 square yards for the house itself without streets would permit 40-50 houses per acre. Even this figure of 40-50, high though it is, contributed to the amelioration of the grossly overcrowded conditions prevalent when this fifty years' old Act was passed.

This same sub-section, although it does not prohibit the erection of the back-to-back house, ensures that any house built subsequent to the passing of the Act shall be, if not of the through type, at any rate obliquely ventilated. An even more useful provision, section 111 of the same Act, empowers the corporation to close any dwelling-house certified by the surveyor, the medical officer of health, inspector of nuisances, or any two medical practitioners, as unfit for human habitation.

Proceeding under this section, existing houses which failed to comply with the requirements of section 99 have been deemed unfit for human habitation, and the majority of them having been so certified have been either closed and demolished or altered to the satisfaction of the corporation. Several such dwellings still occupied exist at the present time and are being dealt with; others remain which are impossible of satisfactory re-conditioning.

In dealing with this latter class of dwelling our efforts are hampered by the difficulty of providing suitable alternative accommodation for those who would be dispossessed if closing orders were made in respect of their homes. The majority of tenants of this type of property pay weekly rentals not exceeding 6s. 6d., are in straitened circumstances and, in consequence, are financially ineligible for corporation houses.

As regards slum clearance schemes, only one has been carried out in my area. In 1893 an official representation was made under section 4 of the Housing of the Working Classes Act, 1890, in respect of an unhealthy area of approximately 6 acres, which contained 127 buildings. This area was cleared and is now occupied by the public halls, sessions house, and a large secondary school.

With the clearing of this area, Blackburn's only slum vanished.

In 1923 the desirability was considered of making an official representation which affected 161 dwellings and 28 business premises situated in six different and widely separated areas deemed the worst in the borough. It was decided, however, that the sizes of the areas to be dealt with did not justify the preparation of an improvement scheme, and the properties concerned were accordingly dealt with as individual buildings.

Of the properties affected, 156 dwellings were re-conditioned, four were closed, and one was dealt with under section 3 of the Housing Act, 1925. The business premises which were structurally sound, non-obstructive and had been included merely as part of a tentative improvement scheme, were not interfered with.

I use the term “re-conditioning” as it is employed by Dr. Raymond Unwin and defined on page 3 of the agenda of the last autumn general meeting of the Association of Municipal Corporations. In the agenda it is stated that Dr. Raymond Unwin “points out that there are houses which, though they cannot be condemned as slums, are yet approaching the end of their useful life and that the condition of these dwellings could be greatly improved and their useful life extended if they were judiciously overhauled, better equipped with water supply and sanitary conveniences, and, in some cases, their surroundings improved by the elimination of obstructive buildings or the removal of one or two dwellings to let in air and light and provide some necessary open space.”

I have, up to this point, dealt with housing procedure chiefly as it affected my predecessors, in an attempt to justify my earlier statement that Blackburn possesses no well-defined slum areas. Individual insanitary dwellings still exist, however, and these we continue to deal with.

The greatest housing difficulty encountered in my area at the present time is that presented by houses let in lodgings, of which there are 84 in the borough, with a total of 405 rooms affording accommodation to some 1,000 souls. The majority of the premises used for this purpose consist of old, semi-dilapidated houses purchased or rented in a cheap market. The rooms are described as furnished, a description belied by the quality and quantity of the rags and sticks provided in lieu of

furniture. Although the rents of some of the rooms approximate to, and in others exceed, those of corporation houses, the accommodation is poor in the extreme. In an endeavour to provide better accommodation for the inhabitants of these houses a careful census of all houses let in lodgings was taken at the end of last year. Following this investigation it was ascertained that the weekly rentals varied from 3s. 6d. to 13s. per room, that the average weekly rental per room was 7s. 1½d., and that the average gross weekly receipts of the lodging-house keeper were £1 13s. One keeper rents a house at 10s. 5d. per week and lets five of its rooms at a total weekly rental of £1 10s. Another, who pays 10s 7d. per week rent for a house let in lodgings, derives a steady weekly income of £2 17s. 6d. from this source—a modest profit of approximately 450 per cent. on his even more modest outlay.

These two instances of gross profiteering associated with the business are not selected cases, but are typical of the trade as it is conducted in Blackburn and probably in many other towns. Notwithstanding the exorbitant rents charged for the rooms, the majority of the houses lack adequate domestic and sanitary facilities, accommodation for the cooking and storing of food and the washing of clothes, etc., being insufficient to meet the requirements of the families housed. In other words, the majority of these establishments failed to comply with the corporation's byelaws. It had been feared that a rigorous enforcement of the byelaws with respect to houses let in lodgings would so strain the financial resources of the proprietors that many of them would be forced out of business and their lodgers rendered homeless in consequence. As a result of the census already referred to, I decided that the business was so profitable that the keepers would set their houses in order rather than kill the goose that lays the golden egg. In order to sense the attitude of the lodging-house keepers as a body, a proprietor well-known in the district was given notice to so equip his establishment as to comply with the byelaws. Although the schedule of works demanded was a costly one, he is meeting its requirements, with encouraging effect on many of his *confrères* who have been stimulated to follow his good example. It may be argued, and with reason, that the house let in lodgings, no matter how well-conditioned and appointed, does not represent

a satisfactory housing standard. I quite agree; rather is this type of accommodation to be regarded as an evil engendered of the housing shortage, together with the unstable financial resources of the average lodging-house dweller. Houses let in lodgings cater for two groups of individuals; first, the nomadic hawker type, and secondly, a comparatively stable part of a town's population. In Blackburn there are approximately 200 domestic units, that is to say, married couples with or without families or aged persons living alone, which come within the latter category, of which 119 desire accommodation in a municipal house or flat. Of this latter number some 90 per cent. depend for existence either upon the "dole," out-door relief or old age pension, and are, in consequence, ineligible for the tenancy of corporation houses.

Our enquiries with reference to houses let in lodgings have demonstrated (1) the urgent need of legal powers to limit the extortionate rents charged, and (2) the disquieting fact that this type of accommodation offers the only present solution of the housing problem as it affects a certain section of the community. With the object of providing these families with reasonable accommodation at an equitable rental it was suggested that the corporation should convert a disused gasworks into tenements equipped with adequate domestic and sanitary arrangements. This project, however, was abandoned as being a retrograde measure.

In most districts the housing problem is regarded in terms of bricks, mortar, plumbing and rents, and is not accorded the attention which it merits as a health measure. There are very few towns where the housing committee is, as it should be, a sub-committee of the health committee, and, in consequence, the housing and health work of most areas are not sufficiently correlated. In the average area, housing administration, apart, of course, from routine inspection and the serving of notices under the Public Health and Housing Acts, is the responsibility of the council's engineer. This official, by reason of his training and special knowledge, is certainly the one best qualified to advise a committee as to the type of house to be erected and material employed. I submit, however, that when a municipal house is completed, the duties of the engineer, apart from the execution of such repairs as may be required subsequently, are at an end, and that the medical officer of health should

advise as to the selection of tenants. This, unfortunately, is rarely the case.

As a rule, applications for council houses are made to the council's engineer and, provided that the applicants satisfy the council's treasurer as to their financial stability, the housing committee allots houses in accordance with a fixed priority scheme. In Blackburn, the applicants are divided into classes which are accorded preferential consideration in the following order:—

- (1) Married ex-service men with families.
- (2) Married ex-service men without families.
- (3) Ex-service men intending marriage.
- (4) Married people with families.
- (5) Married people without families.
- (6) Persons intending marriage.
- (7) Persons who do not come under any of the above headings.

It is essential that council houses should be allotted only in accordance with a fixed priority scheme in order to ensure equitable treatment and to avoid any suspicion of favouritism. I contend, however, that any scheme should include a clause catering specifically for applicants who merit preferential consideration on medical or sanitary grounds. For example, there are Blackburn people living in rooms, and consequently eligible for priority treatment, who are housed under better conditions than householder applicants, not eligible, living under restricted and overcrowded conditions. This is particularly evident in the case of many whose names are on the tuberculosis register, some of them quiescent or arrested sanatorium cases discharged to an environment which cannot but favour a lighting up of the infection. At a recent meeting of the housing sub-committee I represented that a definite percentage of council houses for the accommodation of this type of case be allotted to the health department. To this request, in so far as a definite allocation was concerned, the housing committee did not accede, as the suggested allocation would dislocate their existing scheme. The Committee decided, however, that individual cases of ex-sanatoria patients recommended by the health committee be accorded special consideration. The tuberculous case represents but a small proportion of those entitled to priority treatment on medical grounds. Cases are reported constantly of children and mothers whose health is being prejudiced by insanitary environment; cases whose housing needs are better appreciated by a health de-

partment than by any other. Through his sanitary inspectors the medical officer of health is kept informed of the housing conditions of his district; the school nurses and health visitors, whose work brings them into close touch with large numbers of children and their parents, are fully conversant with the environment of a considerable section of the community; the tuberculosis officer and his staff come into intimate domestic contact with many other families. The facts collected by these officers are at the disposal of the medical officer of health, who is thus in a most favourable position to appreciate and advise upon the housing requirements of his area. In fact, the housing and social data at his disposal give him unique opportunities to advise upon the housing question—opportunities which are not at the disposal of any other department. Housing is as much a health measure as is a child welfare or tuberculosis scheme; a measure of far-reaching importance in the sphere of preventive medicine. The health committee calls to its aid engineers and architects to advise as to the erection of its child welfare centres, but following completion of the structure the administration of the centre is taken over by the health committee. So should it be in the case of the municipal house; the engineer to administer as regards erection, an engineering measure; the medical officer of health to administer as regards allocation and occupancy, a public health measure.

DISCUSSION.

The President (Dr. J. J. Buchan) said that the three interesting papers on a subject of great importance would give the lie to the statement often made that medical officers of health were not sufficiently conversant with or took sufficient interest in the housing conditions or the provision of housing accommodation in their own districts. No one deplored the existence of the slum problem more than the medical officer of health, who did everything possible to improve conditions as regards housing, which was the central and controlling factor in health work. So long as the slum problem existed, little progress would be made in health activities and in securing full benefit from the various health and medical schemes advocated in the communities. Housing was a problem probably better recognised in this country—in England particularly—than in any other country in the world. The President then gave an interesting survey of housing conditions in Hamburg, Vienna and other cities in Europe. In Vienna a housing scheme had been carried out since the War on an enormous scale, involving the erection of between 60,000 and 70,000 houses, and financed by a building tax levied on all people in the city. Full recognition had been given to the child in that scheme,

which would doubtless bring forth good fruit from the health point of view. With regard to the papers submitted that evening, Dr. Killick Millard had raised an interesting point, but how far the scheme would be workable remained to be seen. It appeared to the President that Dr. Killick Millard's children's scheme and graduated rentals according to the number of children in the family would operate only where the local authority owned all the houses in the neighbourhood. A man and wife only would not go into a municipal house and pay the extra rent. It was quite right that the municipality should take the load of the cost of rearing children, and while finding no fault with such a proposition Dr. Buchan could not agree with the financial portion of Dr. Killick Millard's paper.

Dr. A. Stuart Hebblethwaite, M.C. (Medical Officer of Health, Sunderland) said that there was need for some regulations whereby any house so occupied that sleeping in a living room was necessary should, *per se*, be regarded as overcrowded. Some people had suggested that it was not worth while re-conditioning houses. Re-conditioning, however, should go side by side with the building of new houses, and not as an alternative to new houses. In Sunderland one hundred notices per month had been served for re-conditioning; in 90 per cent. of the cases the work had been done by the owners, and in the remaining 10 per cent. the local authority had acted in default. Even if re-conditioning cost more than the value of the house it was worth it. In general, corporation houses were not occupied by people from condemned areas owing to the increased rents. The Sunderland tenancy committee, which looked after the corporation houses, was a sub-committee of the health committee.

Dr. J. Howard-Jones (Medical Officer of Health, Newport, Mon.) referred to a scheme of co-operation between the owners of property and the local authority in Newport, under which houses were inspected for three months in order that the tenants might be kept up to their responsibilities. Some hundreds of houses had been dealt with in that way, and the landlords had reported that tenants were looking after them properly and that few repairs were necessary. As to the corporation houses, the scheme had been regarded not as an economic question but as a social one. Overcrowding still existed to a large extent among the poor, and a number of people had taken the housing question into their own hands and moved into the fields in tents and vans. The children there were found to be healthier, and the death-rate very low. Dr. Howard-Jones agreed with Dr. Killick Millard that the problem now presented was to do something to enable the poor man, especially with children, to have a house. The conditions of those able to look after themselves had been improved, but those unable to do so had not been assisted.

Dr. H. J. Milligan, M.C. (Medical Officer of Health, Reading) compared the conditions in Bootle and Reading in connection with a housing survey made in 1919 in both towns. In Reading a schedule had been prepared of houses it was considered ought to be pulled down at the earliest possible moment. After negotiations with the owners it was arranged that as soon as it became possible to empty an old house, the

owner would be offered a corporation house for the accommodation of the dishoused tenants, and a closing order would operate upon the vacant premises.

Dr. T. W. Hill (Assistant Medical Officer of Health, Willesden) held that from the sociological point of view housing was the most vital problem that public health had to face, and that until it had been faced the health of the people would never be what the public health service would wish it to be. Schemes on the lines of that in Vienna were the most likely to solve the problem. Some form of national scheme was necessary, and to-day not only were medical officers of health of vision required but Christopher Wrens also.

Dr. C. Leonard Williams (Medical Officer of Health, Barking) enquired if information were available as to the amount of milk consumed in the council houses, and added that there seemed to be very good reasons for suggesting that the extra rent of council houses was paid for out of food funds. It had also been stated that minor ailments were much more common amongst corporation tenants.

Dr. E. W. Caryl Thomas (Medical Officer of Health, Dagenham) said that many people on the county council estate could not afford the rents and eventually had to leave. He was unable to answer the question as to milk consumption in council houses, but the local authority were spending nearly £1,000 a year in that direction in a population of 95,000, of which 24,000 were children of school age. Infectious disease on the county council estate was prevalent to a greater extent than usual, owing to the presence of a large proportion of the non-immunised section of the population.

Dr. Shinnie, replying to the vote of thanks proposed by **Dr. Charles Porter** (Medical Officer of Health, St. Marylebone) on Dr. Thierens' point with regard to a separate housing committee, said that it was essential that the housing committee should work in close co-operation with the health committee. The housing problem in central London presented special difficulties owing to the fact that selected workers, such as waiters, etc., were obliged to live near their work.

Dr. Thierens, in the course of his reply, referred to a number of caravans that existed in the Blackburn area, and said that, in common with other authorities, the local authority had bye-laws with regard to caravans, but at any attempt to enforce the provisions the vans moved on out of the district.

DR. WILLIAM ROBERTSON, Medical Officer of Health for Edinburgh, was taken suddenly ill on April 7th and removed to a surgical home for an abdominal operation (perforated duodenal ulcer). The news that he is now convalescing and making an excellent recovery will be welcomed by his many friends.

The Biological Concept of Preventive Medicine.

By G. C. M. M'GONIGLE, M.D., B.S., B.HY., D.P.H., Medical Officer of Health, Stockton-on-Tees.

The view put forward by Dr. M'Gonigle in this, his Presidential Address, delivered to the Northern Branch, is that the business of the preventive health officer is in the maintenance of normality in the people amongst whom he works. In support of his view he gives many excellent reasons for considering that the time has arrived when those engaged in the practice of preventive medicine should substitute a biological for the more generally accepted pathological conception of the science.

THE continued existence of any living organism, whether human being or lowly plankton, is dependent upon its obedience to biological laws. This dictum is, of course, self-evident when applied to the broad and fundamental laws of life, but the truth of the observation may be overlooked when consideration is directed to the *scintillæ juris* of the biological codex.

Obedience to biological laws is not, however, the only factor which makes possible the continuation of life of an individual or a race. Adventitious, or fortuitous, factors operate, and may exert a profound influence for good or bad upon the living organism. These outside factors may be lumped together under the heading of environment.

Until comparatively recent years English public health administration has been concerned, almost exclusively, with environmental factors; and the records of its success in coping with this portion of the forces operative against man's well-being are well known. It is unnecessary, therefore, to quote numerous instances of the success of sanitarians in dealing with environmental dangers. One will suffice, *viz.*, the virtual elimination of the enteric group of diseases by control of water supplies.

So long as our conception of preventive medicine was confined to environmental factors, the biological, or personal, factor was, comparatively, unimportant; but now that the sphere of the practitioner of preventive medicine has been enlarged to include what are known as the social services of public health, a new conception of our science is needed, and this conception should be based upon the biological laws which govern normal and healthy life and growth.

The word "science" is used deliberately in preference to the word "art," for, though

the practice of curative medicine may, quite correctly, be classified among the arts, that of preventive medicine must, if it would be successful, be a science based upon a sound and exact knowledge of the processes of normal biology.

The training of the medical student is, nominally, based upon a knowledge of anatomy and physiology. Actually, in practice, it would be more correct to say that his knowledge is built up on a study of anatomy and pathology.

If we, the practitioners of preventive medicine, do not thoroughly understand the normal biology of the human being, how can we teach correct living? For I take it that that is our duty—to teach correct living, and not to remedy defects. I think perhaps, in time, we may get away from the conception of our science as being preventive medicine, and visualise it as the science of maintaining normality.

No one will, I venture to suggest, dispute that our duty is to maintain normality; and that it is not our primary duty to undertake curative medical practice though, of late, much curative work has been thrust upon us.

Are we fulfilling our function as practitioners of preventive medicine? The older public health officers fulfilled their function in preventing ills arising from such environmental causes as impure water supplies which could, by administrative action, be remedied. But are we, the exponents of the newer medicine, fulfilling the functions we have assumed?

Let us try to answer this question by reference to one section, but a very large and important section, of the community. I refer to children.

One of the most active and widely practised of our newer functions is that of child welfare. Now what have we done in the realm of child

welfare? The usual reply is that we have reduced the infantile mortality rate; but it must not be lost sight of that the reduction in the infantile mortality rate had started before the child welfare service had come into being. Let us consider for a moment this decline in the percentage of infant deaths under one year of age. The infantile mortality rate fluctuates from year to year, and some of these fluctuations have been rather large, so that a graph of the yearly rates looks something like an irregular fever temperature chart with a marked downward trend. If, instead of plotting a curve showing the yearly fluctuations, we use average rates for succeeding quinquennia, we get a curve with a steady downward trend. The infantile mortality rate for the first quinquennium of the present century was, in England and Wales, 138 per 1,000 births, and for the five-year period 1921-1925 it was 75. For the period 1926-1930 we do not, of course, yet know what the mean infantile mortality rate will be. We know that in 1926 it was 70, for 1927 it was 69 and for 1928, 65. I estimate, and of course it is only an estimate, that the mean infantile death-rate for the five years of the present quinquennium will be in the neighbourhood of 64. It may be less, but a continuation of the curve so far as it has gone does not suggest a lower average. It may easily be higher.

From the beginning of this century to the present day the rate has been halved. What is the character of this falling curve? The predominant feature in it is the steadiness of the rate of fall. The percentage reductions in each quinquennia are as follows:—15, 6, 18, 17 and 14 (estimated).

This is not the time to consider in detail the various factors which may have been operative in the causation of this decline. Some of them, such, for instance, as the falling birth-rate, deserve intensive study. I am, at present, merely pointing out the extent and type of the falling curve (the fall actually started in the last decennium of the nineteenth century but it is unnecessary, for my point, to go further back than 1900).

The important feature of the curve is that the decline started long before child welfare work, as we know it as present, became general, and that there has been no acceleration of the fall since child welfare work has become general.

In the case of a declining rate there is always a tendency for the rate of fall to be decelerated

the further it goes. In the present curve that deceleration is hardly perceptible. It may be that the absence of flattening of the curve is due to the child welfare service. We cannot say, for we do not know what the curve would have been had there been no child welfare service. Personally, I think that the child welfare service can take a great deal of credit for the shape of the curve during the last ten years, but the fact that the percentage reduction from the first quinquennium of this century to the second quinquennium was 15; that the reduction for the period ending 1925 over that ending 1920 was 17; and that when the present five-year period is completed the estimated percentage decline will be about 14 (my own estimate, which may prove wrong), renders enthusiastic statements of the efficacy of the child welfare service in the reduction of the infant mortality rate open to criticism. Though the effect upon the general infantile mortality rate of the child welfare service has been disappointing, I firmly believe that the child welfare service is performing a great and important work. That it has not yet succeeded in fulfilling all the hopes of the super-enthusiasts is no reason to condemn it. In modern child welfare practice we have progressed so far that we can successfully feed an infant on substitutes for breast milk until the age when solid foods are required. Careful observation in my own practice of child welfare, coupled with somewhat elaborately compiled and detailed statistics of progress and results, has convinced me that until the age when the child requires solid food, our modifications of cows' milk (wet or dried) with the addition of vitamins, do not, to any ascertainable extent, abuse the normal biological processes of the growing infant body. We have attained the stage when the bottle-fed baby has as good a chance of survival as the breast-fed one.

Acceleration of the decreasing incidence of infant deaths will, in my opinion, be gained, not so much by control of environmental factors (though this is, of course, important) as by a better understanding of the normal biology of pregnancy, parturition and infancy.

But is the fundamental basis of the child welfare movement merely the prevention of death before the first anniversary of the child's entrance into the world? I think we must look upon the child welfare movement as being based upon a broader foundation than this.

Surely the function of the child welfare ser-

vice is to hand over healthy children, at the age of five years, to the school medical service.

The existence of the school medical service provides us with a fairly accurate scale of assessment by which we can measure the effect of the child welfare service upon child life. Our scale of measurement consists of the findings of the school medical officer when he examines the five-year-old entrants to the elementary schools. During recent years there has been practically no diminution in the incidence of defects requiring medical treatment among five-year-old children. The percentage incidence remains obstinately in the neighbourhood of 20¹, and it must be remembered that this figure is exclusive of those defects not considered sufficiently severe to require medical treatment, and also does not include dental defects.

Possibly the standard of assessment of defects has gradually become more severe, but the practitioners of preventive medicine have little cause to congratulate themselves upon the success of their efforts.

I do not know of any investigation on a large scale into the comparative incidence of defects in five-year-old children who have enjoyed the benefits of continued care at child welfare centres and those who have not. An investigation of this nature should be carried out on a large scale in many areas. A recent report from Hull is distinctly encouraging².

I may mention, in passing, that the Medical Research Council is at present carrying out an investigation into the results of child welfare work in my own town on lines somewhat similar to those suggested above. I regret that this investigation has not yet attained the stage at which comparative figures are available, but it is hoped to publish the results in the not very distant future.

The figure of 20 per cent. defects so severe as to require medical treatment, which are present in our five-year-old children, can only be reduced by a knowledge of the normal biology of the child. At present we do not know how to prevent these defects, or, if we do, there is no generally accepted plan in use to prevent them. We are content with generalisations, and one often sees statements that better housing, feeding, and hygienic conditions will prevent them; yet no correlation has been proved between, for instance, bad housing and the incidence of these defects. It is not enough to generalise. We must not be content with

generalisations. We must get down to the particulars of what infringements of the biological laws are responsible for particular defects. It is no good blaming environmental factors unless we can definitely prove that they are the operative causes.

As I mentioned previously, we have succeeded in feeding the infant artificially, without damaging it, until the age when solid food is added to its diet. When this age is attained, when additional nourishment over and above milk is required, we commence in our ordinary dietetic teaching to violate the laws of normal infant biology.

I have read at least half-a-dozen books on infant welfare which have been published during the last few months. Each of these devote many, many pages to the various methods of correcting disordered assimilation of food in young infants who have not yet reached the age when solid food is required. The maintenance of normal assimilation receives scant space. The authors of these books are obsessed with the pathological conception of preventive medicine, and some of the pathological conditions they discuss at length are great rarities.

Each of these books sets out in one short chapter the principles of feeding the child from the time it requires solid food until, say, two years of age. It is curious that the authors are almost unanimous in their instructions how to feed the child from about nine months onwards.

Yet it is on these very diets that the mass of the defects present in five-year-old children develops. Perhaps this statement is too dogmatic and I will modify it by saying that the development of the mass of defects from which five-year-old children suffer is not inhibited by the dietetic principles advocated.

There has been no very close correlation demonstrated between environmental factors and the common defects of five-year-old children, but I do find a very close association between them and the nature of the diet. This point will be considered in detail in the report of the Medical Research Council on the Stockton-on-Tees Child Welfare Work.

The bulk of these defects develops between the ages of one and three years, and the majority of them can be prevented by dietetic means, plus (but of very much less importance) moderately good hygienic environment. In other words, the case may be stated as follows:—Under existing hygienic conditions

it is possible, by dietetic means which are consistent with the maintenance of normal biology, to prevent the occurrence of many of the defects which are found in young children on their entry into school. Such are my findings and I hope the proof will be available before long.

I would like to emphasise that the 20 per cent. of defects requiring treatment in five-year-old children is a very incomplete picture of the actual incidence of pathological conditions. I do not think it is an exaggeration to say that at least 60 per cent. of these children have decayed teeth.

If the practitioners of preventive medicine would make an intensive study of normal biology; would keep careful and detailed records of the onset of defects in infants and young children, and correlate this information with detailed dietetic histories and environmental factors, it would not be long before some authoritative statement could be made as to the causation, and possibilities of prevention, of the now so common defects of young children. I know that enquiries have been made on these lines but they have been incomplete because of lack of detail and the non-control of many variable factors which might influence the data. A vast amount of field research work is needed and we are the only people who have the opportunities for doing it.

Consideration of normal biology leads one into many curious by-paths and my complaint is that we are too ready to accept statements and opinions without demanding if a biological verity lies behind them.

The research worker in the laboratory is expected to produce most meticulous proofs of, and checks on, all his statements. We require attested facts from him, not mere opinions. Yet in the practice of preventive medicine we accept opinions and statements without requiring any scientific corroboration of their accuracy.

Take as an instance the subject of the cleanliness or dirtiness of food. We teach, and the public accepts our teaching, that food contaminated by dirt in any form is dangerous. Nature, which is merely another term for normal biology, has decreed that at least one food should be practically sterile, *viz.*, milk taken by the infant direct from the mammary gland. If we exclude contamination of other foods by pathological organisms of the intestinal type derived from a human source, for instance, *bacillus typhosus*; if, as I say, we ex-

clude this group, have we any evidence that contamination by dirt containing micro-organisms, is harmful? I do not say that such contamination is innocuous, but I do ask, have we scientific evidence that it is harmful? It is notoriously difficult to infect laboratory animals by organisms mixed with their food. Now we constantly and consistently advocate the wrapping of bread, the washing of fruit, etc., etc. If we do this on the grounds that by so doing we may exclude the possibility of contamination by such organisms as the *bacillus typhosus*, then well and good. But if we preach our gospel merely on the supposition that dust on bread or bloom on fruit is harmful, we ought to be sure that there is a scientific basis for our teaching, and, furthermore, that the methods of precaution which we urge have a reasonable chance of being efficacious. Do we delude ourselves that the mere lavage of the external surface of fruit in water will materially reduce its microscopic flora? After all, hydrochloric acid is an excellent disinfectant except against certain specific organisms such as the *bacillus typhosus*.

Some people have even gone so far as to talk of the sterilisation of the lower bowel, regardless of the probability that a sterile lower bowel is apparently incompatible with life.

We accept opinions on such subjects. We should require biological proof.

Think for a moment of dental decay. Has the use of the tooth brush had the slightest influence upon the spread, or arrest, or prevention of dental decay? Most of us strongly advocate the use of a tooth brush. Have we definitely decided in favour of local carbohydrate fermentation as the cause of dental decay and rejected the work of the Mellanbys' or such obvious phenomena as the symmetrical pattern of dental caries, before deciding to urge the use of the tooth brush?

An intensive study of the effect of industrialisation of our country upon human biology is urgently needed, and this should include careful consideration of the disturbance of balance in our dietary which has resulted from this cause. This investigation should be extended to include other countries in which industrial changes have been absent or less marked.

Numberless examples could be given of dicta accepted without question.

Is, for instance, the use of a comforter, or dummy, incompatible with the normal biology

of the infant? The dummy has been blamed for the growth of adenoids, of tonsils, of irregularities of the teeth, of deformities of the jaw. Is there any real evidence of these conditions being so caused? Think for a moment of adenoids. The infant or young child with adenoids is a mouth breather. Have you ever stuck a dummy into the mouth of a child who cannot breathe through its nose? If you have you will know that the child will immediately spit it out, for you have blocked up the only air entry. Are we to assume then that the child has sucked a dummy until adenoids are produced and then discarded it? At what stage in the development of the adenoids does this rejection take place? I, myself, discourage the use of a dummy, but I must admit that I do so on the grounds of prejudice and not because I have any biological reason for so doing, unless one holds that over-stimulation of any organ is harmful and one applies this doctrine to Magitot's membrane which, in any case, disappears after a few months whether a dummy be indulged in or not.

As a further example of the misunderstanding of simple biological facts may be instanced the oft-repeated statement that milk is an essential part of the diet of growing children. Milk is, of course, essential to the growth of every young mammal, but many people assume that it is essential for children after they have ceased to take milk from the maternal source at the ordinary time of weaning. All mammals except man manage to thrive without milk after the normal weaning time.

Corry Mann's well-known experiments are frequently quoted as proof that milk is essential for growth in, comparatively, late childhood. The experiments did not prove this, nor did Corry Mann ever claim that they did. What his experiments did prove was that the basal diet which the boys received was improved by the addition of milk. They did not prove that it was impossible to promote satisfactory growth without milk. Milk is an excellent addition to the diet of children and I am saying nothing against its use, but I refer to it merely to show that even careful experimental work may be misjudged and misquoted unless regard is had to the elements of normal biology. Surely it is not beyond the capacity of our service to determine, by carefully controlled experiment, what constitutes a satisfactory diet for the young human mammal after weaning?

Constipation, as a national curse, has been

fully exploited by the makers of proprietary laxatives and the profits which have been made from this source would, if applied to biological research, have advanced this science to a point far in advance of where it has reached to-day. No one will deny that certain forms of constipation are harmful, but the term has been much misunderstood. How many young infants, entirely breast-fed, who are happy and contented, who are gaining weight steadily, are upset and made miserable by being dosed with purgatives in the mistaken belief that they are constipated because they have a normal and easy motion only once in two days? Surely such infants approach pretty nearly to the ideal in that they are receiving the ideal food, in ideal quantities, and economical little beggars that they are, they are using practically all of it and there is no waste. When these so-called constipated babies are promoted to solid foods their intestinal canals soon get rid of the increased quantity of the unassimilable portions of their diet.

Recently an article on flat-foot appeared in a certain publication. The author blamed ill-fitting foot-wear as the cause of this condition. Is there the slightest evidence that this is the actual cause of the trouble? We must, all of us, have seen cases of flat feet in children who have run about barefoot practically all their lives. The particular journal in which the article appeared has received the blessing of most medical officers of health and opinions expressed in it have received quasi-official approval, yet here is an instance of the public being taught that well-fitting boots and shoes will prevent flat feet. Is this true? Space does not permit me to enter into a discussion of the known causes of flat foot, but I may state that there is sufficient evidence to show that certain morbid conditions of the body are accompanied by, or followed by this condition, and I have been unable to obtain any definite evidence that footwear can be included in the list. A flat foot will soon distort a well-made boot. Will a badly made boot distort a normal foot?

Neglect to study normal biology has been the cause of the controversy which at present surrounds the therapeutic application of sunlight, both natural and artificial. A position has arisen, as you all know, which has not greatly redounded to the credit of our profession. That ultra-violet radiation is of great value in certain pathological conditions is

indisputable. Such conditions as cervical adenitis of tubercular origin and rickets, are unquestionably benefited by this form of medication. Apart from such instances a great deal has been written upon the effects of artificial sunlight, particularly upon children, but I regret to say that much of this literary output has been based upon practical work which has been done in a haphazard way. Some advocates of the beneficial effects of this form of treatment quote results obtained at treatment clinics but—and here lies the weakness of their work—they have not always excluded other factors which may have exerted a considerable ameliorative effect upon the pathological conditions treated. Combined with the ray treatment there has been, in some cases, the administration of cod-liver oil and/or instructions in dieting. This is particularly the case where no marked pathological lesion was present but merely a vague anaemia, or some malnutrition. Careful controls have not been carried out in every case and scientific evidence that sunlight alone has been responsible for improvement in health has rarely been presented. The recent publication on this subject³ by the Medical Research Council has met with a great deal of criticism, mainly, I think, because of the somewhat injudicious wording of one or two sentences.

Ultra-violet rays appear definitely to have the power to activate the cholesterol of the skin into vitamin D, and this, being absorbed, does cause a rapid cessation of active rickets; but unless the supplies of cholesterol are rapidly replaced and again activated, a speedy relapse follows.

The fact that an agent, such as ultra-violet light, has a definite curative effect upon a pathological condition does not constitute an argument in favour of the necessity to the body of the same agent in health.

Surely if adequate supplies of vitamins can be obtained in food it is better to teach mothers how to feed their children properly than to get them to attend artificial sunlight clinics. It is impracticable to treat the whole population of the country with artificial sunlight, but it is possible to teach the people how to arrange the national dietary so as to be independent of such artificial adjuncts.

The English climate is what it is, and we cannot alter it; it appears to be our duty to devise a diet which, in our comparatively sunless climate, will promote growth and maintain health in the climate we have.

We have not yet determined the biological truth of the need, or otherwise, of mammals for sunlight. The ultra-violet rays in sunlight are a necessity for plant life. Photo-synthesis cannot take place in their absence. Is sunlight a necessity for higher animal life? I suggest that this is an urgent problem for decision.

General deduction from biological facts leads one to suspect that ultra-violet light is unnecessary for the higher animals; that they, and man, are intended to obtain their supply of vitamins at second hand through the medium of diet.

I understand that the penetrative power of ultra-violet rays is but small, that ordinary window glass, clothing, wool, hair, feathers, etc., prevent the passage of the bulk of the rays.

Fish living in deep waters are not acted on by sunlight. They gain the products of photo-synthesis and vitamins by the ingestion of vegetable matter, or second hand, by eating animals that have lived at, or near, the surface. Birds and mammals are protected from the ultra-violet rays by feathers or fur or hair. The only naked mammals are the pig and man (and the elephant). Under natural conditions the pig lives in dark forests and among undergrowth where most of the direct sunlight is cut off by vegetation. We come now to man. In tropical countries he, like the elephant, is protected by a layer of dark pigment, whilst in temperate climes he constantly wears clothes. When natural or artificial sunlight acts upon a non-pigmented skin, pigment is rapidly laid down. In other words, the more sunlight we give the harder the body works to protect itself against the very agent we are using.

The original and avowed *raison d'être* of isolation hospitals was the prevention of the spread of infection. The medical treatment of individual cases was a secondary consideration. In the light of experience of epidemics of the diseases usually treated in such hospitals can it be said that the expected success has followed? In some diseases, yes; in others, no. Enteric fever is a disease in which the individual attacked may infect others for some considerable time and the isolation of cases of this disease does certainly limit the spread of infection. But another state of affairs exists in scarlet fever. A recent report (Report No. 35 of the Medical Research Council), confirms the very general impres-

sion that isolation has very little effect in the control of the spread of this disease, though from the point of view of actual cases the treatment available in hospital is advantageous. The present mild type of the disease cannot be credited to isolation, for in those areas where isolation, in the strict sense, has never existed, the present form of the disease is equally as mild as that in areas where thorough isolation has been enforced for years. Why have isolation hospitals been a success in one case and not in another? Is it not that our knowledge of infection has been at fault. Can anyone doubt that the period of time during which an ordinary case of scarlet fever remains infectious has been greatly over-estimated? I do not think anyone disputes that the first forty-eight hours of illness constitutes the danger period to others in a case of scarlet fever. Yet if this is so why is it, comparatively, rare to find whole families infected? All of us must have seen children actually sleeping in the same bed as a scarlet fever case, and yet remain clinically free from the disease. This raises the large problem of resistance of the normal individual to pathogenic micro-organisms. The work of Mrs. Mellanby on puerperal septicaemia suggests that resistance to invasion may be a wider matter than the existence of specific anti-bodies in the blood. Has sufficient attention been given to this question of resistance? Our attempts to control infection, whether of the specific infectious fevers or of sepsis, have been mainly directed to the elimination or control of the infecting agent. Comparatively little attention has been focussed on the power of the body to resist attacks, not by any one particular organism, but by any and every general infecting organism which may come along. The general resistance may be a different thing to specific resistance to a particular organism. In this regard Dr. Newsholme's recent book deserves careful consideration.

A child is born with a natural immunity to many infections. This immunity declines and is replaced by acquired immunity which is supposed to be developed by the body-forming anti-bodies as a reply to minute infections by the various organisms. We must assume then, if this is so, that the infecting agents of very numerous diseases are of frequent and widespread incidence and yet, though they are so widespread that an individual child gains resistance to twenty or thirty forms of infection, here and there one

or two or a group have not this resistance and fall victims to infection. I suggest, in a purely conjectural and tentative way, that some of the little understood phenomena of infection may be due to our insistence on the importance of the infecting agent and our comparative disregard of the normal biology of the human body in its capacity to resist infection.

Some recent work of Topley⁴ suggests that acquired immunity, with strongly agglutinating serum, may be due to the establishment of a symbiosis between the infecting organism and the human body, and not merely to the capacity of the blood to manufacture or retain such agents. This would explain the comparatively rapid deterioration of the strength of immunity following the artificial immunisation of the body tissues.

I hope that by now I have given you enough examples to illustrate my contention that we, the practitioners of preventive medicine, should give greater consideration than has been given heretofore to the study of normal biology. The maintenance of normality is our business; let us therefore veer from a pathological to a biological conception of our science. Let us be careful what we lay before the public as health propaganda. Let us demand scientific proof of the dicta of the faddists in our branch of the profession. Let our practice be one of Science wedded to Art—Science in what we teach the public; Art in the way we teach it.

REFERENCES.

¹Annual Reports of the Chief Medical Officer, Board of Education.

²"The Health of the School Entrant." By Susan Gilchrist, M.B., Senior Assistant Medical Officer (Maternity and Child Welfare), City and County of Kingston-upon-Hull. (*National Health*, October, 1929.)

³"Irradiation and Health." Medical Research Council. Special Report Series, No. 131.

⁴*Lancet*.

CARNARVONSHIRE County Council has increased the salary of Dr. E. L. Parry-Edwards, C.M.O., from £900 to £1,100, to be followed by two annual increments of £50 to a maximum of £1,200. Dr. Richard Lewis, an Assistant Medical Officer in the County Health Department, is to receive annual increments of £25 on his commencing salary of £600.

Ut Ita Dicam.

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

The Health Service and Education.

Lucky youth! The work and worry that are put into preparing him for his future and endeavouring to ensure that that future shall be worth his having! Think what we in the service to-day are doing for those who are to follow us; but think, too, of what is being done in the hundred and one circles where the thought is almost exclusively of how to smooth the road to be travelled and to brighten what lies at the end of it. The subjects and the matters to be taught and the manner and method of teaching, the consideration they are given; the teachers, how they are prepared, so that in the intervals of affording instruction in athletics they may lay down the foundations of a sound knowledge of chemistry or, with the assistance of the sexologist (my God!) and the writer of novels, provide the youth of the nation with a full and proper working knowledge of sex hygiene. For ourselves; consider how we labour and have always laboured to build up a protective and preventive health service for the people and to make that service fit for health servants to live in. The work began almost as soon as the first medical officers of health were appointed, with time filched from the scanty leisure devoted to pressing for special training and qualifications for health officers of all grades; to devising of courses of instruction for medical graduates and sanitary inspectors; to giving the instruction and examining the candidates for the special qualifications. And so it has gone on; as each expansion of preventive work, urged and secured by the service, has occurred, the service has indicated the training needful and has provided it.

The Teaching of Preventive Medicine.

For years having preached that the part to be played by the medical practitioner in relation to protective health work and the prevention of disease and the effects of disease was not fully played because instruction in protective and preventive methods, their application and importance, was inadequately given in the student days, the service has come at last to the assistance of its individual members who have been labouring in the schools to make the facts known. Not only to the students had the lessons to be given. There were the authorities in the medical schools, too, to be taught; the very

high up ones and the teachers and practitioners of educational and medical specialisms. Probably it was these who gave the greatest amount of difficulty, an occasional student revealing a certain amount of readiness to learn and profit even though the subject might not be one to which the examining powers that be appeared to attach much importance. To them mainly the service has now directed its efforts, and it is for them that the Society has prepared its report upon education in preventive medicine that, shewn elsewhere in this number, reveals the inadequacies of the present arrangements; compares unfavourably our system with that in other countries and maps out the road proper to be taken. That the action of the service, through the Society, has occurred at a good moment there are definite indications. The General Medical Council itself has shown signs of feeling that so far as preventive medicine is concerned all is not as it should be with the profession, and in London the Colleges appear to be awaking to the need of imposing some sort of test of knowledge of prevention upon those to be launched into practice. To these bodies it may be hoped that the views exposed in the report may be revealing and helpful.

Does Prevention Pay?

If they are accepted and acted upon they must inevitably benefit both the practitioner and the people. Of this, no doubt, it will be easier to convince the latter than the former, whose acceptance of the tenet that "prevention is better than cure" is dependent upon the addition of the words "but is less paying" an addendum members of the service are quite prepared to accept so long as it applies to themselves alone. Of evidence that it has not paid and will not pay the general practitioner there is none. As a fact, up to the present, the bulk of preventive work has been done for the people by others than the practitioner, and there is not one, no matter how vociferous he may be of his dislike of the medical officer of health and his myrmidons, who can truthfully say that any of his or their activities has done anything but make for the improvement of conditions in medical practice. Up to the present, at any rate, there has not been shown such a falling off in the numbers of those willing to enter general practice comparable with that that has

occurred and is occurring in relation to preventive practice. Of the reality of this falling off on our side there is adequate proof in the hands of those who by advertisement or otherwise have tried to find suitable assistants. That in it there is proof of the belief that prevention as a profession does not pay there is none to doubt. The service at least does not doubt, and to put matters right there has been a labour carried on by the service through the Society to secure that the hire shall be worthy of the labourer, at the same time as that other of preparing those who seek to enter the profession. Pathetic and ridiculous that such labour was needed, and all the more pathetic and ridiculous because of the lack of recognition of the efforts made. Perhaps it is natural that the recognition given should be slight, since the results obtained have not been great. In some quarters, of course, rewards approaching what might be regarded as suitable for the service rendered have been secured, but in the main, these have gone to those higher up in the walk. It is at the lower end of the track that the effort has produced least effect. That, at any rate, would appear to be the view of those at or approaching that bit of the road. To these, any success, no matter how hardly won it may have been, is counted little. Their call is for still more and greater effort on their behalf.

A Synopsis of Hygiene.

Even without that call, unaccompanied as it is by any expression of appreciation of what has been already done or by any sympathetic reference to the unpleasantnesses associated with the task, the effort will certainly go on. Those in the service will continue to endeavour to make as bright a future as they can for those who choose to follow the track they have beaten out. Equally they will continue to act as guides along the road. They will as ever show what must be learned, and they will teach. And here are Prof. W. W. Jameson, and Col. G. S. Parkinson with their "Synopsis of Hygiene"* to prove it. Teachers, both engaged in the direction and building up of the Public Health Division in the London School of Hygiene and Tropical Medicine, they have spared time from the arduous duties of their posts to outline the subjects of study for those who aim to qualify themselves for work in the preventive field, and to give a summary of

information on each of these subjects. Of the labour involved in such a production only those foolish and unselfish enough to have undertaken the preparation of a textbook can know. That readers have some sort of appreciation in the case of Jameson and Parkinson (Jameson and Marchant it used to be), is shown by the fact that this is the third edition and that the second appeared only three years ago. This may be taken as an indication of appreciation of the value of the book as a guide by those engaged in study for a diploma in public health, for whom it is specially intended. And, indeed, they may well appreciate it and find it of value. In this country there is nothing to equal it for conciseness, reliability and accuracy.

The Harvest.

What those in the service receive as recognition of the efforts made to secure a brighter future for those who choose to follow them has been told. It is, in effect, a "thank you for nothing," and a demand for a bigger and better effort, against bodies unimaginably unsympathetic towards the medical profession as a whole. As to the recognition for what is done in the direction of providing instruction and of its effect, these following afford indication. Hours and hours of preparation for lectures and demonstrations, hours and hours of talking and walking, hours and hours of enthusing over the service: the reward this question:—"Sir, is it necessary to know the dates of the Acts of Parliament and the numbers of the sections for the examination?" And answers such as these: "A child fed on human milk will be more intelligent, as a human is able to speak and look after itself; a cow cannot," and "Back-to-back houses are houses such as are built with their back views facing each other and separated only by a wall."

P.

THE proposal to retain the services of Dr. R. A. Askins, as Medical Officer of Health for Bristol by increasing the salary to £1,800, rising by increments to £2,000, was withdrawn at a recent meeting of the City Corporation as it was considered that such a course would establish an undesirable precedent. Dr. Askins has therefore confirmed his acceptance of his appointment under the Southern Rhodesian Government.

* London: J. and A. Churchill, 1930. Price 18/- net.

The Immediate Future.

By F. A. SHARPE, M.D., B.S. Lond., D.P.H., Medical Officer of Health,
County Borough of Preston.

In this, his Presidential Address to the North-Western Branch, Dr. Sharpe discusses the question of what is likely to follow the coming into operation of the Local Government Act, and puts forward a number of views which are certain to be found interesting.

DR. WOOD, in his presidential address last year, gave us a tantalising glimpse of the public health world of twenty years hence. There can be no doubt that, if progress is continued at its present rate, 1948 will have solved our present difficulties only to find that its own problems are even more insistent and intriguing than those which are so formidable to us to-day. However agreeable the prospect of contemplating our successors' difficulties may be, I find those of the present sufficiently pressing to warrant discussion now. I regard the present day as a time never before equalled in the rapidity with which changes are taking place. After fifty and more years of steady administration of sanitation in its older sense, there is now a vast flux of new ideals, a change in orientation and a kaleidoscopic alteration of view-point which has given to public health an essential fluidity which renders predictions as to its future course difficult and hazardous. There are, however, problems immediately before us crying out for solution. I would place in the foreground the changes which will take place in 1930 consequent upon the passing of the Local Government Act of 1929. Many of the provisions of this Act entail merely administrative changes and an extension of public health work in a quantitative direction. I refer in particular to the poor law functions of vaccination and infant life protection. Others will make large demands upon the skill and ability of administrative officers and will require tender and tactful handling; for instance, what sort of supervision will medical officers of health be able to exert upon the work of district poor law medical officers? As poor law medical relief is a concomitant part of outdoor relief and rarely given without it, will the contemplated public assistance committees regard this work as peculiarly their province, or will they assign the duties to the health committee? Appointments of poor law medical officers are not always competed for by the most distinguished physicians of an area nor are they remunerated upon a

conspicuously generous scale. Also, administrative and clerical supervision has been absent and there has been little or no attempt to co-ordinate the work with other services. It is quite true that instructions upon this and other matters are flowing from the Ministry at a great rate, and Sir George Newman, in his report for 1928, devotes a magnificently-written chapter to the whole subject of the transfer, but I anticipate that the practical difficulties of absorbing this work, entirely foreign in its outlook and scope, into the present public health service will test us to the full.

The taking over of poor law hospitals bristles with difficulties. I take it that most authorities will, in the case of separate hospitals, allocate the work to their health committees. The task here is to take over buildings designed primarily for the aged sick poor, mostly out of date and innocent of modern appliances and fittings, and to convert them into modern hospitals, infusing into them modern medical and surgical methods and ideals, and to co-ordinate them with voluntary hospitals and with corporation work having the same objectives. The councils of some large towns, such as Liverpool and Manchester, where poor law authorities have recently built splendid hospitals and organised them on the most up-to-date lines, are to be congratulated. In the case of mixed institutions, house and hospital, the difficulty and expense of division and transfer will cause authorities to delay change until they, at least, have had some experience of the organisation as it now exists.

A minor feature which will have to be grappled with is the position of the medical officer with no recognised statutory power other than that of medical attendant to the sick, working among other officers such as matrons, superintendent nurses and stewards, whose rights and duties are the subject of constantly accruing regulations and orders. The presence also of huge numbers of mentally defective and insane persons in the hospitals

attached to the poor law institutions makes a declaration under section 5 for the time being impossible by introducing into the control Public Health as well as Lunacy and Poor Law Acts.

The question, too, of co-operation and co-ordination with voluntary hospitals will be one of some difficulty. The main question here is arriving at an understanding as to the classification of cases. Is it to be on a basis of the nature of the illness or upon the social status of the patient? The indigent poor we know have a legal claim upon the future county or county borough hospitals, but in any scheme devised in the near future the division of work will be largely governed by the fears of voluntary hospitals as to the effect of administrative schemes upon their subscription appeals and especially the effect upon the vast workmen's contribution schemes which are a feature of modern voluntary hospital practice. Personally, I expect that development will be slow, and that for some years the new hospitals will cater primarily for non-paying patients and those suffering from chronic medical disorders rather than those of a surgical and acute medical nature. The immediate effect on the institutional treatment of the sick will rather be by way of relieving voluntary hospitals of chronic cases, thus enabling them to deal with their waiting lists and accelerate their surgical procedures. Before leaving this subject I should like to refer to the necessity of establishing a bureau for the registration of the kind and amount of public assistance rendered to any one individual. Quite apart from national health insurance and unemployment benefit, which is duly paid for and as such is part of the wage earned, we are now experiencing a great deal of overlapping of assistance given by the poor law, maternity and child welfare committees and charitable organisations. The suitability of the applicant for this assistance may be regarded as fully justified by any one of the above-named bodies, but that each of them should be prosecuting enquiries and administering relief without exact knowledge of what the others may be doing, is a waste of effort and money and tends to make the pursuit of relief a profession in itself.

No less in importance to administrative health officers is the question of maternal mortality. There have been in recent times several important pronouncements on this subject. First, the British Medical Association

scheme which was discussed at the Manchester meeting, and then the recently published report of the Departmental Committee on the Training and Employment of Midwives which covers the same ground and makes similar recommendations but does not actually produce a scheme. Dr. Henry Jellett's recent book, "The Causes of and Prevention of Maternal Mortality," is similar in its scope, and his recommendations are on lines not different in essentials. The common ground to all of us is that maternal mortality tends to rise; that maternity homes are of benefit to the individual but appear not to influence the results in the mass; that far too many women are rushed into hospital as emergencies; that only a minority have reasonable ante-natal care, and that ante-natal care in association either with a maternity home or with a home confinement produces excellent results. A scheme such as detailed by the British Medical Association has the fundamental weakness that at present a minority only of general practitioners are capable of ante-natal care, and that an even smaller proportion of midwives are capable of playing their parts. These difficulties are remediable, but they exist. My own experience with an insurance scheme leads me to anticipate that the fact of a medical practitioner being available will result in a great increase in the number of doctors "called in in an emergency" at the confinement. The development of a scheme will also have the effect of converting municipal ante-natal centres from an "all-comer" to a consultant status. A scheme whereby insured women and the wives of insured persons are provided with ante-natal care, good midwifery and medical attendance is bound to have a good effect upon maternal mortality and upon the health of all child-bearing women.

Long interested in the subject, this interest has been profoundly stirred by the publication of the Report of the Mental Deficiency Committee of the Board of Education and the Board of Control.

It would ill become me to attempt any detailed criticism of this monumental work, but the findings and recommendations will provide a good field of work for many years to come. The broad facts established are that there are many more defectives existing than are "ascertained"; that the machinery for their ascertainment is in some respects inadequate; that of those ascertained, too small a proportion are "subject to be dealt with"

by the local mental deficiency authorities; and that owing to various causes, principally the vastness of the problem and the financial stringency due to the War, the institutional provision for those needing that kind of care is far below the requirements of the case. In Lancashire we, as medical officers of health, have no official connection with the work of the local mental deficiency authority, which is the Lancashire Asylums Board, but as school medical officers we are concerned with ascertainment, the notification to the local mental deficiency authority of ineducables and of those about to leave special schools and requiring guardianship, and the provision and medical supervision of special schools. I would here call attention to the fact that the special school accommodation in the whole country caters for only one-half of those requiring it, and that where special schools exist, far too few children are notified to the local authority on leaving school as requiring further care under the Mental Deficiency Acts.

We are not directly concerned with the educational recommendations made by the Committee but I regard as moves in the right direction the suggestion of a break at eleven years; the parallel education of the less retarded with the normal child at ordinary schools; the obligation placed upon education authorities to provide local centres for those who, though certifiable to the local authority, do not need institutional care; and the re-assessment at eleven years of all children whether normal or not, and a further grouping. The treatment and care of the adult defective, though presenting fascinating problems of medical and sociological interest, do not come within our immediate view, and I therefore propose to offer no observations upon this aspect of the work.

For the less advanced units of local government, and in this respect I must classify my own authority as such, the amalgamation of the services providing preventive medical care for infancy and for school children is a matter of urgency. It is unnecessary for me to labour the multiplicity of offices and officials, the lack of continuity, the overlapping of effort, the inelasticity of staff and the lack of variety in the work that prevails where the services are distinct. The arguments for and against have been submitted again and again, and I suppose the only defences remaining are the cost of providing reasonably large central offices for administration and modern, well-

equipped centres for clinical work, and also the difficulty in persuading influential and energetic committees administering school medical and maternity and child welfare services respectively to lose their identity in a large medical services committee. I have some doubts as to whether tuberculosis will fit into the scheme. The officers are specialists (a mutual disadvantage) and their work differs in principle and detail from that of the other two services, that is to say, although their work theoretically should be preventive, yet in practice the tuberculosis dispensary is but slowly freeing itself from the toils of treatment.

Such an amalgamation as I have outlined will enable us to attack the problem of the rheumatic child. There can scarcely be a field of endeavour more fruitful than this, and if the experimental centre now in operation at Kensington and, I believe, in one or two other districts, is productive of results, we shall all be anxious to follow suit.

I have confined my remarks entirely to the preventive medicine aspect of the case. Drains and sanitation generally have long ceased to be a problem. Housing and slum clearance, enthusiastically backed by the people, await a satisfactory financial situation. Air pollution—the outstanding reproach to modern hygiene—will yield to electrification and the use of smokeless fuel from which the chemists have removed the dyes, motor fuels, oils and medicinal drugs. Our main problem lies with the young child.

THE Jewish Health Organisation of Great Britain has arranged a symposium on "Physical and Mental Aspects of the Jew," to be held at the Conway Hall, Red Lion Square, London, W.C.1, on Sunday, May 25th, 1930, at 3.15 p.m. Sir Humphry Rolleston, Bt., G.C.V.O., K.C.B., D.C.L., will preside. The papers will be followed by a discussion. The Organisation has also arranged, through its Child Guidance Clinic, a series of six lecture-discussions on "The Difficult Child as a Medical, Social and Psychological Problem," to be delivered by the officers of the Clinic on Mondays and Thursdays at 5.15 p.m., commencing May 19th, 1930, at Toynbee Hall, Commercial Street, London, E.1. Full particulars of the lectures may be obtained from the Secretary, Jewish Health Organisation of Great Britain, 19, Dorset Square, London, N.W.1.

Albumen in the Sputum in Early Phthisis.

By PERCY MOXEY, T.D., M.B., CH.B., L.S.A., D.P.H., Clinical Tuberculosis Officer, Port and Borough of Southampton.

The prevention of the more serious effects of disease is to-day recognised as almost as important as the actual prevention of disease, and in this paper, read at a meeting of the Southern Branch, Dr. Moxey makes reference to a method that may prove of real value in relation to the early diagnosis of cases of pulmonary tuberculosis.

BOTH the prevention and cure of pulmonary tuberculosis are intimately connected with its early diagnosis and the adoption of the appropriate treatment, for the earlier you can get hold of the case the easier is its arrest made possible and the less chance of its dissemination to other persons.

We are all familiar with those early cases in which there is so little to guide one, maybe a slight hæmoptysis or a mild attack of pleurisy, and it is well to be very cautious with such cases and to remember that in probably some 95 per cent. of cases of hæmoptysis the hæmorrhage comes from the lungs, and unless some other source can be definitely established it is safer to diagnose early phthisis, adopt treatment, and keep the case under observation for some months; also it is generally thought that pleurisy occurring by itself and for no special reason is usually due to tubercle, and that pleurisy with effusion is always tuberculous, and there is a considerable amount of evidence to support these views.

It is most important to establish the probable presence of pulmonary tuberculosis and, if possible, before any marked physical signs can be detected or the tubercle bacillus found in the sputum.

In the early stages I am picturing, the value of X-ray examination is almost negligible, although it must be admitted that there are some cases with few physical signs and a negative sputum in which the X-ray shows evidence of disease, so that its use should by no means be neglected.

Again, I should like to suggest that the presence of crepitations at an apex is not necessarily due to tuberculosis; catarrh of the nose and throat may often spread to the bronchi and set up a catarrhal condition at the apices, and may prove to be simple in character, rapidly clearing up when the cause of the catarrh is treated, but if neglected it may furnish the necessary conditions for the

awakening into activity of the tubercle bacillus which is so often present in an inactive condition in the lungs.

Two cases in this connection have come to my notice recently: One case was that of a young girl with a few moist sounds at the left apex, a left otorrhœa and a perforated drum, and in which the treatment of the otorrhœa resulted in a cessation of the trouble. The other case was that of a man who had a shell splinter wound of the right ear in 1918, and who has had a purulent discharge into the pharynx since; he now has well-marked signs of tuberculosis of the right upper lobe with a positive sputum, and it seems reasonable to suppose that sepsis spread from the ear and set up the unfavourable condition which resulted in tuberculosis, because he has only had symptoms of phthisis in the last few months, whereas he has had the purulent discharge into the pharynx for eleven years. Catarrhal conditions are also set up and kept going by the presence of decayed teeth and the resulting oral sepsis, and it is most important that a dental surgeon should be available as part of the general scheme for the treatment of patients in clinics and sanatoria.

Loss of weight and lassitude are almost always present, but may be due to malnutrition, overwork, or the presence of some other disease; and cough may be due to catarrh from other causes such as smoking, dusty occupations, bronchitis and so forth.

In most of the cases which come to the clinic there is more or less expectoration, and it is to the chemical examination of this that I particularly wish to call attention. The current text-books tell us that the presence of the tubercle bacillus is diagnostic of the complaint, but I think you will agree that by the time this can be demonstrated most of the cases are in a fairly advanced condition, and that it is not common to find many patients coming under the T.B.+1 and T.B.+2 groups; indeed, we

have all known cases in which the bacillus has only been found a week or two before death and not always then. The text-books make scarcely any mention of the presence of albumen in the sputum, although this is always present in pulmonary tuberculosis and can be demonstrated so much more readily than the tubercle bacillus.

Ridge and Treadgold have investigated this matter and say that albumen is present in practically all cases of active phthisis, and that the absence of the tubercle bacillus and albumen on three consecutive occasions is strong evidence against the presence of tuberculosis.

Albumen is present in the sputum in pneumonia, bronchiectasis, pulmonary tuberculosis, pulmonary oedema and other destructive disease of the lungs, and the differential diagnosis of these conditions should not be difficult.

Of the last 500 cases sent up to my clinic for diagnosis, the tubercle bacillus and albumen have been present in 137, albumen only in 114; most of the "albumen only" cases have had fairly definite physical signs and have all been diagnosed as tuberculous; the other cases were negative to both tests and, with the exception of some kept under observation for further tests, were regarded as non-tuberculous. A fair number of the latter have been contacts, and my experience is that these cases are almost always negative and that their examination is mostly a waste of time.

The method of examination of the sputum for the presence of albumen is as follows:—

To 10 c.c. of sputum add 30 c.c. of 1 per cent. acetic acid and shake well to cause precipitation of mucus. Filter.

Test filtrate for albumen qualitatively and quantitatively. The sputum must be fresh, otherwise a negative reaction may become positive owing to disintegration of cells.

Esbach's method. Fill the tube to the mark "U" with filtered sputum and to mark "R" with Esbach's reagent (picric acid 1 gm., citric acid 2 gm., distilled water to 100 c.c.). Cork and allow to stand for twenty-four hours, then read off the height of the precipitate. This gives the amount of albumen in grams per litre and must be divided by ten to obtain the percentage. The percentage is a quite useful guide to the severity of the disease, but if greater accuracy is required, the quantity of sputum in twenty-four hours can be measured and the actual quantity of albumen in grams can be determined. The occurrence of

hæmoptysis or staining will, of course, invalidate this. The percentage of albumen found ranges from '05 per cent. to '2 per cent.; it is rarely more.

In all my cases the sputum is examined for both bacilli and albumen, and in some hundreds of specimens whenever the bacillus has been found albumen has also been present. This being the case the presence of albumen even in the absence of the bacillus should strongly suggest the probability of tuberculosis; it certainly is evidence of some destructive disease of the lungs, and, if one can eliminate the other diseases responsible for this, the diagnosis of tubercle becomes almost a certainty.

An investigation into the case sheets of one hundred patients who have died of the disease shows that 65 were positive with albumen; 17 were negative with albumen; 11 at one time negative with albumen later became positive with albumen. The remaining 7 were negative to both, but as only one specimen was examined in each case they can scarcely be counted as reliable.

Another series of definitely positive cases showed that 74 per cent. were positive to both at the first examination; 23 per cent. showed the presence of albumen only at first, the bacillus being found at a later date; 3 per cent. only were negative to both tests at the commencement.

Many medical men regard the absence of the bacillus as a favourable sign, but I believe this to be a dangerous view to take, and would suggest an examination of every sputum for albumen; if found the case should be regarded as one of tuberculosis in the absence of the other diseases mentioned.

Under the usual treatment these cases with albumen only, usually do well, and the disease becomes quiescent.

It is now my custom to diagnose all patients with albumen in the sputum as tuberculous, and I feel that there is every reason to consider this a sound view to take. They could quite well form the T.B. — group in the official classification.

There is not time to go into the question of the housing, industrial, and financial conditions of the patients, all of which play an important part, but it is obvious that much more must be done than we are at present doing, before we can efficiently tackle this disease which is of such serious import to the community.

The Place of Preventive Medicine in the Medical Curriculum.

Report of the Committee appointed by the Council of the Society of Medical Officers of Health.

PART I.

Introductory.

1. On the 19th April, 1929, the Council of the Society of Medical Officers of Health considered certain representations made by one of its branches with regard to the teaching of preventive medicine in the medical schools of this country and decided to refer the whole subject, including an investigation into the requirements of the various examining bodies, to a special committee for inquiry and report.

2. The Committee was constituted as follows:

Prof. W. W. Jameson, M.A., M.D., M.R.C.P., D.P.H., Barrister-at-Law; Professor of Public Health, University of London; Director, Public Health Division, London School of Hygiene and Tropical Medicine (Chairman).

* H. B. Brackenbury, Esq., LL.D., M.R.C.S., L.R.C.P., Chairman of Council, British Medical Association.

G. F. Buchan, Esq., M.D., M.R.C.P., D.P.H., Lecturer in Public Health, Guy's Hospital Medical School; Lecturer in Public Health Administration and Practice, London School of Hygiene and Tropical Medicine.

Prof. A. Bostock Hill, M.D., M. SC., D.P.H., Emeritus Professor of Public Health, University of Birmingham.

Prof. J. Johnstone Jervis, M.D., CH.B., D.P.H., Professor of Public Health, University of Leeds.

Prof. H. R. Kenwood, C.M.G., M.B., C.M., L.R.C.P., D.P.H., F.R.S. Edin., Emeritus Chadwick Professor of Hygiene, University of London.

Prof. Harold Kerr, O.B.E., M.A., M.D., CH.B., D.P.H., Professor of Public Health, Durham University School of Medicine.

R. A. Lyster, Esq., M.D., B.Ch., B.Sc., D.P.H., Lecturer in Public Health and in Forensic Medicine, St. Bartholomew's Hospital Medical School.

R. M. F. Picken, Esq., M.B., CH.B., B.Sc., D.P.H., Lecturer in Public Health, Welsh National School of Medicine.

Charles Porter, Esq., M.D., C.M., B.Sc., M.R.C.P. Edin., Barrister-at-Law, Lecturer in Public Health, Middlesex Hospital Medical School, Lecturer in Public Health Administration and Practice, London School of Hygiene and Tropical Medicine.

Prof. Sir John Robertson, C.M.G., O.B.E., LL.D., M.D., B.Sc. (P.H.), Professor of Public Health, University of Birmingham.

All members of the Committee, with one exception, have had practical experience as teachers of public health and preventive medicine and several of them have had opportunities of visiting other countries and there

* A Member of the General Medical Council.

studying problems connected with medical education.

3. The first action of the Committee was to collect information and expressions of opinion from all teachers of public health and preventive medicine in the United Kingdom. Some of this information is summarised in the table on page 254 and much of the remainder is incorporated in the body of the report.

4. Other material obtained by the Committee included (a) the special reports of the League of Nations on the teaching of hygiene in various medical schools throughout Europe, (b) detailed syllabuses of certain American Universities and (c) the examination requirements and copies of examination papers of all examining bodies in the United Kingdom.

5. Before entering upon a detailed discussion of the information placed at their disposal the Committee desire to make the following general statement:—

It is now seven years since the coming into operation of the revised medical curriculum of the General Medical Council. Two important resolutions passed by the Council were:—

(1) That throughout the whole period of study the attention of the student should be directed by his teachers to the importance of the preventive aspects of medicine.

(2) That each licensing body should make adequate arrangements for the effective correlation of the several subjects of study throughout the curriculum.

6. These resolutions laid down general principles and in 1923 Sir George Newman issued his "Recent Advances in Medical Education in England" showing the various ways in which these principles could be applied in the teaching of the different subjects of the medical curriculum. A great deal of interest was aroused by these proposals and efforts were made by medical schools to adapt their courses to the new requirements. It can hardly be said, however, that a concerted endeavour has been made by the staff of any school to seize the opportunity afforded them of breaking with tradition and of introducing into their general teaching a real emphasis on the importance of prevention. Indeed, both the resolutions of the General Medical Council and the writings of Sir George Newman have

apparently exercised a much greater influence on medical opinion in America and in various Continental countries than in our own.

7. The lack of adequate training in preventive medicine is particularly to be deplored at the present time. We have had nearly twenty years' experience of National Health Insurance—a system avowedly based on the prevention of sickness just as much as on its cure—and it is only within the last few years that, owing mainly to the efforts of those engaged on administrative duties in connection with the scheme, any attention has been paid to the problem of conserving the health of insured persons. That there exists a public demand for advice on how to avoid disease and how best to maintain health must be obvious to anyone studying the columns of many of our most widely read daily newspapers. It is clear that the press of this country is finding it expedient to provide just that sort of information which the family practitioner should best be qualified to give. The rapid growth of a considerable number of societies whose sole object is the education of the people in the maintenance of health is only another illustration of the failure of the twentieth century practitioner to grasp the fundamental change in public opinion that is taking place in every civilized community.

8. We feel that the responsibility for this state of affairs must be attributed in the main to our present methods of medical education. The medical student lives in the atmosphere of the dissecting room, the laboratory, the operating theatre and the hospital ward. His whole attention is directed to what is abnormal and he is taught to think almost entirely in terms of individual sick persons and never at all to regard himself as a member of a profession with great communal responsibilities. While there must always be a comparatively small number of specialised medical practitioners devoting themselves wholly to preventive work and to the administration of the public health services, it is to the main body of general practitioners that the people must look for personal guidance in prevention and in the detection of the beginnings of disease.

9. It is to be regretted that in many directions the work of the two branches of the profession has tended in the past to proceed along rather separate lines. One result, however, of the coming into operation of the provisions of the recent Local Government Act will be that many more practitioners than in the past

will find themselves in intimate contact with the various branches of the public health service. Their civic obligations will be more obvious than ever before and it is certain that the medical student, if he is to be well fitted later on to discharge his duties, will have to be taught not only more preventive medicine, but also to a greater degree the scope and methods of the great communal medical system in the working of which he will have to take his share.

SUMMARY OF REPLIES TO QUESTIONNAIRE.

University or Medical School.	Status (Prof. or Lect.).	Lectures, Visits and Tutorials.	Academic Year and Terms.
<i>London Medical Schools—</i>			
Charing Cross Hospital.	Lecturer	L12 : V2	IV or V3
Guy's Hospital	Lecturer	L12	V2
King's College Hospital.	Lecturer	L10 : V4	IV3
London Hospital.	Lecturer	L10 : V2-3.	IV or V3
Middlesex Hospital.	Lecturer	L10-12 : V3-4.	V3
Royal Free Hospital.	Lecturer	L10 : V3	IV3
St. Bartholomew's Hosp.	Lecturer	L10	IV or V3
St. Mary's Hosp.	Lecturer	L10	V3
St. Thomas' Hospital.	Lecturer	L12 : V2 (for 1930) L24.	IV or V3
University Coll. Westminster Hospital.	Lecturer	L18-20 L12	III3 V3
<i>Provincial, Scottish and Irish Universities—</i>			
Aberdeen University.	Lecturer	L60 : V5 : T5.	IV1 and 2.
Belfast (Queen's University).	Professor	L30 : V6	IV1
Birmingham University.	Professor	L20 : V5 : T5.	V2
Bristol Univ....	Lecturer	L24 : V5	V1
Cork Univ. ...	Professor	L30 : V5-8.	IV1 and 2
Dublin (Trinity College).	Lecturer	L20	III3
Durham Univ.	Professor	L28 : V12	IV1 and 2
Edinburgh Univ.	Professor	L40 : V6	IV3
Glasgow Univ.	Professor	L50 : V5 : T2.	IV3
Leeds Univ. ...	Professor	L20 : V8	V1
Liverpool Univ.	Professor	L20 : V12	IV3
Manchester U.	Lecturer	L20	V2 and 3
St. Andrew's U.	Lecturer	L45 : V12.	IV3
Sheffield Univ.	Professor	L20 : V6	V3
Wales, Univ. of	Professor	L20 : V6	V3

In a large number of the above universities and medical schools there is co-operation with public health authorities, in so far as (1) members of health departments are actively engaged in lecturing or demonstrating on preventive medicine and hygiene to medical

students, and (2) opportunities are available for visits to clinics, institutions and other undertakings of public health interest. In the case of (2), however, the great demands on students' time by other subjects in the curriculum often prevent these facilities from being used as they might be.

PART II.

10. In this part of the Report is summarised much of the information laid before the Committee for their consideration in regard to special courses of instruction in public health and preventive medicine and various examination requirements.

A.

11. THE POSITION IN GREAT BRITAIN AND IRELAND.

Status of Teacher.

London.—In nine of the twelve schools the lecturer is a past or present member of the health services.

In the Provinces.—Six of the eight teachers hold the rank of professor of public health. All are active or retired members of the public health or Government medical services. In one instance the professor gives whole-time service.

In Scotland.—Two of the medical schools have whole-time professors of public health; in the other two the teachers are members of the public health service.

Ireland.—In Trinity College, Dublin, there is a lecturer on hygiene and forensic medicine; in Queen's University, Belfast, there is a professor of hygiene and public health; in University College, Cork, the medical officer of health is professor of public health.

12. *Number of lectures and visits.*

In London.—The course consists, as a rule, of 10-12 lectures. At University College and at St. Thomas' (in 1930) the figures are, respectively, 18-20 and 24. In five of the courses 2-4 visits are included.

In the Provinces.—There are usually 20 lectures (in one case 24 and in another 28).

In all schools, save one, visits are paid (5-12 in number).

In the Scottish Schools.—40-60 lectures are given and usually 5-6 visits are made. In Aberdeen the course of 60 lectures includes a considerable number on epidemiology and infectious disease.

In Ireland.—Trinity College, Dublin, offers a course of 20 lectures; Queen's University, Belfast, and University College, Cork, provide 30 lectures with 5-8 visits in addition.

About half the schools arrange for the lectures to be given in the 4th year of study and the other half in the 5th year. In two cases the lectures are given in the 3rd year.

13. *Nature of the lecture syllabus.*

Most of the courses of lectures deal with modern aspects of preventive work. In some cases undue attention seems to be paid to technical and constructional details which are more properly the business of experts. There is, however, a great difference between the teaching of 1909 and that of 1929, and most

lecturers appear to bear in mind the fact that the majority of their students will enter general practice and to base their teaching on the requirements of such practitioners.

Specimen types of syllabus will be found in the appendix on pages 259 and 260

14. *Examination requirements.*

Marked differences exist. All London teachers of preventive medicine are dissatisfied with the attention paid to the subject in the examinations for which their students present themselves. Provincial teachers on the other hand express no such dissatisfaction.

In the examinations of Oxford and London Universities, Trinity College, Dublin, and of the Scottish and Irish Conjoint Boards one paper is set which includes questions on forensic medicine as well as on public health.

In Cambridge an occasional question on preventive medicine is set in a paper headed "Pathology, Hygiene and Preventive Medicine."

In the Provincial and Scottish Universities a separate paper on preventive medicine is always provided and, with one exception, an oral examination is also given.

15. In the English Conjoint Board examination a question may or may not be included in one of the two papers headed "Principles and Practice of Medicine." Thus out of eight papers (English Conjoint Board), containing 40 questions in all, set during 1928, only the following questions had any relationship to preventive medicine:—

March 28, 1928. No. 3. "Write what you know of the prophylactic measures which may be taken against diphtheria."

July 3, 1928. No. 5. "Describe in detail the ordinary reaction to vaccination against small-pox. What complications may occur? Describe the value of the procedure."

It is apparently the case that a student may submit himself successfully for examination by the Conjoint Board without ever having been examined in preventive medicine.

B.

16. *The practice in other countries.*

Germany.—All candidates for the State examination in medicine must have attended a course of lectures on hygiene given by a specially selected lecturer, who is usually the Director of the Institute of Hygiene of the University (these institutes undertake bacteriological work). The course of lectures extends over two terms (2 or 3 lessons a week) or over one term (5 lessons a week). The subjects dealt with include eugenics, general hygiene, physical training, infectious disease, water supply, disposal of waste matters, food, air, climate, clothing, soil, housing, ventilation, and industrial and social hygiene. The lecturer is allowed complete latitude as regards the subdivision of the material, the method of handling it and the time devoted to the different subjects. The State examination in hygiene is oral only.

In addition to these compulsory courses, all universities provide other lectures for medical students, e.g., on industrial hygiene, the care of school children, etc. Tutorial classes are often held and visits to places of public health interest are nearly always arranged.

The medical curriculum extends over 6 years, the last year being devoted to residential work. The course on hygiene is given during the last three clinical years of study.

17. Holland.

In Amsterdam the lectures on hygiene are given during the last year of study—usually four times a week. Every student also undertakes one month's practical work on water analysis, Wasserman and Widal testing, etc. Visits are paid. The Teacher of hygiene is usually responsible for instruction in bacteriology as well.

The course deals with epidemiology, alcoholism, tuberculosis, venereal disease, infant mortality, industrial hygiene, water, sewage disposal, sanitation of dwellings and of towns, disinfection, diet, control of food supplies, vital statistics and public health administration.

There is no compulsory examination. The duration of the medical curriculum is six years.

18. Switzerland.

Hygiene is taught usually by the Professor of Hygiene and Bacteriology. In Lausanne the instruction is given in the "Institute of Hygiene, Experimental Pathology and Parasitology." The hygiene course lasts two terms and occupies 4 hours weekly. It deals principally with general hygiene (air, soil, water, the hygiene of towns, dwellings, schools, clothing, food and industry), and with special means of prophylaxis in infectious disease. Visits are paid to schools and other places of interest. Written and oral examinations must be taken. The duration of the medical curriculum is five and a half years.

19. Denmark.

A course of lectures and visits is given during one term (2 hours weekly). Attendance is compulsory. The course deals with water, control of food, sewage disposal, hospitals, control of epidemic and other diseases, infant welfare, school hygiene, industrial hygiene, vital statistics, public health administration and health insurance.

The Professor of Hygiene is in charge of the University Institute of Hygiene (mainly devoted to bacteriological work), but the teaching of hygiene is separate from the teaching of bacteriology.

There appears to be a good deal of instruction in preventive work given by other members of the teaching staff.

No examination in hygiene is held.

The course of medical training in Denmark lasts for seven years.

20. United States of America.

In 1923 the American Medical Association compiled a list of requirements for the curricula of the medical schools which calls for from 3,600 to 4,400 hours of study. Of this number 3 to 4 per cent. were allotted to hygiene and preventive medicine—giving a total of 108-170 hours of instruction. An examination of the curricula of twenty medical schools in the southern States shows that the number of hours devoted to public health and preventive medicine varies from 12 to 242, with an average of seventy-seven. Only eight of these schools require field work and laboratory demonstrations along with regular instruction. Four of the schools have separate departments of

hygiene and preventive medicine, but only one on a full-time basis. Most American medical schools prescribe a course of study lasting four years. Students must have completed their preliminary training in science before entry.

21. *Vanderbilt University*.—The arrangements made under the supervision of Professor W. S. Leathers are probably the most interesting in the United States. The scheme includes:—

(a) A course of forty-four lectures to fourth year medical students on epidemiology, preventive medicine and hygiene.

(b) Sixty-six hours of laboratory work and field demonstrations arranged in conjunction with the department of bacteriology and the State Department of Public Health.

(c) Lectures given by members of the Department of Preventive Medicine during the bacteriology course on the following or similar subjects:—

(1) some essential points in the scheme of public health,

(2) diphtheria from a public health point of view,

(3) the principles involved in the control of tuberculosis,

(4) epidemiology of influenza,

(5) meningitis,

(6) essential factors in the control of typhoid,

(7) general consideration in the prevention and eradication of communicable diseases.

Combined clinics are held where the Professor of Preventive Medicine and the Professor of Medicine deal at the same session with such subjects as typhoid fever, undulant fever, malaria, tularaemia and lead poisoning. Professor Leathers is a whole-time officer with a separate department of preventive medicine.

22.—*Harvard University*.—Professor Rosenau gives thirty-six hours of lectures and demonstrations to third year medical students. In addition, each student is required to make a sanitary survey of a town or district and to submit a report on his findings. This survey is usually made during the student's vacation and is not infrequently an elaborate and carefully compiled record. It is questionable whether the time required to complete a really good survey is not greater than can reasonably be demanded of medical students.

A good deal of attention is paid by all members of the staff of the medical school to the teaching of the preventive aspects of their particular subjects. It is noteworthy that a book has recently been issued by the Harvard University Press illustrating the manner in which various teachers endeavour to emphasise prevention (*Synopsis of the Practice of Preventive Medicine*—Warren, Harvard University Press, 1929).

23.—The Public Health Relations Committee of the New York Academy of Medicine some time ago appointed a sub-committee for the purpose of assembling and supervising the publication of a short manual on the practical features in the prevention of disease. This manual has now appeared and is particularly interesting in that its twenty-one contributors are some of the best known physicians and surgeons in New York. It is a book on preventive medicine written by specialist practitioners for the benefit of the general practitioner and its appearance is indicative of the trend of medical opinion in the United States.

24. Canada.

Toronto.—The Director of the School of Hygiene and the Connaught Laboratories is also Professor of Public Health and Preventive Medicine in the Medical School. A course of forty lectures is given to fifth year medical students (the medical curriculum lasts six years). In addition, practical instruction in public health laboratory work and in field work is given at the end of the fifth year and at the beginning of the sixth year, either in May-June or in September. This practical work consists of thirty visits, demonstrations, laboratory periods, etc., each lasting half a day and is done during the vacation period. Careful notes have to be kept by each student. Toronto was probably the first medical school in North America to organise a scheme of practical public health instruction as part of the normal medical curriculum.

PART III.

General Considerations.

25. Syllabus of instruction in public health and preventive medicine.

In his "*Recent Advances in Medical Education in England*" (1923) Sir George Newman outlined such a syllabus and indicated ways in which teachers, other than the lecturer on public health and preventive medicine, should co-operate by dealing with the preventive aspects of their special subjects. He also expressed the opinion that the direct instruction of medical students by means of special courses or lectures should not be overdone, nor overweighted with public health.

26. The Committee feel that the special lecturer on public health and preventive medicine should be in a position to leave to others the discussion of the scientific and clinical bases upon which the whole of our system of public health is built. In these circumstances, he would be able to confine his teaching to a consideration of the principles of prevention as applied to the general well-being of the people. Students would thus come to realise that preventive work is not the business of the public health service only, but concerns all practitioners of medicine, however employed.

27. How other teachers may help.

The special syllabus outlined below covers only part of the ground.

No reference is made to such matters as standards of physical fitness, physical training, exercise and rest, clothing, national nutrition, ventilation, lighting, heating, ultra-violet light, certain first-aid measures, fatigue and monotony in industry, elementary psychology. Discussion of these and similar problems falls within the scope of physiology, and it is certain that, only by teaching more

"applied" physiology and more "human" physiology, can medical schools direct the student's attention in the early months of his course to the scientific principles upon which the preservation of health is based. Opportunities for emphasising prevention offer themselves in the teaching of every one of the subjects in the medical curriculum and more particularly in that of bacteriology, obstetrics, gynaecology and paediatrics.

28. The course of instruction given by the lecturer on public health and preventive medicine should include:—

A short historical summary of the growth of preventive medicine and of the development of our system of public health.

An outline of English Local Government.

The Public Health Service—its relationships and personnel.

The legal obligations of medical practitioners and the governance of the medical profession.

Sources of statistical information.—Reports of the Registrar-General.

Importance of correct certification and notification.

Census returns.

Registration of births, deaths and marriages.

Calculation of rates—birth, deaths and infant mortality.

Notification of infectious and of industrial diseases.

Returns from hospitals, Friendly societies, insurance practice.

Maternity and infant welfare

The problems of maternal and infant mortality.

The declining birth rate and its causes

Notification of births.

Outline of a complete maternity and infant welfare scheme.

Co-operation between private practitioners, midwives, voluntary associations and local authorities.

Care of the school child.

The school medical service.

Findings of medical inspection.

The search for the beginnings of disease.

Organised schemes of treatment.

Mentally defective and physically defective children.

Education in special schools.

The adolescent and the adult.

Juvenile employment.

The Certifying Factory Surgeon.

National Health Insurance—the various "benefits," administration, "panel" practice.

Old age and other pension schemes.

Poverty and pauperism.

The social results of intemperance.

Public education in health.

General measures for the prevention and control of communicable disease:—

Notification.

Epidemiological inquiries.

Isolation of the infectious sick.

The problem of the contact and the carrier.

Local Authorities and active immunisation.

The rôle of disinfection.

The special problems of the typhoid group, smallpox, scarlet fever and diphtheria, measles and whooping cough, influenza, diseases of the respiratory passages, infectious diseases of the central nervous system, tuberculosis, venereal disease and cancer.

The influence of environment.

Housing and town planning.
The principles of house and town sanitation.
The importance of pure air and pure water.

Food and the public health.

The public control of food supplies, especially milk.
Investigations into outbreaks of food poisoning.

The health of workers in various industries.

Compensation schemes.
Welfare provisions.
The prevention of the principal industrial poisonings and occupational diseases.

29. Visits should be paid to places of public health interest such as a maternity and infant welfare centre, a school clinic, a tuberculosis dispensary and dairy premises. It need not be necessary to conduct special visits of the whole class to the first three. Such institutions are to be found in the neighbourhood of every student's place of residence and it should be possible for each student to pay one or more visits in the later months of his medical course, if necessary during one of his vacations. The local Medical Officer of Health would doubtless be willing to make the necessary arrangements. It is obviously advisable that medical students should become acquainted with that branch of Local Government with which they will later on be brought into such close relationship. In London use should be made of the museums of the London School of Hygiene and of the Wellcome Bureau of Scientific Research.

30. A course of instruction of this nature cannot be compressed into ten or twelve lecture periods and the Committee hesitate to specify the exact number of hours which should be assigned to the special lecturer on public health and preventive medicine. Much depends on the extent to which the lecturer will be required to deal with the epidemiology of infectious diseases and on various local arrangements. If adequate co-operation with other members of the teaching staff is forthcoming, a minimum of twenty-four lectures should be provided in the special course of instruction. Should such co-operation be withheld, teachers of public health and preventive medicine will have no option but to endeavour themselves to provide what they regard as an

essential part of a modern medical curriculum and to request that a substantial increase be granted in the number of hours allotted to their special subject.

Again, the Committee are unanimously of the opinion that the course in public health should be taken not earlier than the penultimate year of medical study. It is evident that many of the subjects in the syllabus outlined above cannot be taught to their full value unless the student has already gained some knowledge of clinical subjects.

31. Adequate training in preventive medicine can never be given in any *ad hoc* course of instruction; it can be secured only with the active co-operation of all teachers of the medical school. In this way a real professional course can be provided in which each subject is given its proper place in relation to the general scheme and from which students will be able to obtain a well balanced conception of their functions as practitioners of medicine. That certain teaching departments have succeeded in carrying these ideas into practical effect has been amply demonstrated in more than one of our medical schools.

Examinations.

32. The provision of suitable examination tests is of far less consequence than the establishment of adequate courses of instruction. At the same time it has not infrequently been shown that the only means of securing the latter was by the rigid enforcement of the former. If the subject of public health and preventive medicine is to be given its due importance in the medical curriculum, pressure will have to be brought upon certain examining bodies to alter their existing examination arrangements.

The Committee are unanimously of opinion that every medical student should be required to pass a separate examination in public health and preventive medicine consisting of a written paper and an oral test. The paper should contain five questions and these should be given a definite medical bias. Obviously such a paper should have its place as part of the final examination as the subjects dealt with demand a knowledge of much that is taught only during the clinical years of the medical curriculum. In all the other professional examinations candidates should be expected to show some knowledge of the preventive aspects of the particular subjects.

PART IV.

Recommendations.

1. That in every medical school a scheme should be prepared showing how each department can co-operate in the teaching of preventive medicine. Steps should be taken by the authorities of each medical school to put the scheme, when finally approved, into operation at the earliest possible moment.

2. That, if an adequate scheme of this nature is adopted, the number of lectures provided in the Special Course of Instruction in public health and preventive medicine should be not less than twenty-four.

3. That the course should be given not earlier than the penultimate year of medical study.

4. That the syllabus set out on pages 257 and 258 should be taken as a model outline by all special lecturers on public health and preventive medicine.

5. That Medical Officers of Health should be invited to co-operate in the training of medical students by affording them facilities for becoming acquainted with certain branches of the public health work undertaken by local authorities.

6. That no student should be permitted to obtain a registrable medical qualification without having passed a separate examination in public health and preventive medicine. Such examination should include a written test of not less than five questions, and an oral test. This examination should, if possible, form part of the final qualifying examination.

7. That there should be included in the other subjects of the various professional examinations questions dealing with the appropriate aspects of preventive medicine.

Finally, the Committee trust that the Council of the Society of Medical Officers of Health will submit this report to the General Medical Council for their information and consideration at the earliest opportunity.

Note.—At a special meeting of teachers of preventive medicine in British medical schools and universities, held on March 25th, 1930, at the house of the Society, 1, Upper Montague St., London, W.C.1, this report was unanimously approved in its present form.

APPENDIX.

Teaching of Preventive Medicine to Medical Students. Summaries of some Lecture Courses. Charing Cross.

Total number of lectures, 12.

General lecture on the work carried on in the Public Health Department and its various branches and institutions, including M. and C.W. Centre, School Clinic, Tuberculosis Dispensary, V.D. Clinic, Mortuary, Disinfecting and Cleansing Stations. Work of a School Medical Officer, M. and C.W. Officer, Tuberculosis Officer, V.D. Officer.

Work of ancillary staff; Sanitary Inspectors and special inspectors (meat, smoke, etc.), Clerks (Vital Statistics); Disinfectors, Health Visitors, School Nurses and Tuberculosis Nurses. Work of Voluntary Care Workers.

Then the lectures starting with the mother and her unborn infant deal with the baby, the pre-school child, the school child, young industrial worker and adult worker.

Individual lectures deal with:—

- (1) Maternity and child welfare work in more detail including the work of midwives.
- (2) The infectious diseases of school age—whooping cough, measles, scarlet fever, diphtheria, mumps and German measles.
- (3) Personal hygiene; rest and sleep, exercise, verminous conditions.
- (4) Industrial hygiene, including fatigue and the chief occupational diseases.
- (5) School medical work in more detail including mental deficiency.
- (6) Ventilation; tuberculosis and the tuberculosis dispensary in more detail, cerebro-spinal fever.
- (7) Venereal disease and the V.D. clinic in more detail.
- (8) and (9) Water and Sewage; typhoid fever and summer diarrhoea.
- (10) Food and food poisoning—chemical and bacteriological.
- (11) Vaccination, smallpox and chicken-pox.
- (12) Housing.

University College, London.

18-20 lectures as follows:—

1. History of preventive medicine.
2. History of preventive medicine, achievements and problems.
3. Simple statistics and interpretation of figures.
4. Preventable diseases, history, prevalence, etiology, methods of control, etc. Reference to current reports.
5. Included in these is infant mortality and maternal and child welfare.
6. Disinfection and disinfection.
7. Food and diet.
8. Food poisoning. Avitaminoses.
9. Air and ventilation.
10. Water supply and purification.
11. Water supply and purification.
12. The school child and school hygiene.

18. The factory and industrial disease.
19. Sanitation.
20. Sewage purification and river pollution.

Durham (Newcastle College of Medicine).

28 lectures covering the following:—
Meaning and scope of preventive medicine.
Medico-sociological questions in relation to medical practice.
Administrative machinery of preventive medicine.
Maternity.
Medical care of infancy. The young child. School hygiene.
Personal hygiene of adolescent and adult.
The dwelling house. The housing question.
Food supply. Milk supply. Water supply and the public health. Alcohol and alcoholism.
Infection and infectious diseases.
Principles of epidemiology.
Diseases of animals communicable to man.
Prevention of infectious diseases.
Vaccination and antitoxin inoculation.
Prevention of other forms of disease.
Vital statistics.
National Health Insurance.
Nuisances and dangerous trades.
Industrial hygiene.

Usher Institute of Public Health, Edinburgh University.

40 lectures.

(a) *Introduction.*

1. Public Health. History; aims; organization.

(b) *Physiological Needs.*

2. Foods ... Proximate principles; accessory factors.
3. Foods ... Digestion; assimilation; metabolism.
4. Foods ... Practical dietetics.
5. Water ... Needs; sources; storage; distribution.
6. Water ... Purity standards; purification methods.
7. Air ... Composition; vitiation; purification.
8. Sunlight ... Access; action; smoke-prevention.
9. Waste-removal Refuse disposal; conservancy systems—urban and rural.
10. Waste-removal Water-carriage systems; disposal of corpses.
11. Housing ... Supply; sites; types; construction.
12. Housing ... Drainage systems; warming systems.
13. Healthy habits Warmth; clothing; cleanliness.
14. Healthy habits Exercise; recreation; rest.

(c) *Hygiene of Development.*

15. The unborn ... Eugenics; antenatal care; care of the parturient.

16. The infant ... Special needs; mortality; maternity and child welfare.
17. The child ... Special needs; care of defectives.
18. The scholar ... Special needs; standards; medical care.
19. The adolescent Physical, mental and industrial training.

(d) *Hygiene of the Mature.*

20. Home life ... Bases; Economics; respites.
21. Industrial life Applied physiology; special conditions; dangers and laws.
22. Industrial life Female and young workers; Welfare; sociology.
23. Communal life Bases; economics; organization; possibilities.

(e) *Vital Statistics.*

24. Statistics ... Sources; compilations; significance; utilization.

(f) *Epidemiology.*

25. Infective disease Means of spread, prevention and control; notification.
26. Infective sick ... Hospitals; nursing; disinfection.
27. Infections ... Alimentary diseases:—Enteric; dysentery; cholera, etc.
28. Infections ... Smallpox; measles; scarlet fever; diphtheria; influenza; mumps; whooping-cough; cerebro-spinal fever.
29. Infections ... Vector-borne diseases:—Plague; typhus; anthrax, etc.
30. Control of no-mads. Port hygiene; traders, pilgrims and coolies.

(g) *Sanitary Law.*

31. Laws and Regulations ... General scope and application.

Practical Instruction in

Public Health Administration and Methods.

The Director of Instruction in Sanitary Administration (M.O.H., Edinburgh) in a series of 10 lecture-demonstrations deals with various Public Health duties and interests of the General Practitioner such as:—

- (a) The operation of various Acts in every-day practice.
- (b) The modern practice of disinfection, home isolation, removal of patients to hospital, and control of infectious disease in schools.
- (c) Preventive medicine, *re* drainage, water-supply, milk supply, etc.
- (d) Practical operation of the Housing Acts.
- (e) Co-operation between the M.O.H. and the General Practitioner.

The Society.

Reports, Proceedings and Announcements.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, April 11th, 1930. In the unavoidable absence of the President (Dr. J. J. Buchan), who was detained by official business at Bradford, the chair was taken by Dr. E. H. Snell, Vice-President. There were also present Professors Kenwood, Jameson and Kerr, Drs. Wood, Jolly, G. F. Buchan, Porter, Wilshaw, Stirk, E. Ward, Nash, Turner, Tapper, Linton, Puddicombe, Chalmers, Gibbons Ward, Pearce, Fenton, Paterson, Barlow, and Lt.-Col. G. S. Parkinson.

The minutes of the last meeting having been approved and signed, apologies for absence were received from Dr. Eustace Hill, Professor J. J. Jervis, Sir Humphry Rolleston, Dr. H. J. Milligan, Dr. G. W. N. Joseph, Dr. Stella Churchill, and Dr. A. A. Mussen.

Poor Law Medical Officers.—The General Purposes Committee reported letters from (a) the Poor Law Medical Officers' Association and Association of Public Vaccinators, and (b) from the Infirmary Medical Superintendents Society, expressing approval of the proposal to invite their members to assist in the formation of appropriate Groups within the Society. It was agreed that the arrangement of the necessary details in connection with the formation of the Groups be left in the hands of the Chairman and Secretary in consultation with the bodies concerned. Arising out of this matter the question of the name of the Society was raised. Instructions were given that this should be the subject of recommendations by the General Purposes Committee.

Census of the Public Health Service.—The General Purposes Committee reported that the Executive Secretary had been instructed to obtain the following information in reference to all whole-time Medical Officers:—(a) Name. (b) Date of birth. (c) Present appointment. (d) Conditions of service. (e) Previous appointments.

An explanatory circular would indicate the importance of securing complete returns under the above headings.

Poor Law Order, 1930.—The General Purposes Committee reported that in accordance with the request of Council (*Proceedings* PUBLIC HEALTH, March, 1930, p. 184), the President, and Dr. Picken, with the Executive Secretary had attended at the Ministry of Health with Dr. Brackenbury and other representatives of the British Medical Association to point out grave defects in the Draft Poor Law Order dated January 31st, 1930. The following letter had since been received from the Ministry:—

MINISTRY OF HEALTH,
WHITEHALL, S.W.1.
21st March, 1930.

GENTLEMEN,

With reference to your letter of the 5th instant I am directed by the Minister of Health to forward for the information of the British Medical Association and the Society of Medical Officers of Health two copies of the Poor Law Order, 1930, and of the circular letter covering the Order.

The issue of the Order by the 1st of April is imperative in the interests of the smooth administration of the poor law by the new authorities. That administration involves many considerations other than medical considerations, and the Minister in deciding to issue the Order, had had to take account of all elements in the situation.

The Minister has, however, found it possible, in the light of the representations in your letter and of similar representations on behalf of local authorities, to make certain alterations in the Draft Order in regard to the position of the Medical Officer of Health, and in this connection I am to refer to Article 165 (replacing the old Article 166) and to the alteration made in Article 7—now Article 75—which puts in the hands of the Medical Officer of Health a direct power of giving orders for admission to a hospital.

The circular letter explains the reasons for which the Order is judged necessary in present circumstances and clearly indicates the view taken by the Minister as to the objects to be aimed at and the line of development to be followed by the new authorities in the exercise of their functions.

I am, Gentlemen,
Your obedient servant,
(Signed) H. W. S. FRANCIS,
Assistant Secretary.

The Medical Secretary,
The British Medical Association.
The Executive Secretary,
The Society of Medical Officers of Health.

It was agreed that the prompt action taken in this matter had secured important modifications in the Order.

The Executive Secretaryship.—The General Purposes Committee recommended that on the retirement of Mr. G. S. Elliston, to take effect on September 30th, 1930, Mr. G. L. C. Elliston be appointed Executive Secretary for a period of three years, when decisions would be taken regarding the future housing, organisation and staffing of the Society. Until then the services of Mr. G. S. Elliston would be available in an advisory capacity. These arrangements were approved on terms to be entered in the full minutes of Council.

The Revised Scale of Salaries.—Dr. G. F. Buchan, as Chairman of the Salaries Committee, reported that the Revised Scale recommended to bodies representing Local Authorities as a result of the conferences held at the Ministry of Health under the chairmanship of Lord Askwith had been definitely rejected by the County Councils' Association.

The representatives of the Society would shortly be conferring with the B.M.A. regarding the position thus created. Meanwhile a resolution of the N.W. Branch and letters in the professional journals had indicated a strong desire to retain the minimum commencing salary of £600 for assistant medical officers. A discussion followed on the future policy to be recommended to the B.M.A., and it was agreed that the 1925 scale must be strictly enforced until further notice.

East Midland Branch.—On the recommendation of the General Purposes Committee it was agreed to sanction the formation as from October 1st, 1930, of an East Midland Branch of the Society to meet the needs of members resident in Leicestershire, Nottinghamshire, Lincolnshire, Rutland and parts of Derbyshire. The Council acknowledged the disinterested support for this proposal received from the Midland Branch, who were willing to suffer a loss of membership in the general interests of the Society. It was agreed to approve the following as a provisional committee of the East Midland Branch, pending the election of officers and council, *viz.*—Dr. W. M. Ash, Dr. C. Killick Millard, Dr. B. C. Stevens and Dr. Cyril Banks (Hon. Sec.).

Sale of Disinfectants.—Arising out of a representation from the Association of County Medical Officers of Health it was agreed, on the proposal of Prof. H. R. Kenwood, to ask the Minister of Health "to give early consideration to the matter of protecting the public against the sale as 'Disinfectants' or 'Antiseptics' of agents which are sold by retail

without any directions as to their use, or which are found to be inefficient for general use at the dilutions recommended."

Reports by Representatives on B.M.A. Council and Committees.—On behalf of Dr. Joseph (unavoidably absent) it was moved:

"That the Representatives of the Society on the Council and Committees of the British Medical Association be instructed to report the proceedings regularly to the Council of the Society in order that they may be able to ascertain the Policy of the Council in regard to matters under discussion."

The motion was approved unanimously.

Training of Medical Students in Preventive Medicine.—Prof. Jameson submitted the report of the Special Committee appointed on April 19th, 1929 to consider the teaching of Preventive Medicine in the curriculum of medical students and the requirements of examining bodies in regard thereto. The report was unanimously approved and adopted and it was directed that copies be forwarded to the Ministry of Health, the General Medical Council, the British Medical Association, the professional journals and all teachers of Preventive Medicine in the Universities and Medical Schools. Dr. Snell expressed the thanks of the Council to the Committee for their labours in producing a very valuable report, and especially to their chairman, Prof. Jameson, who had collected and collated so much of the information on which the Committee's report was based.

B.M.A. Representation.—The Council agreed to recommend for the support of Public Health Service members of the B.M.A. the following conditions for election to the Annual Representative Meeting, *viz.*, Dr. J. Fenton, Dr. Eustace Hill, Prof. H. Kerr and Dr. R. M. F. Picken. For two seats on the Council of the Association it was agreed to recommend Dr. G. F. Buchan and Dr. E. H. Snell for a further term of office.

Dr. Eustace Hill was nominated to attend the Annual Meeting of the B.M.A. to be held in Canada during August, 1930, as a direct representative of the Society.

May Council Meeting.—It was agreed that the next meeting of Council be held in connection with the Annual Provincial Meeting at Harrogate on May 16th-19th, and that the arrangements be made in consultation with the President, and the Yorkshire Branch.

Autumn Meeting at Lowestoft.—The Council agreed to accept the invitation of the Mayor

of Lowestoft to hold a provincial meeting of the Society in that borough on September 19th and 20th, and that the arrangement be made in consultation with the officers of the Eastern Branch.

Housing (No. 2) Bill.—Communications were considered from the President and Dr. Picken in reference to the Housing (No. 2) Bill now before Parliament. It was agreed that a special meeting of the General Purposes Committee be called for 2.30 p.m. on Thursday, 17th April, and that the Committee be authorised to take any emergency action they consider advisable.

The Council then adjourned.

In reference to the recommendation of public health candidates for the B.M.A. elections, as recorded in the proceedings of Council (see page 262), it has since been ascertained that Dr. G. F. Buchan is not eligible for re-election to Council, having served for a continuous period of six years. The General Purposes Committee of the Society have therefore asked Dr. Picken, of Cardiff, to offer himself for the vacancy. The Committee have also asked Dr. Wilshaw, of Worthing, to accept nomination for the A.R.M. in place of Dr. Fenton, who is unable to serve. The revised list of candidates is therefore as follows: *For Council*:—Dr. E. H. Snell, Dr. R. M. F. Picken. *For A.R.M.*:—Dr. G. F. Buchan, Dr. Eustace Hill, Prof. H. Kerr, Dr. R. H. Wilshaw.

ORDINARY MEETING.

An Ordinary Meeting was held at the house of the Society on Friday, April 11th, 1930. In the unavoidable absence of the President, the chair was taken by Dr. G. F. Buchan, Vice-President.

The minutes of the last meeting having been approved and signed, the following candidates were elected Fellows of the Society:—

Ashworth, Alan, M.B., CH.B., LIVERP., M.R.C.S., L.R.C.P., D.T.M.; Beckett, Gerald Paul Gordon, M.D., B.CH., DUB., D.P.H.; Brockington, Colin Fraser, M.A., M.D., B.CH. (CANTAB.), M.R.C.S., D.P.H.; Crawford, Andrew Clemmey, M.B., CH.B., LIVERP., D.T.M., D.P.H.; Davidson, John Farquhar, M.B., CH.B., ABERD., D.P.H.; Dixon, Helen Mary, M.B., CH.B., BRISTOL; Douglas, Ellen, M.B., CH.B., ST. AND., D.P.H.; Hunt, Sydney, M.R.C.S., L.R.C.P.; Laird, Andrewina, M.D., CH.B., ST. AND., D.P.H.; MacKenzie, John Chisholm Hamilton, M.D., CH.B., GLAS.; McMahon, Aileen Isabelle, M.R.C.S., L.R.C.P., D.P.H.; Masterman, Ernest William Gurney, M.D., DURH., F.R.C.S., D.P.H.; O'Connor, Annie

Amelia, M.B., B.CH., B.A.O., N.U.I.; Purdon, William Brooke, D.S.O., O.B.E., M.C., Major, R.A.M.C., M.B., B.CH., B.A.O., R.U.I.; Smith, Reginald Charles Frederick, M.B., B.S., DURH.; Snell, William Edward, M.A., M.D., CAMB., B.SC., LOND., D.P.H.; Sym, Jessie Crawford Brown, M.D., CH.B., ED.; Weaver, Alfred Ernest Remmett, M.D., CH.B., BIRM.

A number of nominations were received for the next election.

There followed a discussion on "Mental Deficiency and Lunacy in Relation to Public Health," opened by Dr. W. M. Ash, Medical Officer of Health, Derbyshire, Dr. Reginald Worth, Gen. Sec., Royal Medical Psychological Association, and Dr. W. A. Potts, Medical Officer of the Birmingham Committee for the Care of the Mentally Defective.

The opening papers and the discussion will be recorded in an early issue of PUBLIC HEALTH.

The proceedings closed with a cordial vote of thanks to the speakers.

THE METROPOLITAN BRANCH.

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

A meeting of the Council of this Branch was held at the house of the Society on March 14th, 1930, the President occupying the chair. Nineteen members of the Branch Council were present.

The Hon. Secretary presented a long memorandum prepared by representatives of the Associations of Town Clerks, Borough Engineers, Borough Treasurers and this Branch, in regard to proposals for the transfer or delegation of functions from the London County Council to metropolitan borough councils under section 64 of the Local Government Act, 1929, which the Branch Council approved with the exception of a paragraph recommending the transfer of venereal disease work, the Council being of opinion that this work should remain in the hands of the County Council.

Discussion took place on (a) communication from Dr. Cameron, of the Metropolitan Asylums Board, in regard to the pressure on accommodation at the South Wharf Smallpox Hospital owing to the increase in the number of patients admitted for observation; (b) letter from Dr. Swainston, asking for suggestions from the Branch on the question of securing closer co-operation between the Metropolitan Asylums Board and metropolitan medical officers of health in respect of the prevention of infectious diseases; and (c) letter from Dr.

Maitland Radford regarding the present difficult position of medical officers of health in relation to the extensive surveillance of small-pox contacts. The Branch Council concluded that these matters could be most satisfactorily dealt with at a special meeting to which Dr. Cameron and a representative of the London County Council's Public Health Department should be invited, and it was left to the President and the Hon. Secretary to arrange such a meeting.

The Hon. Secretary read a letter from the Metropolitan Tuberculosis Sub-Group stating that they had considered the additional evidence submitted to them in regard to the alleged inadequacy of pensions granted to ex-service men suffering from tuberculosis, but still adhered to their previous decision to the effect that they disagree with this allegation. The Branch Council decided to take no further action in this matter at the present time.

A letter from the Metropolitan Boroughs' Standing Joint Committee was read, suggesting that it would be an advantage if the Branch would confer with the County Medical Officer on the questions raised by the circular, dated December 5th, 1929, in regard to day nurseries and nursery schools, issued by the Minister of Health and the President of the Board of Education. The Branch Council adopted this proposal and appointed Drs. Howell, Annis, Shinnie and Radford and the Hon. Secretary to represent them in this matter.

A further letter from the Metropolitan Boroughs' Standing Joint Committee was read, asking for the observations of the Branch on a letter, dated February 19th, 1930, from the Clerk of the London County Council, stating that the County Council propose to consider whether it would be desirable to seek power to make by-laws, to be enforced by borough councils, for the general protection of food sold, exposed for sale, etc., within the County of London, and also powers in regard to the notification of cases of food poisoning and the registration of premises where articles of potted or preserved foods are prepared. The Branch Council decided to recommend the Standing Joint Committee to support these proposals.

Dr. Clark Trotter submitted details in connection with the unsatisfactory nursing of a maternity case by an unqualified woman, and it was decided to refer this matter to the Council of the Society with the suggestion

that steps should be taken to secure power to prevent unqualified women attending maternity cases, whether a medical practitioner is in attendance or not.

The Hon. Secretary read a letter from the Metropolitan Boroughs' Standing Joint Committee, enclosing draft copy of the County of London (Tuberculosis) Regulations, 1930, asking if the Branch had any views on this subject. These Regulations will enable the County Council to continue the practice of boarding out child contacts of advanced cases of pulmonary tuberculosis where the circumstances make such procedure desirable, and the Branch Council decided to raise no objection to this new legislation.

A further meeting of the Council of this Branch was held at the house of the Society, on April 4th, 1930, the President occupying the chair. Thirteen members of the Branch Council were present.

The Sub-Committee appointed by the Branch Council to consider the Dawes Report on Refuse Collection and Disposal, and to prepare evidence for submission to the Departmental Committee on London Cleansing, presented their report which was approved. The President reported that he had, on behalf of the Branch Council, given evidence, based on the statements contained in the Sub-Committee's report, before the Departmental Committee. Dr. Howell and the Sub-Committee were thanked for their services in this matter.

The Branch Council received the report of the Sub-Committee appointed to consider the Report of the Departmental Committee on the Training and Employment of Midwives and the British Medical Association Memorandum outlining a National Maternity Service Scheme and instructed the Hon. Secretary to send a copy to the parent Society. A vote of thanks was accorded to the Sub-Committee for preparing the report.

The Hon. Secretary reported that, as a result of communications addressed by the Branch Council to the County Medical Officer, Dr. Menzies had suggested that the time had come when matters arising between the County Medical Officer and metropolitan borough medical officers of health should be discussed by *all* metropolitan medical officers of health and not only by those who are members of this Branch. The Branch Council agreed with this view and expressed the following opinions:—

- (1) That it is in the interests of all concerned that official public health matters arising between

the County Medical Officer and Metropolitan borough medical officers of health should be dealt with not by this Branch but by a meeting of all metropolitan medical officers of health and the County Medical Officer.

- (2) That a group of metropolitan borough medical officers of health should be formed to include all these officers, whether members of the Branch or not, and that the group should have its own Chairman and Secretary.

The Branch Council authorised the President and the Hon. Secretary to interview the County Medical Officer on the matter.

A meeting of the Branch followed the above meeting, the President occupying the chair. Thirteen members of the Branch were present.

The President reported that he had received an invitation for the Branch to visit the National Institute for Research in Dairying at Reading. It was decided to accept this invitation for a date in May, and to leave final arrangements in the hands of the President and the Hon. Secretary.

Consideration was given to a communication from Dr. V. Borland, in which attention was called to the difficult task of keeping all small-pox contacts under surveillance. The letter mentioned that in the week ended March 22nd last, persons in 665 premises in Bethnal Green had to be kept under daily observation. Dr. Borland suggested that the present procedure of daily following up of contacts for eighteen days, which has been adopted in London, could be modified to some extent so as to give relief to the staffs of public health departments without diminishing the efficiency of the surveillance exercised. His letter contained particulars of the modifications suggested. These were considered by the Branch in detail, with the result that certain minor alterations were suggested and the Hon. Secretary was instructed to ask the Ministry of Health if the proposed modified system of supervising small-pox contacts in London would meet with approval. The proposed modified scheme is as follows:—

- (1) An original visit to be paid to the home when a case of small-pox is reported. At this visit all essential particulars will be obtained and necessary instructions given, including advice to report as soon as any contact feels ill. If all information is not available at this first visit, an early second visit to be paid to the home when it is most probable that all members of the household will be present for interview.
- (2) The next call to be paid on the third day (for the purpose of finding if any further cases have arisen from the same infecting source.)

- (3) No further visit to be made until the twelfth day.
- (4) Visits to be made on alternate days from the twelfth up to and including the eighteenth day, but visits to be made daily during this period if the inspector is doubtful whether he can rely upon the statements made to him.
- (5) A contact who is known to have been successfully vaccinated within the last ten years can be omitted from the list of contacts to be followed up.
- (6) Where a doctor in his notification of chicken-pox in a child under ten years of age, states that the patient has been successfully vaccinated, the medical officer of health can omit this from the list of doubtful cases which should be seen by him.

THE NORTH-WESTERN BRANCH.

President: Dr. F. A. Sharpe, M.O.H., Preston.

Hon. Secretary: Dr. G. W. N. Joseph, M.O.H., Warrington.

A meeting of this Branch was held in Manchester, on April 4th, 1930, the President occupying the chair. Thirty-four members were present.

A discussion on "Hospital Services under the Local Government Act, 1929, in relation to Epidemics," was opened by Dr. N. Gebbie. He pointed out that so far hospitals for infectious diseases have been the main hospitals established and maintained by local authorities under section 131 of the Public Health Act, 1875, which gave them power to provide hospitals for the sick inhabitants of their districts. In the administrative arrangements for securing hospital isolation and treatment for the so-called minor infectious diseases, the needs of the voluntary hospitals cannot be overlooked. As a rule, isolation accommodation for cases of measles, etc., occurring in voluntary hospitals is inadequate or non-existent. With regard to municipal hospitals (*i.e.*, the transferred poor law hospitals) there is the important condition that accommodation must be provided for necessitous cases, *i.e.*, cases sent by the Public Assistance Committee, and such cases may be minor infectious diseases. Where are such cases to be accommodated? In the transferred hospitals where they have mainly to be dealt with or in isolation hospitals where such accommodation has been limited or non-existent in the past? Section 63 of the Local Government Act, 1929, which should be read in conjunction with Part I of the Act, deals with the provision of hospital accommodation for infectious disease. The position of local authorities with regard to infectious disease

is more clearly defined. Briefly, County councils must make a survey of their needs either alone or jointly, prepare a scheme and submit the scheme for the Minister's approval, arrangements for county council hospital accommodation to be available when necessary for county borough patients and *vice versa*. It will be necessary probably for councils of the counties to seek the co-operation of those of the county boroughs, who will be faced with the question of extension of their existing accommodation. What type of accommodation is this to be? If measles, whooping cough, chicken-pox and mumps are to be dealt with in the infectious diseases hospitals there are great advantages in the modern cubicle pavilion with interior walls partially constructed of glass and with a wash-hand basin in each cubicle. Whether cases of minor infectious diseases are treated in the transferred hospitals or in isolation hospitals, we must look in the future for an increase in the numbers seeking admission especially when the stigma of poor law is removed.

Dr. Sage Sutherland said that the question arose whether we should reduce the numbers of scarlet fever cases admitted or provide additional accommodation for measles. He emphasised the necessity of making special provision for dealing with cases of mastoid disease following measles.

Dr. Stallybrass alluded to the problem of the introduction of infection amongst the child population of the public hospitals. Originally, poor law hospitals dealt with all infectious diseases but in any extensions he advocated provision of accommodation in isolation hospitals. At the same time the provision of special quarantine wards would be useful in the public hospitals when admitting cases likely to remain for long periods. The medical officer of health must closely concern himself with all the most modern methods of immunisation of the susceptibles in the population by means of sera and vaccines.

Dr. Scholefield thought that county councils would not be able to make arrangements for dealing with infectious diseases except by co-operating with the county boroughs. Too much reliance was placed on hospitals, however, for the prevention of epidemics.

Dr. Whitehead considered isolation would probably be easier to provide in the transferred hospitals than in infectious diseases hospitals. Measles was a big problem, and would have to be dealt with as a whole, and not only as cases arising in hospital.

Dr. T. W. Naylor Barlow stated that in

Wallasey with a population of 105,000 there had been no deaths from scarlet fever and only one from diphtheria in the past twelve months. With such mild infections, treatment at home ought to be sufficient thus liberating isolation hospitals for more serious cases. He might, after conferring with local practitioners, introduce a system of admitting serious cases only of whatever infectious disease was rife at the time, and in non-epidemic periods use the accommodation for children suffering from heart disease and rheumatism and for such cases as could be discharged at a moment's notice if required.

Dr. J. E. Spence said that isolation was useless in preventing epidemics of measles and whooping cough; the main thing was to prevent mortality. As mortality was chiefly amongst children under three years of age, provision for admitting all such requiring hospital treatment should be attempted in any re-organisation of accommodation.

Dr. V. T. Thierens pointed out that the stigma of poor law would not be removed by the mere transfer of hospitals to local authorities, but only by means of appropriation or declaration, and that where administered by public assistance committees there was no substantial alteration in methods under the new regulations.

Dr. Wilkinson said that in Oldham they made a declaration, but accommodation for infectious diseases was limited. What was required was the education of the public to the fact that scarlet fever did not necessarily require hospital accommodation; he would prefer to take in measles rather than scarlet fever.

Dr. F. T. H. Wood, in proposing a vote of thanks to the opener of the discussion, said he could not help thinking that accommodation was still best provided in the poor law institutions because of the long periods of freedom from severe cases. Another difficulty was the lack of success in getting people to accept measles accommodation.

Dr. McClure seconded, and mentioned how, although formerly we were permitted, now if we made a declaration we were bound to provide accommodation for all these cases. This was obviously impossible at present as far as measles was concerned. How many beds should be provided? Manchester in epidemic times had forty beds, and there was no great demand yet for their use. He thought a lot could be done by extension of home nursing arrangements.

The President (Dr. F. A. Sharpe), in putting the vote of thanks, which was unanimously

accorded, submitted that general practitioners would do all the propaganda work necessary to facilitate admission of cases once the necessary accommodation was provided. Undoubtedly isolation hospitals were the places for these cases, since neither in construction nor staffing could the transferred hospitals adequately deal with them.

Dr. Gebbie, in replying, again emphasised the advantages of the cubicle system both as regards isolation and economy of staffing.

A special meeting of the North-Western Branch was held at the Queen's Hotel, Piccadilly, Manchester, on Friday evening, April 4th, 1930, for the consideration of the Salary Scale of the Society and British Medical Association.

The meeting was called owing to the amount of dissatisfaction that had been expressed from time to time with regard to the scale, especially by the junior members of the service, and on this occasion non-members were invited to attend and enter the discussion, which mainly dealt with the position of juniors. Altogether there were some thirty-five members present, and Dr. George F. Buchan, Chairman of the General Purposes Committee of the parent Society, very kindly attended to open the discussion and explain the situation.

In his opening remarks he traced the history of the campaign from the first formation of the Salaries Committee in 1919. In 1920 certain conclusions were arrived at, and along with the late Dr. Howarth he attended the annual representative meeting of the British Medical Association at Cambridge to voice the opinions of the Society. Although no scale was approved, the outcome was the passing of a resolution that salaries of public health medical officers should be increased, and a committee was formed. The Society agreed to enter into negotiations, and in 1923 a scale was passed at the annual representative meeting at Portsmouth. In this scale assistants were to receive from £600 to £800 per annum, plus Civil Service bonus. Representatives of the B.M.A. and the Society met to discuss this scale with representatives of local authorities at the Middlesex Guildhall. The local authorities, however, refused to recognise any scale at all, much less to discuss one. The British Medical Association and the Society, nevertheless, began to operate the scale, and so successfully that it was suggested that, in the interests of the maintenance of a sufficiently good public health personnel and service, a further conference with local authorities

should take place. Such a conference was accordingly arranged, Sir Arthur Robinson, Secretary of the Ministry of Health, acting as chairman.

The result was the scale of 1925, which is still operative, though, in fact, the Association of Municipal Corporations alone recommended it to its constituent authorities, and, apart from the Ministry of Health, was the only body to give it a backing. Nevertheless, the scale was operated successfully, and approximately 90 per cent. of appointments have been made in accordance with it. Then two particular cases arose, that of the appointment of a maternity and child welfare officer for Lindsey County Council (at £400 per annum) and a medical officer of health for Surrey County (at £1,500 instead of the scale £1,600), and the County Councils' Association began to urge a further conference.

Though neither the Society nor the British Medical Association desired this further conference, they nevertheless agreed to take part in it. At the conference strenuous efforts were made by the British Medical Association to get the best possible terms, and probably in all the circumstances the best possible were obtained. This new scale was to operate from April 1st, 1930, subject to the right to revert to the 1925 scale in the event of failure to agree. The Association of Municipal Corporations, the Urban District Councils' and Rural District Councils' Associations and the Metropolitan Boroughs' Standing Joint Committee have all agreed; the Association of Education Committees had not replied up-to-date; and the County Councils' Association have rejected the scale.

The point, therefore, for consideration was whether the new scale had any advantages over the 1925 scale, and what should be our policy. Had there been general agreement and the County Councils' Association had adopted the new scale, both the British Medical Association and the Society of Medical Officers of Health would have been bound by it. Now, however, it was open to us to decide our line of action, and the British Medical Association would shortly call a further Conference with representatives of the Society to discuss the position.

Dr. T. W. Naylor Barlow, O.B.E., pointed out that at the conferences the representatives agreed entirely as to the justice of the terms, but all laid stress on the fact that they could not bind their Associations, and, still further, that, once having convinced their Associations, they

could not bind their constituent local authorities. A good deal of difficulty was experienced with Scotland and Wales, and another source of difficulty had been women medical officers in the child welfare service.

Dr. Ratner stated that although the British Medical Association, in sending out the old scale, suggested increments, these had only been granted in a small minority of cases. He thought that the new scale was grossly unfair so far as junior officers were concerned, having regard to the amount of experience necessary before obtaining an appointment. To offer only £500 a year, rising to £700, even with the proviso that on transfer salary was not to drop, was useless, as it meant that local authorities would invariably appoint at the lower figure. He disagreed with the assessment of medical superintendents of institutions according to the number of beds under their control and not by type of work. For instance, a sanatorium to be really efficient ought not to have more than 200 to 250 beds, whereas an infectious disease hospital might easily have 600 beds, and other hospitals up to 2,000 beds. The section with regard to hospitals needed complete revision. Another condition of service of junior officers, excluding residents, should be a right to have periods of study leave, say, one month in three years with full salary and expenses.

Dr. Robertson Wilson agreed with the previous speaker, and added that the stipulation in Para. 4 of Section II, regarding transfer of officers, would discourage the circulation of junior medical officers. In the next paragraph, if an increase was not granted at the end of five years, the salary ought to come up for revision annually thereafter until granted, and also after each increase be again considered every five years.

Dr. E. H. M. Milligan said it was not so much the adoption of a scale as getting it to operate. Some such agreement as the Burnham scale for school teachers was needed. Teachers and clerical staffs of authorities got their increases automatically without trouble, but as soon as the medical officer was mentioned there was an immediate newspaper campaign which put the medical officer in a very undignified position. He would like to see passed a resolution that action should be taken by the Society in all cases where an authority did not conform to the scale if it had been agreed to by the Association of which the authority was a constituent.

Dr. Whitehead considered it was a waste of time discussing details unless we devised some

means of enforcing the scale. Leaving it to local authorities to give increments was useless, and definite increments for definite periods should be laid down.

Dr. Glass asked if it was feasible for the British Medical Association to refuse advertisements unless definite increments were stated in addition to salary. The pressure brought to bear on local authorities had worked extremely well, but the minimum scale nearly always became the maximum.

Dr. Barlow mentioned that salaries were not dealt with by health committees who were fully conversant with the nature of the duties, but as a rule by independent committees without such knowledge.

Dr. H. Herd submitted that there had been no suggestion as to what the scale should be. The new minimum was a great disappointment with its drop from £600 to £500. Then the question of juniors who were getting old in the service seemed to be overlooked. He would suggest £600, rising to £750, then after, say, ten years to £900.

Dr. R. Gamlin considered that the opinion of public men of medical officers in the various services was not very high. The medical officer of health quite rightly was the chief officer of every service, but under him in large areas was a chief administrative officer in each branch under whom was a third man who did the executive clinical work. Now, although this officer was really a consultant, he was looked upon merely as a third assistant. More consideration by medical officers of health of the titles given to their colleagues would uplift the assistants in the eyes of the public.

Dr. Lissant Cox agreed that there was great dissatisfaction with men who were actually consultants in the difference between their salaries and those of the administrative staff. He contrasted Cheshire County Council and the West Riding tuberculosis services.

Dr. Robertson averred that medical officers were to blame in the past by putting too small a value on their services, and they had come to be looked on as a lower branch of the profession than the general practitioners.

Dr. Buchan, summing up, showed the difficulties of enforcing any scale, and pointed out that the Board of Education in the case of the Burnham scale could withhold grant unless it was complied with. He agreed that our demands had been too small. The associations of local authorities had promised to bring pressure to bear on constituent authorities to give the scale,

but not more than the scale. He asked that specific directions should be given to the Council Representatives as to the action they should take, and an indication as to whether they were in favour of the old scale or the new.

The President said that apparently the old scale was the more popular, and asked for a definite resolution.

It was proposed that the following resolution be forwarded to the Council: "That the North-Western Branch expresses grave dissatisfaction with the Askwith Scale, and is of opinion that the minimum commencing salaries for assistant medical officers should be £600 per annum, with a prospect of rising to £1,000 per annum in a reasonable number of years."

Dr. Gamlin moved an amendment that the new scale be agreed to subject to a review in five years. This was seconded by Dr. Hauxwell, but on being put to the vote was not carried by 25 votes to 4.

Dr. F. T. H. Wood, O.B.E., asked what action the Council was likely to take in the event of the resolution being submitted.

Dr. Buchan stated that he could not say what action the Society would take, but as the North-Western Branch had three Representatives on the Council, they would doubtless see that the resolution just passed would receive proper consideration. He himself promised to inform the Council of the strong views expressed at the meeting.

The resolution was then put to the meeting and carried *nem. con.*

A hearty vote of thanks to Dr. Buchan for his services concluded a very successful meeting.

THE YORKSHIRE BRANCH.

President: Professor J. Johnstone Jervis, M.O.H., Leeds.

Hon. Secretary: Dr. G. H. Pearce, M.O.H., Batley.

A meeting of this Branch was held at the Town Hall, Wakefield, on March 28th, 1930, with the President in the chair, supported by twenty-three members. All present were pleased to welcome Dr. B. G. Hillman, an ex-Mayor of Wakefield, and representative of the British Medical Association to the Branch. Apologies for absence were received from the President of the Society and six members.

A report by three representatives of the proceedings at the meeting on March 13th, 1930, of the Yorkshire Branch of the British Medical Association having been considered, it was resolved that the representatives of the

Society on the Branch Council of the British Medical Association be instructed to take action in the terms now indicated.

Dr. J. Mair moved the following resolution: That (1) the representatives of the Branch on the Council of the Society be elected at the June meeting; (2) all other annual elections take place in May; and (3) the bye-laws of the Branch be amended accordingly. This was unanimously approved.

Dr. E. K. Macdonald, Medical Officer of Health, Barnsley, contributed a paper of much interest entitled "Some Difficulties in obtaining a Clean Milk Supply." The discussion was taken part in by Majors Rabagliati and Dixon, Mr. S. Sharpe, and Drs. Jervis, Mair, Moore, Pearce, Pickup and Williamson. The presence of a number of members of the veterinary profession added to the success of the meeting. Dr. Macdonald was heartily thanked for the contribution, which will be transmitted to the Hon. Editor of PUBLIC HEALTH with a view to publication.

The Council of the Branch and the County District Group both met before the ordinary meeting.

THE HOME COUNTIES BRANCH.

President: Dr. E. H. T. Nash, M.O.H., Heston and Isleworth.

Hon. Secretary: Dr. A. A. Turner, M.C., M.O.H., Finchley.

A meeting of this Branch was held at the house of the Society on April 4th, 1930, when the President and thirteen members were present. Apologies for absence were read from Drs. G. F. Buchan and J. J. Paterson.

It was agreed that the Branch should support the candidature of Professor Harold Kerr, O.B.E., for the Presidency of the Society for the session 1930-31.

Dr. A. B. McMaster read a paper on "The Serum Treatment of Scarlet Fever." The practice in Dover is to give serum to all cases of scarlet fever which, on admission, have a rash, or, if the rash has gone, still have a temperature. The initial dose is 10 c.c., and it is rarely necessary to give more. All patients are kept in bed for fourteen days, and a large proportion are discharged on the twenty-first day after admission. Up to the present, no complication has developed after discharge, nor has any return case occurred. In Dr. McMaster's opinion, serum cuts short the

period of isolation, reduces materially the risk of complications, and, even if not given early enough to prevent complications, modifies considerably those that may arise. The Schultz-Charlton reaction he found infallible as an aid to diagnosis.

After a discussion in which the President and Drs. Belam, Leonard Williams, Caryl Thomas and Turner took part, Dr. McMaster was cordially thanked for his most instructive paper.

Dr. K. E. Tapper reported an instance where the Ministry of Health had refused to make an

order constituting a district council the local supervising authority under the Midwives Acts, the reason being that too few midwives were practising in the area. There were actually fourteen midwives practising in the area. After a discussion the following resolution was passed *nem. con.*: "That this Branch view with apprehension the fact that the Minister of Health is refusing to appoint district councils as local supervising authorities under the Midwives Acts, 1902-1926, in accordance with section 62 of the Local Government Act, 1929."

The Literature of Preventive Medicine.

MEDICAL INSURANCE PRACTICE. A Work of Reference to the Medical Benefit Provisions of the National Health Insurance Acts. By R. W. HARRIS, late an Assistant Secretary, Ministry of Health, and LEONARD SHOETEN SACK, of the Middle Temple, Barrister-at-Law. Issued by the British Medical Association, Tavistock Square, London, W.C.1. 1929. Third Edition. pp. 368. Price 3s. net.

The National Health Insurance Acts and Regulations present many difficulties to the uninitiated. They are, as Mr. Winston Churchill once said, "expressed in language only intelligible to those who are masters of this intricate and highly specialised subject." Two such masters are the authors of "Medical Insurance Practice," and the issue of the third edition of their book has been warmly welcomed. Special attention has been given to the principles underlying the insurance medical service, and many requirements which at first sight may have appeared irritating and unnecessary, are shewn to be essential to the smooth working of a scheme under which "every insured person is entitled to receive medical treatment whenever required, and practitioners collectively must be able to supply it." But, as the authors admirably point out, in a scheme necessarily somewhat detailed, these technical points must not be allowed to prevent a patient receiving prompt and effective treatment.

A bugbear of the medical service is the feeling among some insured persons that they are not as well treated as they would be if the same doctor attended them as private patients. Whatever grounds there may be for this notion, it is made perfectly clear in this volume that an insured

person is entitled to the *personal* services of his doctor; that all proper and necessary medical services within the capacity of the average general practitioner shall be given, and that no limits are imposed on the cost of any medicine necessary to the patient's recovery. The range of the medical service to be provided has been a cause of dispute from time to time, but it is pointed out "that the scope of general practitioner treatment will necessarily change with the advance of medical science." Not unreasonably, therefore, the obligation is placed upon the doctor to show that a particular service is outside the scope of the scheme.

The chapter devoted to the function of the medical regional officers is most useful, particularly in view of the alarming increase in the sickness experience of approved societies in recent years. As Sir Walter Kinnear recently pointed out in his address to the Faculty of Insurance, societies are alive to the necessity of using the regional medical staff to test the incapacity for work of their members, and it is found that over 50 per cent. of the cases so referred declare off the funds. But panel practitioners themselves might with advantage make far more use of the regional medical service by asking for consultations on the medical aspect of cases under their care.

Much emphasis has recently been placed upon the importance of medical certification. While, of course, the medical certificate is not legally an order to pay benefit, it is, as the authors say, "evidence of incapacity on which payment is ordinarily made to patients, and it is important that certificates should not be issued unless the practitioner is satisfied, in the exercise of his medical judgment, that the patient is, in fact,

incapable of work." The degree of lax certification by panel doctors has been difficult to assess but a departmental committee is now exploring the subject, and it is hoped to obtain some information as to the standard applied by different practitioners in interpreting the words "incapable of work."

On all these points, and many others, the busy practitioner will find "Medical Insurance Practice" an ideal reference book in cases of doubt or difficulty. It is a compendious volume; there is a good index, and the appendices of rules, regulations and forms are particularly useful.

The exposition is clear and concise, and the book should appeal, not only to those engaged in insurance practice, but to medical officers of health and others who are brought into contact with the insurance services. It is, indeed, regrettable that the medical services of the local authorities and National Health Insurance should have grown up in water-tight compartments, and that opportunities of co-operation have been missed in the past. It is now beginning to be more widely realised, however, that National Health Insurance is a permanent and essential part of the social system of the country and it is from that point of view that "Medical Insurance Practice" should find a place in the library of every medical officer of health.

OUTDOOR RECREATION LEGISLATION AND ITS EFFECTIVENESS. A Summary of American Legislation for Public Outdoor Recreation, 1915-1927, together with a study of the association between Recreation Areas and Juvenile Delinquency in Manhattan, 1920. By ANDREW G. TRUXAL, PH.D., Sometime Gilder Fellow in Sociology at Columbia University. London: P. S. King & Son, Ltd., 1929. pp. 218. Price, 14s. net.

It is probable that the average person has more time on his hands than he knows how to utilise in a correct and suitable way. Moreover, industrialisation with the concomitant concentration of the masses has rendered difficult the task of supplying proper facilities for recreation; and this, together with the shortening of hours of work, has given the bulk of the population increased leisure for which they are quite uneducated and unprepared. In his book, Dr. Truxal has given a detailed account of the legislative enactments (during 1915-27 in the United States) making provision for

public outdoor recreation. It is only comparatively recently that the Government have taken part in this movement, but in 1927 some thirty-four States had created, or received as gifts, parks or reservations for recreation.

Most of the large cities have discovered—too late—that in their congested areas there is little provision for recreation; any small spaces for children's playgrounds have to be provided at a vast price. And the author presses home the great purpose of city planning—the control in advance of the growth of a city and an intelligent effort to make provisions within urban centres for the probable future needs of the population. The various arrangements that have been made are described in very interesting chapters, and the types of municipally conducted recreation discussed; while state and federal provisions are also included.

The social significance of recreation is the subject of a very thoughtful dissertation in the second part of the book. Does the provision of recreation facilities accomplish what is claimed for it? The answer is guarded; after an exhaustive analysis it is concluded that there is a moderate association between the presence of recreation areas and the absence of juvenile delinquency provided there is taken into account a sufficient number of the environmental influences. But the author would look with considerable scepticism on an easy generalisation which would assign to the one environmental factor of recreation spaces the predominant influence in the control of delinquency.

The book has been compiled with great exactness and after much careful study; and it should make a wide appeal to all social workers.

THE TREATMENT OF THE SICK POOR OF THIS COUNTRY. By H. J. MCCURRICH, M.S., M.B. (Lond.), F.R.C.S. (Eng.). London: Humphrey Milford, Oxford University Press, 1929. pp. 132. Price 5s. net.

HOSPITALS AND THE STATE. By R. WESTLAND CHALMERS, M.B., CH.B., D.M.R.E. London: John Bale, Sons & Danielsson, Ltd., 1928. pp. 143. Price 6s. net.

Here are two books dealing with closely allied, they were also indebted for a detence to tion of the facilities available at the Royal (Corporation) Baths which took place on the following day.

point of view, and to seek for guidance in future developments from the events of the past.

Dr. McCurrich's book, which formed the Rogers Prize Essay, 1926, gives an invaluable account of the methods of treating the sick poor as developed under the poor law system, and affords a clear and critical survey of the manner of approach to this subject under the régime that is passing. Because of this, it will be of special value to those medical officers who desire a clear understanding of many existing conditions, but it goes further and surveys much of the work developed by health authorities during the past twenty-five years, and indicates the lines of future progress. On larger matters of policy the book is, to a great extent, silent. It tends to deal with circumstances as they are and how they can be improved, and it is an eminently practical *résumé* of the position. In the discussion of the future, however, the need for various root reforms in the administration of poor law hospitals is clearly indicated, while the need for raising these hospitals to the highest medical standard and rendering them available for purposes of clinical teaching is adequately dealt with.

The book ends, as every book of this description should end, in dealing with prophylaxis, and points out that public health has now gained so much momentum that its progress must continue, and in its development many of the sources of prevention have been traced beyond the realms of pure medicine into engineering, architecture and other sciences that all must co-operate in the task of improving the health of the community. The book is a good one.

Dr. Westland Chalmers' book deals with hospitals more from the popular point of view. It is extremely well written, and presents a case which many will find convincing. It does not seek to deal in great detail with hospital services, but in its general review of their development it shows how more and more progress has tended towards State hospital provision, and indicates how this attitude is still further likely to become more pronounced. The book is written clearly with the object of fostering State hospital development, and may be read by persons that they are not as well as they would be if the same doctor attended them as private patients. Whatever grounds there may be for this notion, it is made perfectly clear in this volume that an insured

and will do much to arouse the public conscience. Dr. Chalmers, quite rightly, does not distinguish between the essential motives which have laid the foundations of our voluntary hospital system and the provision of State hospitals, but he has pointed out that private philanthropy in a large sense has constantly endeavoured to treat the symptoms and leave causes untouched. In the epilogue to his book, he raises many cogent questions on voluntary effort in this direction, and at the end of a rather memorable paragraph he asks the question: "Will the extension of wise and beneficent government circumscribe the areas of private benefactions, the exercise of the charitable virtues, the propagation of the liberal sentiments, the growth of the spirit of compassion, or the practice of benign goodwill?"

The book is well worth reading.

In the Annual Reports.

PARTHAN.—A retiring official may perhaps be permitted respectfully to deplore the lack of interest in all forms of public health work, on the part of members of the local authorities in general. There are, of course, a few—very few—notable exceptions. But repeatedly the public health joint committee has been asked for helpful criticisms and none has ever been given. Year after year the education authority has met next door to its medical officer's office, but members have never made any enquiries as to the medical work among the children for whom they are responsible. Surely such bodies will see in time that more time spent on the hygienic education of children would be a gain in the end. In rural counties, such as this, a great part of the improvement of the people's general condition lies in the hands of an education authority. The school ought to be a bright and attractive place, and its sanitary arrangements a pattern to the neighbours. More consideration of the physical improvement of scholars is urgently needed.—*Dr. John Crawford, County of Zetland (Mainland District).*

PASTEURISATION: THE ORTHODOX VIEW.—Whilst admitting the fact that if all milk were pasteurised a safe product would result—I use the word "safe" from the point of view of infection and not from a dietetic value—I think the wholesale pasteurising of milk would be the line of least resistance and tantamount to an expression of failure, failure even with the standard set up by the Milk (Special Designations) Order, and the cleanliness demanded in the Milk and Dairies Order, 1926, to produce a clean milk without resource to heat. Pasteurisation may be a practical solution but it is not an ideal; and ideals should be for what preventive medicine stands.—*Dr. A. Stuart Hebblethwaite, Sunderland.*

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PUBLIC HEALTH

THE JOURNAL OF
THE SOCIETY OF MEDICAL OFFICERS OF HEALTH.

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PUBLIC HEALTH, the Official Organ of the Society of Medical Officers of Health, is prepared to receive a certain number of approved advertisements.

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Editorial.

The Harrogate Meeting.

THE first of the two provincial meetings of the Society arranged for the present session, that held at Harrogate on May 16th and 17th, was attended by a large and representative gathering of members, who received at the hands of the Council of this famous spa a most cordial welcome and kindly hospitality. The excellence of the arrangements made for the convenience and entertainment of members evoked unstinted and well-deserved praise, and in this connection the thanks of the Society are due in large measure to Dr. James Mair, Medical Officer of Health of Harrogate, who was untiring in his efforts to ensure the success of the meeting.

No more appropriate subject than "Rheumatism in its Public Health Aspects" could have

been chosen on this occasion for discussion at the ordinary meeting and no more appropriate place of meeting than the Harrogate Royal Bath Hospital. Equally appropriate was the submission of two of the opening papers by members of the staff of the Hospital, and a third by Dr. Ray of the British Red Cross Rheumatism Clinic. All three papers were keenly appreciated and, together with the full discussion which followed, will be reproduced in an early number of the journal. After the meeting the members were afforded an opportunity of making a tour of the Hospital under the guidance of Dr. Geoffrey Holmes, to whom they were also indebted for a demonstration of the facilities available at the Royal (Corporation) Baths which took place on the following day.

During their stay the members were invited to dine at the Hotel Majestic by the Mayor and Corporation of Harrogate, and a note of this most enjoyable function appears elsewhere in this issue.

The meeting generally may be counted an unqualified success. Along with those held in recent years at Chepstow, Bath, Glasgow, Newcastle-upon-Tyne, Manchester and Leamington, it affords yet again full justification for the holding of certain of the Society's meetings at centres outside the Metropolis.

* * * * *

Puerperal Infection in Maternity Hospitals.

SEPSIS still holds a very prominent and, from the preventive point of view, important position in maternal morbidity and mortality. The number of opinions held concerning its cause, spread and prevention, only serve to mark out more clearly the gravity of the whole problem. In the recent report* published by the Scottish Department of Health, Dr. A. S. M. Macgregor has given an epidemiological survey of prime importance dealing with several outbreaks of puerperal infection in institutions, and his interesting account and thoughtful discussion form a highly useful contribution to this serious subject.

The outbreaks which are described had certain features in common; they were all severe in character, rapid in spread, extensive in incidence. Circumstances pointed to the occurrence of missed or unrecognised cases along with a tendency to attribute the onset of fever to some condition other than the true cause. Isolation of actual or suspected cases by merely placing them in side rooms was not always real or effective until the true significance of the outbreak had become apparent.

In outbreaks of this character it is often difficult to ascertain how infection was introduced and to trace the sequence of events; but it seems that spread of specific infection is a relatively easy matter under the average conditions obtaining in maternity institutions. Moreover, the contagion, after introduction, seems markedly lingering and persistent.

On the other hand, Dr. Macgregor points out that there often arise in hospitals cases of septic infection which, if recognised and promptly

* PUERPERAL INFECTION IN MATERNITY HOSPITALS. By A. S. M. MACGREGOR, M.D., D.P.H., Medical Officer of Health, Glasgow. Department of Health for Scotland. H.M. Stationery Office, 1930. Pp. 20. Price 9d. net.

dealt with by way of isolation and removal, do not apparently give rise to other cases. Very important administrative questions arise, bearing on the prevention of the introduction of infected or presumably infected parturient women into hospital wards, and on the prevention of the subsequent spread of infection in the hospital. The proposal that cases untouched prior to admission to hospital and cases subjected to interference before admission should be accommodated in separate institutions is discussed, doubt that this is either practicable or a satisfactory solution being expressed. So far as regards the prevention of the subsequent spread of infection following its introduction into hospital, the report stresses the dangers arising from imperfect technique permitting the spread from patient to patient by the hands of attendants or by utensils.

It is abundantly clear that there is urgent need for further investigation and collaboration by obstetricians and other workers. Possibly the bacteriologist and bio-chemist also may play important parts. For, just as the Zondek-Asheim test has for its theoretical basis the production and excretion by the pregnant woman of a specific hormone, so it is not inconceivable that there might be a factor sensitising parturient women to infections by streptococci which cause such severe, rapid and extensive outbreaks.

* * * * *

Deaths from Coal Gas Poisoning.

THE recently published report* of the Departmental Committee appointed in June, 1929, to consider this subject is of considerable interest, and should be of value if the recommendations of the Committee are acted upon.

The Committee consisted of the Rt. Hon. Sir Evelyn Cecil, G.B.E. (Chairman), Sir John Robertson, C.M.G., O.B.E., M.D., Professor Richard Vernon Wheeler, D.Sc., F.I.C., and Mr. Frederic John Wrottesley, K.C. It held fourteen public meetings, at which the evidence forming the basis of the report was collected from representatives of the gas industry, Mr. F. W. Goodenough and others, coroners, engineers, surveyors, architects, chemists, Dr. T. H. C. Stevenson and Professor J. S. Haldane.

The early part of the report deals with the number and classification of the deaths in Great Britain ascribed to coal gas poisoning during the

* REPORT TO THE BOARD OF TRADE OF THE DEPARTMENTAL COMMITTEE ON DEATHS FROM GAS POISONING. H.M. Stationery Office, 1930. Pp. 18. Price 6d. net.

years, 1918 to 1928, as shown in the following table:—

Year.	Accident.	Suicide.	Total.
1918	102	193	295
1919	115	231	346
1920	114	299	413
1921	126	392	518
1922	203	558	761
1923	155	754	909
1924	106	673	779
1925	135	841	976
1926	200	1,068	1,268
1927	178	1,116	1,294
1928	168	1,191	1,359

Dr. Stevenson, who supplied these figures from the General Register Office, suggests that the excess of suicidal over accidental deaths is even greater than these figures show, as the accidental deaths include those which may have been suicidal. During the last eight years, 1,026 deaths from gas poisoning have been specially investigated by the Board of Trade, and no less than 602 of these cases were proved to be due to gas taps being left turned on without adequate reason. This fact lends support to Dr. Stevenson's view, but it does not minimise the serious nature of the problem.

Gas poisoning is now the most common means of suicide, and the witnesses who dealt with this aspect of the problem agreed that "the publicity given to cases of suicide by gas poisoning has been the cause of the adoption of this means of suicide, through suggestion and imitation," and it was suggested that such publicity should therefore be checked. The suicide rate among females has increased considerably above its highest pre-war level, the increase being entirely due to coal gas deaths, and in this connection the Committee observe:—

It would seem, therefore, that, although the use of gas as a means of suicide is largely a change of fashion, and although there may be other factors contributing to an increased suicide rate among females, the non-repellent circumstances attending the use of gas, and the accessibility of this means, may be influencing some persons, especially females, to commit suicide who would not otherwise do so. Sir Maurice Craig, in his evidence before us, laid stress upon the early treatment of mental disorder as the only means by which people with a tendency to commit suicide can be helped. Many of these persons, in his opinion, are not insane, but commit suicide from the fear of becoming so.

In their conclusions the Committee deal with the problem of suicide in the following terms:—

We believe that, to a large extent, the increased number of gas suicides denotes merely a change in the suicidal means adopted. We are satisfied that it is not consequent on an increase of carbon monoxide in

gas supplied for domestic purposes, for the proportion of carbon monoxide in ordinary coal gas is quite sufficient to permit of its use as a means of suicide, and many of the cases of suicide reported are, in fact, effected with coal gas to which no carbon monoxide has been added. We are unable to suggest any effective measure relating to the production and use of gas whereby the tendency to commit suicide by gas poisoning may be checked, without imposing on the whole body of gas consumers a financial burden or other inconvenience which, in our opinion, is not justified. Against any increased number of suicidal deaths which may be directly due to the use of this agent must be set the admitted advantages accruing from a supply of cheap gas to many millions of households throughout Great Britain.

In these circumstances, we feel that the prevention of suicide by gas becomes part of a larger question of preventing suicide by any method which is easily accessible to the public, and that the points to which we have referred regarding the publicity given to suicide cases and the early treatment of mental disorder would need consideration on a wider basis than that contemplated by our terms of reference.

The Committee do not consider the extraction of carbon monoxide from ordinary coal gas practicable, nor do they think that any general prohibition or limitation should be placed upon the supply of carbon monoxide in gas at the present time. The question of adding to the gas some irritant substance was considered, but judged neither desirable nor necessary. Some very interesting and valuable suggestions are made in regard to gas fittings and the installation of geysers, and if these are acted upon, no doubt a number of accidental deaths will be avoided.

The following are the recommendations of the Committee:—

(1) That the Board of Trade should continue to keep themselves informed as to the number and nature of fatal accidents recorded as due to gas poisoning and as to the percentages of carbon monoxide in gas supplied for domestic purposes, with a view to their applying to Parliament for powers to limit, either generally or in particular cases, the percentage of carbon monoxide in gas supplied for domestic use if the results of their enquiries should at any time show that this is desirable.

(2) That a series of experiments on the lines suggested by Dr. Haldane should be carried out, with a view to obtaining and making known accurate information as to the toxicity of gas as now supplied for domestic purposes should it escape from modern gas pipes and gas fittings.

(3) That a central body consisting of representatives of the various branches of the gas industry and of representatives of manufacturers of gas pipes, apparatus and fittings, should be formed, to institute and encourage research into, and to collect information regarding, means of rendering gas non-toxic and, generally, of improving the safety and efficiency of the apparatus used in the distribution and supply of gas. The information obtained by this body should be made

available, at frequent intervals, for the use of individual gas undertakings and makers of gas apparatus.

(4) That conferences should be held, at not longer than annual intervals, between representatives of the Board of Trade and of the central body to discuss questions relating to the production and supply of gas from the point of view of the safety of the public.

(5) That gas undertakings, which have not already done so, should be urged to establish a system of voluntary inspection of consumers' gas apparatus with a view to detecting unsafe, badly adjusted and improperly ventilated apparatus and warning the consumer of the danger of its use. If it should be found by experience that consumers refuse to act on warnings of this kind, steps should be taken to empower the undertaking to cut off the supply until the danger is removed.

(6) That steps should be taken, by bye-law or otherwise, to provide:

(a) That where a hole is made for any purpose under the ground, through the wall of a new building or an existing building, the person executing the work shall stop up any resulting aperture so as to prevent the free passage of gas into the building.

(b) That geysers shall be properly fixed and adjusted, and that both the apparatus and the room in which the apparatus is fixed shall be adequately and efficiently ventilated. It should be made unlawful to instal or maintain a geyser without a proper flue.

(7) That, as a safeguard against fatalities caused by the escape of gas from street mains, the police should be instructed to report immediately to the gas undertaking concerned, any unexplained gas escape which may be noticed in the street, and to use their discretion in giving warning to persons in the vicinity of the escape who may be asleep.

Without question, the problem of suicide by coal gas is a very difficult one. It is paradoxical that while there are stringent regulations regarding the sale of poisons, yet coal gas containing the insidious and deadly poison, carbon monoxide, is sold to nearly nine million consumers. Coal gas may be used in the privacy of the house without the would-be suicide running the risk of being suspect when purchasing a poison, or of being frustrated in attempting more violent methods. It is very desirable that gas undertakings should warn all consumers of the dangers of gas poisoning unless gas is properly used, and unless the fittings are properly cared for and of good design. A printed notice should be issued to all households using gas emphasising these points, and in addition calling attention to the first aid measures to be adopted if anyone is found to be suffering from gas poisoning. It is rather surprising that no such recommendation is made by the Committee. It is highly probable that by spreading knowledge of the resuscitation measures to be adopted and the urgency of their immediate application, some accidental deaths

would be avoided, and many a would-be suicide would be revived, and the publicity given to such cases would deter others from adopting the method.

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The Welfare of the Blind.

THE Eighth Report of the Advisory Committee on the Welfare of the Blind to the Minister of Health, 1928-29,* records that satisfactory progress, under the Blind Persons Act, 1920, continues to be made, and it is gratifying that, as a result, the circumstances of the blind are much happier and more comfortable. It is seen that in the year 1928-29, some 17,516 persons between 50 and 70 years of age were in receipt of the pensions provided by the Act; but as experience has shown that in a number of cases where the blind persons were less than fifty years of age it has not been found possible to train them to earn a livelihood, the Committee consider that the reduction of the age limit from 50 to 40 years for the receipt of the blind pension would be fully justified.

Schemes for promoting the welfare of the blind have been adopted and put into operation by all the 146 local authorities concerned; and it is good to notice that the relatively small proportion of areas with disappointing arrangements has become much smaller still. It is generally true that in the unsatisfactory areas the voluntary organisation is weak and ineffective. The statement showing the annual grants over a number of years illustrates that practically all the services (county associations, workshops, home-workers, homes, hostels, home-teaching) are expanding progressively, and the steady increase in workshops and home-workers indicates that more blind persons are being provided with employment—a most welcome and desirable state of affairs.

The register of the blind shows an increase from 25,840 in 1919 to 52,727 in 1929, but of the increase between 1927 and 1929 the bulk is accounted for by newly registered persons over 50 years of age. In the age groups up to 21 there was a decrease from 1925 to 1927, and from 1927 to 1929: these successive diminutions in the total number of young blind persons are very encouraging, as they seem to indicate that the preventive measures are bearing good fruit. The uniformity of the numbers of blind under 5 years of age is somewhat remarkable, and

* H.M. Stationery Office, 1930. Pp. 34. Price 6d. net.

local authorities are urged to review all the procedure and machinery at their disposal in a further effort to reduce the blind in this age group.

The report points out the difficulty in finding employment for blind shorthand-typists, some of whom are now employed by the Ministry of Health and the London County Council, where they give complete satisfaction. It is hoped that, where large staffs are employed, opportunities will be given for blind shorthand-typists to demonstrate their efficiency and usefulness. Probably the various Government Departments and the larger local authorities will follow the lead of the two important pioneers in this respect. The record of other occupational training and home-teaching is most encouraging, and indicates the high standard which is being reached in the welfare of the blind.

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Obituary.

HIS fellows within the Society learned with deep regret of the death of Dr. Frederick Edward Wynne, Medical Officer of Health for the City of Sheffield, which occurred of April 23rd, after a short illness.

After graduating in Arts, Dr. Wynne took the M.B., B.Ch., in Dublin in 1894, and in Manchester the D.P.H. in 1909. In the latter year he was appointed the first full-time Medical Officer of Health for Leigh, and in 1912 went to Wigan in a similar capacity.

In 1921, Dr. Wynne was appointed to Sheffield, where he was responsible for the carrying out of important schemes affecting the health services of the City. He was Professor of Public Health at Sheffield University, and an ex-President of the North-Western Branch of the Society of Medical Officers of Health.

During the war Dr. Wynne was a Captain in the R.A.M.C. (T.F.), and at one time was Divisional Sanitary Officer in the Egyptian Expeditionary Force.

Dr. Wynne was 56 years of age, and his colleagues in the public health service will share the sorrow of the widow and three sons who are bereaved by his untimely death.

Among those attending the funeral were many members of the Sheffield Health Committee and his colleagues in the service of the City Council, including Dr. John Rennie, Deputy Medical Officer of Health and Chief Tuberculosis Officer. The Society of Medical Officers

of Health was represented by Professor J. Johnstone Jervis.

The Society also mourns the loss of Dr. John Edward Sandilands, Executive Medical Officer to the Municipality of Bombay for nearly ten years. Born in 1872, Dr. Sandilands began his clinical work at St. Bartholomew's Hospital in 1893, and qualified in 1897, taking his medical degree at Cambridge in 1918, and the M.D. and D.P.H. in 1924. After holding hospital appointments in England he went to India and South Africa, and on returning to England became assistant medical officer under the Metropolitan Asylums Board. Determined to gain experience in public health work, he obtained an appointment under Dr. (now Sir George) Newman in Finsbury, and in 1905 was appointed medical officer of health for Winchester, proceeding to a similar post in Kensington in 1909. He went to France in 1914 with the 5th Field Ambulance of the 47th Division and saw much service throughout the war. On demobilisation he returned to Kensington, but after barely a year's work was appointed to Bombay, where he became exceedingly popular. Ill-health compelled him to return home last summer, a few weeks before his appointment expired. He underwent a severe operation in the autumn, from which he had reached convalescence when he died quite suddenly on May 8th. Dr. Sandilands leaves a widow, two sons, and three daughters.

DR. A. E. BRINDLEY is retiring after twenty-two years' service as Medical Officer of Health for the County Borough of Derby, and at an informal luncheon held recently at the Friary Hotel, Derby, past and present medical and dental members of Dr. Brindley's staff presented him with a silver tea service. Those present included Dr. Nash (Willesden), Dr. Walker (Stratford), Dr. Berry (Gloucester), Dr. Knowls (Leeds), Dr. Campbell (Surrey), Drs. Wray, Morrison, McKail, Laurie, Taylor, Haigh; Mr. Stafford and Miss Knowls. Dr. Brindley has also received presentations from the health department staff, the Derby Medical Society, and the Derby Midwives Association. In acknowledging the warm tributes to his work at Derby, Dr. Brindley said that any success he had achieved had been made possible by the loyal and efficient team work of his staff.

Random Reflections on the Population Question.

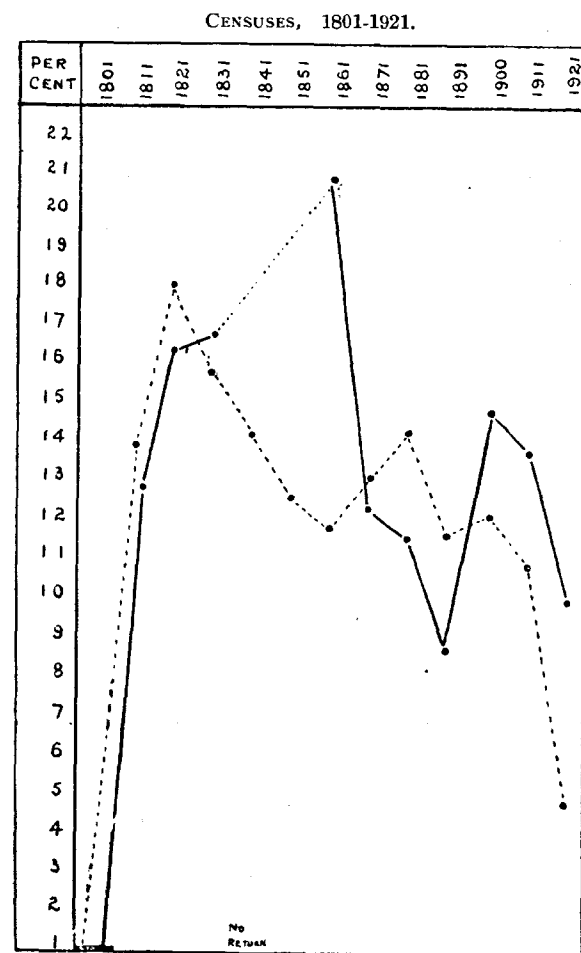
By J. JOHNSTONE JERVIS, M.D., CH.B. (Edin.), D.P.H., Medical Officer of Health, Leeds; Professor of Public Health, Leeds University.

In choosing the population question as the subject for his Presidential Address to the Yorkshire Branch, Professor Johnstone Jervis broke new ground, and the facts he submits and his reflections thereon will give no less pleasure in the reading than they did to those who had the privilege of hearing them.

THE population of a country is the main-spring of its life. On it depends the security of its constitution, the inviolability of its frontiers, the strength and stability of its institutions, and the prosperity of its industries. Its maintenance is therefore a matter of some moment, not only to the present generation, but particularly to future generations on whom will rest the responsibility of upholding its prestige and carrying on its traditions.

My concern being with the future of our own country, I shall confine myself in the remarks which follow to the population of England and Wales. In the comparatively short space of twelve decades (120 years), that is, since the first census was taken in 1801, the population of England and Wales has increased four-fold from 8,892,536 in 1801 to 37,886,699 in 1921. But, though each census has witnessed a further addition to the persons living in the country, and though these additions have mostly all been of imposing size, the fact is not generally appreciated that the tendency has been for the rate of intercensal increase to fall rather than rise. By dividing up the 120 years into three 40 year periods this at once becomes evident. Thus in the period 1801 to 1841 the population increased by 79 per cent., in the succeeding 40 years, 1841-1881, the increase was 63·2 per cent., and for 1881-1921 there was a further decline to 45·9 per cent. The greatest percentage increase between any two intercensal periods during the 120 years was that between 1811 and 1821 when it was 18·06 per cent. and the lowest that between 1911 and 1921 when it was 4·93 per cent. One cannot, however, place too much reliance on the accuracy of the census figures before 1841 as at that early period the machinery was far from perfect.

PERCENTAGE INCREASE OF POPULATION AND FAMILIES OR SEPARATE OCCUPIERS (ENGLAND AND WALES).



--- Population.
— Families or separate occupiers. 1921—Private families only.

The period of greatest expansion of the population was that between 1881 and 1911 when the average intercensal increase was just short of 3½ millions and that notwithstanding the fact that from 1881 onwards the birth-rate

steadily declined. It was during the same period that England's commercial prosperity touched high-water mark, which doubtless was an explanatory factor, though one cannot attribute the whole of the phenomenal rise to this cause. The introduction of important measures of social reform, improved standards of living and the decline of the death-rate also played a not unimportant part. It is probably true to say that but for the rapid growth of the population at this period, making it necessary to provide for its protection against the inroads of disease, England would not to-day occupy the premier place amongst the nations of the world for the excellence of its sanitary institutions and the high level of its public health.

Let me now direct your attention to another aspect of the subject, and one which has an important bearing on its future, and that is the distribution of the population in age groups. If one analyses the census figures for 1881 one finds 36·5 per cent. of the total population in the age group 0-15; 18·8 per cent. in the age group 15-25; 25·9 per cent. in the age group 25-45; 14·3 per cent. in the age group 45-65; and 4·6 per cent. in the age group over 65. At the census of 1921 the figures for the corresponding age groups were for 0-15, 27·7 per cent.; 15-25, 17·6 per cent.; 25-45, 29·3 per cent.; 45-65, 19·4 per cent.; and over 65, 6·0 per cent. In other words, whereas in 1881 55 per cent. of the population were under 25 years, in 1921 this figure had fallen to 45 per cent., a decrease of 10 per cent., and whereas in 1881 18·9 per cent. of the population were over 45 years, in 1921 this figure had risen to 25·4, an increase of 6 per cent.

The immediate result of this redistribution in the various age groups has been to increase the average age of the population. At the 1881 census the average age was 26·2, at the 1911 census 28·6, and at the 1921 census 30·6, so that in a period of 40 years the average age of the population had increased by 4·4 years.

From these figures it is obvious that the tide has set definitely in the direction of the older age groups and with the birth-rate declining at the rate it has been doing during the last decade, the outward flow is likely to increase rather than decrease as time goes on. This depletion of the population in the earlier age groups is not to its advantage and is regrettable because a population composed largely

of old people is likely to be lacking in initiative and to be slow in adapting itself to new conditions. The ever-increasing demands of modern life on mind and body render it necessary that there should be sufficient reserves of mental and physical energy to meet these demands, and these reserves can best, one might say only, be built up in youth.

Evidence is not wanting that already the high tension of modern life is having its effect upon the nervous stability of the population, and one can read in every report of our hospitals and mental asylums unmistakable signs that profound and serious changes are taking place in the mental make-up of the people. That the future of a population rests with its youth and not with those advanced in years is a platitude that I feel I must almost apologise for reiterating. But it is a truth to which more than lip service must be given if disaster to the whole social fabric is to be averted. It is not sufficient to prolong life by making it safer and healthier—that is merely securing the superstructure. What is required is a strengthening of the foundations by maintaining the supply of recruits to the depleted age groups under 25 years, and so preventing the onset of decay which must be the inevitable result of depletion.

It is sometimes argued that the increased expectation of life which has resulted from the improved conditions of living makes up for the loss of new lives. With that I do not agree. Mere prolongation of life cannot and never will adjust the balance between the older and the younger ends of the scale. The addition of ten years, or for that matter twenty years, to the span of life, though valuable, does not compensate for the loss of new lives. All it does is for the time being to make the loss less noticeable. I shall refer to this again when I come to deal with the birth-rate.

Turn now to the constitution of the population in families, which has also an important bearing on its future growth and development. From 1801 to 1851 the population increased by 101·6 per cent. and the number of families or separate occupiers by 95·72 per cent.; in the next 50 years, 1851-1901, the rate of increase of the population was 81·44 per cent., and of families or separate occupiers 89·56 per cent., whilst between 1901 and 1911 the rate of increase of the population was 10·89 per cent., and of families or separate occupiers 13·76 per cent. It would appear, therefore, that with the exception of 1801-51,

notwithstanding the lower rate of increase of the population, there was a relatively higher rate in the number of families or separate occupiers. This was further emphasised in the figures of the 1921 census, which showed that, whilst the population had increased in the previous decade by 4.93 per cent., the private families in the same period increased by 10.02 per cent. The tendency has therefore been, and still continues to be, for the number of families to increase at a greater rate than the population. The size of family has also undergone a change. At the 1891 census the average size of family in England and Wales was 4.73, at the 1911 census it was 4.36, and at the 1921 census 4.14, so that in a single decade 1911-21 there was a drop of 5 per cent., and I have little doubt that the next census will disclose a further decline. Apropos of shrinkage in the size of families during the last intercensal period, the Registrar-General makes a special note of the fact that it was observed in every section of the country and was not restricted merely to areas of a purely residential character. He says that it may be regarded as a natural consequence of the increase in the marriage rate in association with a heavily reduced birth-rate and an increased death-rate taking into account the war deaths.

I have no doubt in my own mind that an analysis of the individual families in the community would show a general decrease throughout, though more marked in the families of the rich than in those of the poor, especially in the last two decades. It would also be found that the families of four and over show a relative decrease, whilst those under four would show a relative increase. As a matter of fact, at the 1921 census it was found that as compared with the previous census there had been a considerable decrease in the families of six and upwards, and a relatively much greater increase of the number of families of less than five. I have paid some attention to this aspect of the problem during the last two or three years in Leeds, and have found that the births into families of six children and over are practically negligible, just over 5 per cent. of the total, whilst as much as 72 per cent. of the total births are into families of two children and under; hence one must assume that the large family is slowly disappearing, and that the prevailing fashion is the small family of two and under. The significance of this, in my opinion, is some-

what grave; it means that family life as it was known in England in the middle of last century, and even at the beginning of this century, has undergone a complete revolution. The explanation by some is said to be economic though personally I doubt this, seeing that the tendency to reduce the size of family has been more marked amongst the well-to-do than amongst the poor. I would rather put it down to a desire on the part of all classes of the community to escape the cares and worries which are inseparable from the rearing of children, and their reluctance to surrender the privileges and prerogatives attached to an existence free from the trammels of parenthood. A competing influence in the shape of social enjoyment has robbed family life of its attractiveness and made it more difficult for those of this generation to appreciate the advantages to be gained from family discipline and family associations. In other words, it engenders selfishness and creates discontent, both of which are inimical to the safety of the nation and the health of its institutions.

I must now say a word or two on the main source from which the population of England and Wales is recruited, namely, its births. If the number of children born is insufficient not only to compensate for the wastage due to death but also to provide a surplus in excess of that amount, or in other words a natural increment, the population may be placed in the position of a man who, having spent all his income, is faced with the necessity of drawing upon his capital. In finance that is supposed to be risky, because there is no guarantee that capital once spent can be replaced, and a reduction of capital means a reduction of security. The same is true of the population; once the natural increment disappears there is nothing for it but to depend upon the capital, and inasmuch as that capital is largely composed of men and women past middle age, the prospect is not reassuring. Ever since 1881 the birth-rate has been steadily declining. In the 30 years 1881 to 1911 it fell from 33.9 to 24.4, or 28 per cent. Since then, and including the war years, it has declined still further to 22.4 in 1921 and 16.7 in 1928. The total fall, therefore, since 1881 is 50.7 per cent. For the 47 years, 1881 to 1928, this represents an average loss to the population of approximately 270,000 lives per year calculated on the 1881 rate.

If the birth-rate continues to descend at the

same rate as it has during the last forty years, we shall in a comparatively short time, less than two decades, reach a point where the deaths exceed the births, assuming that the death-rate falls no lower in the same period than 10. It must always be borne in mind that the range of increase or decrease in the birth-rate is very much greater than that of the death-rate. No matter how much we may improve the conditions of life, and succeed in removing the causes of death in the earlier age groups, one cannot hope to postpone the event of death for longer than a limited period of years, or in other words, the inevitability of death governs the extent to which the population can benefit as a result of birth.

Just as important, however, as the fall of the birth-rate is the distribution of the fall. It is well known, and can be proved by reference to the statistics of our great cities, that the most prolific section of the population is the poor. The slum area has always a larger birth-rate than the residential, and though even the families of the poor are smaller than they used to be, they are still in size far ahead of those of the well-to-do. I do not wish to infer that because a child is born of poor parents it is therefore of an inferior type. The very opposite may be the case. But there is no controverting the fact that in the lowest strata of society are to be found many men and women who are wholly incapable of producing healthy children. Unfortunately it is precisely amongst this class that the procreative faculty is most highly developed and least amenable to any measures of control, short of sterilisation. It therefore follows that to balance the intake from this tainted source the productivity of the healthy stocks must be increased.

How is this to be done? Certainly not by overstressing the perils of maternity, as I think is being done at the present time, nor by unduly emphasizing the economic difficulties of marriage and parenthood, and least of all by advocating birth control to those unable to appreciate its far-reaching consequences on the future of the race or to distinguish between birth control and birth prevention. That the physically and mentally unfit, to whatever class of society they belong, should be denied the opportunity of reproducing their kind is sound policy and good eugenics, but whether it is practicable or not, is another question. What is practicable, however, though of doubtful value in preventing the propagation

of the unfit, is the denial of marriage to all but those who can produce evidence of physical and mental fitness.

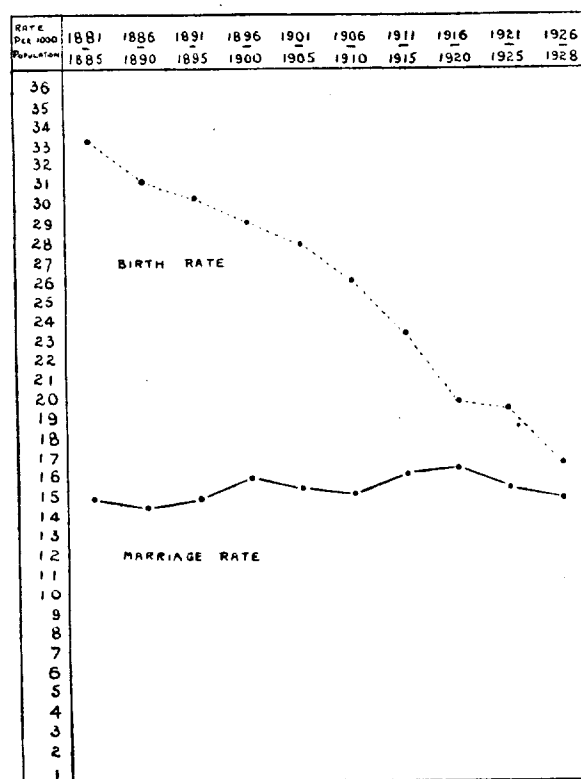
One of the most important factors in the decline of the birth-rate, and one to which sufficient attention is not given, is the increased sterility in both sexes, but especially amongst women. Many explanations for this have been advanced, most of them based on mere assumption, and none of them at all convincing. There appears to be no doubt, however, that the procreative powers of the race is undergoing a change, whether as a result of our advanced civilization, or the postponement of marriage to a later age, or the altered conditions of life, it is difficult to say, but there seems no doubt that sterility in the more highly developed, physically and mentally, of the race is more common than amongst those of mediocre physique and intelligence.

Late marriages are undoubtedly a contributory cause of sterility, and they certainly reduce fertility and probably are also responsible for the increasing number of childless and one child unions. But late marriage is largely an economic question and therefore somewhat outside the scope of a paper of this kind. It is a matter of general agreement, however, that the one child family is a mistake, both from the point of view of the parents and of the child.

In striking contrast to the decline of the birth-rate is the almost uniform level at which the marriage rate has been maintained for a period of 47 years. With the exception of the war years, 1915-1918, and the two following years, the rate has hardly varied, but remained steady round about 15 per thousand of the population. The two curves, as will be seen from the accompanying chart, are rapidly approaching, and in another year, if the birth-rate continues to fall and there is no change in the marriage rate, will meet. A transposition of the two rates will then take place, the marriage rate going into the ascendent and the birth-rate into the descendent. The significance of the change is apparent and requires no further enlargement.

One of the most remarkable phenomena in the whole field of vital statistics in the history of this country since 1891 has been the rapid and steady decline in the death-rate. Particularly has this been marked in the rate of mortality of children under one year of age.

ENGLAND AND WALES.
MARRIAGE AND BIRTH RATES IN QUINQUENNIAL PERIODS
1881 - 1925 AND YEARS 1926 - 1928.



That it has been so is a matter for national congratulation, because had the infants of England and Wales continued to die at the rate they were doing at the middle of the nineteenth century, the population of this country would certainly have been in a much more insecure position than it is to-day. I have already remarked upon the ageing of the population, and the filling up of the older age groups, but had the infantile mortality rate continued as it was in 1891 and the birth-rate in the same period continued to decline, I should have had to revise very materially some of the statements I have made. To my mind it is the reduction in the infant death-rate which has saved the population from disaster, but it must be reduced still further if the decline in the birth-rate is to be compensated for, and it is just a question how much it can be reduced. It is unlikely that it can ever be entirely eliminated, and I should say a reduction below 30 highly improbable. One can hardly conceive of a general death-rate of less than 9 per thousand of the population, but if it is to reach even as low a figure as that, the infantile mortality rate will have to come down to 30 or thereabouts.

The saving of life at the younger end of the scale is the surest way of securing an efficient population at the older, providing always, of course, that the lives saved are good lives and capable of developing into healthy and useful citizens. And seeing that there are fewer children being born it is doubly necessary to ensure that those that are born have the best chance possible of survival. But our service to the community in this respect will fall far short if it stops merely at saving life; it must go further than that, and save it whole and unimpaired. Only in this way can an imperial race be reared!

As showing the rapidity with which the death-rate in this country has declined, I might mention that from 1891 to 1901 the rate of decrease was 16.3 per cent., from 1901 to 1911, 13.6 per cent., from 1911 to 1921, 17.1 per cent., and from 1921 to 1928, 3.3 per cent., a reduction in the 37 years of 42.1 per cent. Similarly, the infantile mortality rate from 1901 to 1911 was reduced 13.9 per cent., from 1911 to 1921, 36.2 per cent., and from 1921 to 1928, 21.7 per cent., a reduction in a period of 27 years of 56.9 per cent. One of the results of this reduction of the death-rate has been to increase the expectation of life by upwards of 12 years. Put another way, a child born to-day can reasonably expect to live 12 years longer than his grandfather. But numerically this has no effect on the population except, as already stated, to raise the mean age. Longevity is not, and never can be a substitute for nativity.

It is remarkable how on all sides at present we are being adjured to save life, whilst at the same time we are being equally strongly urged to prevent birth. If not mutually destructive, the two attitudes are certainly inconsistent. But I fancy public opinion will change as soon as the dangers associated with the declining birth-rate and the extinction of the balance of births over deaths are fully realised.

This brings me to my next point, the importance of maintaining the natural increment. Already that has shrunk very considerably, though not to a degree sufficient to cause alarm. There was still a substantial increment in 1928. From 1871 to 1901 the excess of births over deaths was maintained at a fairly steady figure, round about $3\frac{1}{2}$ millions for each decennial period. From 1901 to 1911 the figure jumped to 4 millions, but in the succeeding decennium, 1911-1921, fell again to 3 millions, since which period the descent has

continued. For the seven years of the current decennium, that is, up to the end of 1928, it was 1,711,329, so it is safe to prognosticate for the complete decennium a further decline to well under 3 millions.

To continue the financial simile introduced in an earlier paragraph, the natural increment may be looked upon as the reserve of the population. No business concern is considered healthy unless it has substantial reserves to meet unforeseen eventualities or lean years. In the same way the population of a country should possess such reserves as will enable it to meet any unusual calls which may be made upon it. War and pestilence have not yet been cast out of the world; at any time they may arise and threaten our safety. War, we hope to have heard the last of, but pestilence is still capable of doing serious mischief. For example, in 1918 and 1919, and again, though to a less marked extent, in 1928 and 1929, influenza exacted an unusually heavy toll of life from the population, and had it not been for the fact that there was this margin to draw upon, it would have meant a heavy loss which would have had to have been met out of capital. Such occurrences may happen at any time and unless provided for would have the effect of shifting the balance from the credit to the debit side, thus placing the population at a great disadvantage, and creating a condition of affairs which cannot be considered as anything but unhealthy.

This review of the subject would be incomplete if it left out of account the influence on population of emigration and immigration. Unfortunately no information of a dependable character respecting emigration and immigration is available before the year 1871, and though the figures supplied by the Registrar-General may not be quite accurate, they do show that in every census period since then the balance has been in favour of emigration. At the 1921 census, for example, the Registrar-General reported that for the previous decennium the emigrants exceeded the immigrants by 1,196,000 made up of 876,000 males and 320,000 females. That represents the largest outward balance in any single decennium since 1871 but, as it includes the deaths of 577,000 non-civilians belonging to England and Wales which occurred in the various theatres of war, it is really not a comparative figure. Leaving out of account the war losses, the outward balance for the decennium was 619,000, which is still considerably

in excess of the figures for any of the previous decennia, the nearest to it being 1881-1891 when the figure was 601,000. It is also worthy of note that the number of male emigrants on the average from 1871-1921 was two or three times the number of female. An important point, however, to bear in mind in considering the effect of emigration and immigration on the population is that, generally speaking, the type of emigrant is much higher than the type of immigrant. This difference in type has become particularly noticeable in recent years in consequence of the raising of the standard of general fitness required for immigrants into certain foreign countries, including the United States of America and some of the British Colonies.

The natural effect has been to swell the bad stocks in the population of England and Wales at the expense of the good. In order to amend this unsatisfactory state of affairs, pressure has recently been brought to bear on the Government to tighten up the immigration laws and prohibit the entry into this country of any but those who are up to a certain standard of mental and physical fitness. From a eugenic as well as a health point of view there is great need for imposing such a standard for all alien immigrants desirous of making this country their permanent place of residence. Emigration is often advocated as a means of relieving unemployment, but the cure is likely to be worse than the disease if an A1 emigrant is to be replaced by a C3 immigrant.

I come now to my last point, which, though not quite germane to the subject under discussion, in the mind of the ordinary man is inseparable from it; I refer to over population and unemployment. The association between the two is not always apparent. As has been pointed out by a well-known authority on social economics, unemployment and overpopulation are two separate and distinct problems which, though related in an indirect way to one another, are not inter-dependent. The problem of unemployment is not new; it is as old almost as our history, certainly as our modern history. A century ago when the population of England and Wales was much smaller than it is to-day, there was just as much unemployment relatively as there is now. It is referred to by several nineteenth century authors, and by some, made the central theme of their writings. Even when trade was booming and England's commercial prosper-

ity at high-water mark, as was the case during the latter half of last century, unemployment was spoken of as a problem of pressing social and political importance. In fine there never has been a time when there was no unemployment, and if by cutting down the population, either by restricting the number of births or increasing the number of emigrants, the number of unemployed could be reduced to zero tomorrow, in a very short time the problem would rear its head again and become as grave a social menace as ever. But is over-population the danger many would have us suppose? I think not. There are other parts of Europe almost as thickly populated as England is, where the number of unemployed is much less, whilst on the contrary, there are countries much more sparsely populated where unemployment is as rife.

When Malthus, over a hundred years ago, first raised the bogey of over-population he little thought what a profound effect his action would have on the future history of the race, and the disturbing influence his gloomy prophecies would have on the nation's sense of security. As illustrating the baneful influence of a policy aimed at retarding the growth of a population, consider the present position of France. Soon after the Franco-Prussian war, towards the middle of the nineteenth century, France embarked on a campaign to cut down the size of her population. Her birth-rate fell, whilst her death-rate remained high, and the time soon came when her people were dying at a greater rate than they were being born. As soon as this happened it became necessary to introduce foreigners in order to maintain the economic life of the country and to carry on its industries. The effect of this was to increase the non-French population until, at the present time, there are upwards of 3,000,000 foreigners in France. Seventy-five years ago there were 380,000 foreigners, equivalent to a rate of 10 per thousand of the population. Six years later, as a result of special efforts made by the Government to attract immigrants and the relaxation of the naturalisation laws, the ratio was 40 per thousand of the population, and to-day it is over 60. As a matter of fact, so serious is the position in France to-day that, if foreign labour was withdrawn, both commercially and industrially, France would be paralysed. That is not a desirable position for any country to be in, and France is making strenuous endeavours to awaken its people to a sense of the

gravity of the situation and the supreme need of their co-operating in an endeavour to increase the purely French population and thus help their country to regain its independence.

It is not unlikely, therefore, that if the counsels which to-day we hear on all sides in this country prevail, a similar fate will overtake us. But I have sufficient knowledge of the Anglo-Saxon race to be convinced that it is worth preserving, and sufficient faith in the men and women of England, to know that it will be preserved. There is just the danger, however, that the new Malthusians by their specious arguments may capture the people of this country and lead them to their undoing, as we have seen has happened in France.

Our great concern as the advisers of the people in matters relating to public health, ought to be to secure an unbroken stream of recruits of the highest order of physique and intelligence, and to restrict, as far as possible, the output of unfit or defective lives. I cannot help feeling that for a medical officer of health to lend himself to any campaign which will have the effect of weakening the family unit, on which after all, the greatness of England has been built, and on which its future and that of the race depends, or of encouraging the rising generation to look upon parenthood as a species of economic thralldom and something to be avoided, rather than the highest duty to which a man or woman can be called, is opposed to the best interests of the nation and the race, and is attended with risks the extent of which cannot be gauged.

The medical officer of health is the steward of a great trust which includes not only the physical and mental welfare of the people of his own generation, but also the health and security of future generations.

THE Preventive Medicine Section of the Royal Sanitary Institute Congress, to be held this year at Margate, will discuss the Education of Health Personnel on Tuesday, June 24th, and Wednesday, June 25th. Speakers on the first day include Dr. George F. Buchan and Professor W. W. Jameson, and on the second, Dr. A. E. Horn, C.M.G., Mr. Harold T. Perry (Chief Sanitary Inspector, Kingston-upon-Thames), and Miss A. A. Harrison (Inspector of Midwives, Kent County Council). The President of the Section is Sir Andrew Balfour, K.C.M.G., and the Recording Secretary, Dr. Charles Porter, Medical Officer of Health, St. Marylebone.

Ut Ita Dicam.

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

The late Dr. J. E. Sandilands.

Reference is made to the death of Dr. J. E. Sandilands elsewhere, but as he was a member of my own Branch, and I had at one time and over a number of years many contacts with him, I may be permitted to make some tribute to his memory here. Outside the circle of medical officers in the metropolitan area Sandilands was not, I think, very well known, and even within that circle there were not very many who could claim to know him well. This for the reason that he was by disposition rather retiring, and because also the War, which took him away from Kensington at its very outbreak, severed bonds that, because he was so likeable, for a certainty would have strengthened with time and co-operation. Though he suffered much, and for a time was out of things for health reasons, I believe that his years of war service were not unhappy years. When they were ended and he returned to Kensington he had barely time to settle down, and we others scarcely a chance of renewing and strengthening friendship, before the opportunity of proceeding to Bombay as health officer presented itself, and accepting it, he practically, indeed finally, as unhappily it now occurs, cut himself off from health work and his colleagues in this country. In India the conditions with which he had to deal, to contend with in fact, must have been entirely different from those to which he had been accustomed here, but that he mastered them, and was a worthy successor to the several highly distinguished men who preceded him there has been every proof. Until he returned finally a short time ago only, he did not, I think, come home on leave often. Myself, I believe I only saw him once, and that was on the occasion of the Jubilee Congress of the Royal Sanitary Institute. He was then apparently very fit, and had many interesting and amusing things to tell in his rather dry way of his work and experiences in India. I had looked forward to seeing something of him on his return this time but luck was against me and he apparently had made no attempt to renew service associations. I regret that I missed him, as I am certain does every one of his colleagues who knew him and appreciated him. All of these, I know, will join with me in expressing sympathy to those he has left in the tragedy of the loss they have suffered.

The Cost of an Epidemic.

Local authorities in this country have from time to time been called upon to pay compensation in respect of infectious disease, but rarely, I imagine, in more than single cases at a time, and that generally for loss of or interference with work or business, and rarely to any great amount. Certainly none can have had to accept responsibility to the extent that has hit Olean, a city in New York State, U.S.A. In 1928, it appears, there occurred in Olean an epidemic of typhoid fever which was traced to pollution of the public water supply. Soon after the discovery of the source of infection, claims began to be made upon the council for medical and nursing care, for loss of time and on account of lives lost, and eventually entire responsibility was accepted in respect of 212 cases and at least 18 deaths. Up to date, the proceeds of a \$350,000 bond issue has been expended in payment of claims, and now permission is being asked of the New York State legislature to bond the city for a further \$75,000 in the form of twenty-year bonds to meet additional claims. What the ratepayers of Olean have to say about it all I have not heard, but by now I imagine the city has a water supply that is beyond reproach and infectious disease morbidity and mortality rates that are the envy of all other cities in the State.

Sir Alexander Houston.

In the note I read the other day with regard to the approaching retirement of Sir Alexander Houston from the service of the Metropolitan Water Board, the only reason I found for surprise was that the time for talk about such a thing had come anywhere near. There was no surprise at all for me in the statement that the Board were unwilling to let him go and were making efforts to secure his continuance in office. In no way does Houston give the impression that he has arrived at the stage when he should be allowed to say that he has done enough for the public health. I know that in those wonderful reports he has issued during the last few years he has tried to give the impression that he was winding things up. To be frank, however, I have refused to see anything valedictory in them and have accepted them as admirably done summaries merely. Apparently

the Water Board members have taken a similar view and are determined not to lose the services of one who, in the opinion of all who know anything at all of the subject, it will be difficult, if not impossible, to replace. The work done in the laboratories of the Board under Houston has been unique in amount, and in value; has made for the health and safety of millions and a world-wide reputation for the Board as well as for himself. In the world there is no one who knows more of the subject of public water supplies than he, and no one has been more widely consulted. It is almost impossible to think of the Metropolitan Water Board without thinking of Houston; and impossible also to imagine it existing without him. This the Board also think, and it may be hoped that their efforts to secure his continuance in office will be successful, and that we shall continue for very long to think and talk of "Houston of the Water Board," knowing that he is still of and with that Board.

Sunderland First.

Others may reach me before the month is out, but up to the moment the first report received is that of Dr. Hebblethwaite of Sunderland. To him, therefore, congratulations on this. Congratulations also to him upon the excellence of the production and on having got through a very hard year and on the results of his labours. The regret he expresses in having to announce an increase in the infantile mortality rate I share with him. In any district in which this rate exceeds 100, the medical officer of health and those with him, it may safely be taken, must work hard. In Sunderland the figure for 1929 was 109, and great efforts must have been made to keep it even so low as this having regard to the conditions with which the workers have to contend. To beat the rate down below the hundred point will involve an intense struggle, but, as the report shows and as those who know Dr. Hebblethwaite are assured, nothing that experience, knowledge and ability can suggest will be lacking in the effort. I do so hope that the Sunderland report that records the fall of the rate to the two-figure level will be the first to reach me, and that I may have the opportunity of chronicling the event, offering congratulations and wishing Dr. Hebblethwaite further and greater successes. I should like, too, to have the privilege of recording attainment of success in what he is doing in relation to tuberculosis. His appeal for adequate provision for the treatment of this disease has only partially been met by

the opening of a pavilion of twenty beds in the grounds of one of the council's properties. What he wants, however, is that the council should see the desirability of providing a sanatorium in the true sense of the word. The facts and the figures given in his report with regard to tuberculosis, the fight he is putting up against it and the difficulties with which he is faced prove his case, and I feel sure that what he desires to see done will be done. The department of which Dr. Hebblethwaite is in charge is obviously well organised, and this report, which surveys the work done in it, shows that those who are responsible for it are deserving of recognition and praise.

The Curse of the Milk Cart.

There is no one more ready than I to support the claims made as to the food value of milk, but, ardent supporter as I am, I find myself unable to allow that the advantages it confers should be considered adequate to compensate for all the disadvantages associated with the traffic in it. In my mind at the moment, in particular, is the noise connected with its distribution. As a fact, I do not believe that there is any food half so noisy as milk. Of all the complaints with regard to noise nuisance that come to the medical officer of health of a town, quite a serious proportion have reference to such as arise in connection with milk distribution. As a sleep shatterer there is probably nothing to compare with the milk distributor, and as his activities reach their height in the hours when sleep, once having been driven off, is difficult to recapture, it is all the more distressing. And how pandemoniac is the riot that accompanies his activities: the clatter of his clogs; the clash and clang of his cans and churns; the clip-clop of his horses' hooves, and the rattle of his cart. How infuriating and, apparently, how unescapable. Myself, I have known quite good class houses spoiled by the establishment of a milk retailer in their neighbourhood. And myself, I am driven frantic each morning by the string of milk vehicles that bear milk to my neighbours, each one of whom appears to be served by a separate firm. Therefore, while I say "Thank you, Mrs. Cow," I add "Curse the milk cart," and offer as a suggestion to any retailer who is circularising householders in the hope of securing additional customers, that he should submit as a further recommendation that he delivers his milk not earlier than seven-thirty in the morning, and does it with a minimum of noise.

P.

The Coroner and the Medical Officer of Health.

By W. H. DAVISON, O.B.E., J.P., M.B., D.P.H., Barrister-at-Law, H.M. Coroner, Birmingham.

Formerly and for a number of years' Chief Assistant in the Birmingham Health Department, and now Coroner for the City, no one could be better qualified than Dr. Davison to discuss the subject with which this paper deals. The information given and the views and opinions expressed will be read with great interest and appreciation, and no words to recommend Dr. Davidson's contribution are needed.

MONOTONY is defined as an irksome sameness or want of variety, and as such is a condition to which a coroner in a large district is never reduced.

The kaleidoscopic character of the problems constantly demanding a solution require concentration and wide knowledge or the possibility of obtaining up-to-date information in a variety of subjects at short notice. In common with health work, the more efficiently it is performed the more interesting it becomes. No person is qualified to be appointed to be a coroner unless he is a barrister, solicitor, or legally qualified medical practitioner. Although medicine alone is not by any means adequate for all the problems referred to the coroner, I have no hesitation in saying that a medical qualification in addition to a legal qualification is a necessity as a preliminary to such an office. The experience which can be obtained in the public health service, especially on the administrative side, is of the greatest value, and I feel, therefore, that in presenting to you a short account of the work, I will have an audience that cannot but be interested because the work of the coroner touches that of the medical officer of health at many points and, broadly speaking, we are on common grounds in a search for the truth, and with education and prevention in view.

The office of the coroner dates back from Saxon times; the law and practice of his court grew up in an extraordinarily irregular and unsystematic way; the original inquest was of a very primitive character, and even in deaths by violence no scientific evidence was submitted. Forensic medicine and pathology as we now know them were not then in existence. In fact, forensic medicine was first introduced into Great Britain as a subject of instruction to medical students in the year 1791 by Andrew Duncan, senr., Professor of the Institutes of Medicine in Edinburgh University, and the Chair of Medical Jurisprudence was instituted at Edinburgh

University in 1807, but forensic medicine was not until recently a subject of special examination in many of the medical schools.

When the coroner is informed that the dead body of a person is lying within his jurisdiction, and there is reasonable cause to suspect that such person has died either a violent or an unnatural death, or that the death was sudden and the cause unknown, and in certain other circumstances defined by statute, he shall issue a warrant. In all cases of sudden death or death under any suspicious circumstances where the duty of informing the coroner is not by statute imposed upon any person, as is required in the case of persons dying in lunatic asylums and gaols, or children coming under the Infant Life Protection Act or the corresponding provisions of the Children Act, 1908, there is no obligation placed on any registered medical practitioner as such to notify the coroner, *but under common law* he is obliged like any other citizen to notify. It is the duty of those who are about deceased to give immediate notice to the coroner or to the nearest police officer.

Under the provisions of the Births and Deaths Registration Act, 1926, when a registered medical practitioner was in attendance during the deceased's last illness he will send to the registrar a medical certificate of the cause of death and give the necessary notice to the informant to be taken to the registrar for the purpose of registration. The medical certificate will show whether the doctor has seen the deceased after death, and how long before death he last saw him alive, and also whether he has reported the death to the coroner: thus provisions are made for the coroner to be informed either by the registrar or the doctor himself. The registrar, before registering a death or a stillbirth (Part IX, Statutory Rules and Orders), reports to the coroner:

1. The death of any person who was not attended during the last illness by a registered medical practitioner.

2. Any death which he has reason to believe was unnatural or directly caused by any sort of accident, violence or neglect, or attended by suspicious circumstances.

3. Any death which appears from the contents of the medical certificate to be due to any of the following causes:—

Industrial diseases, Sec. 73, Sub-section 3, of the Factory and Workshop Act, 1901.

Silicosis—under silicosis compensation scheme. Anthrax.

Food poisoning and allied conditions.

Abortion.

Carbon monoxide poisoning.

Drug habit poisoning, etc., acute alcoholism, etc., etc.

4. Any alleged stillbirth with respect to which he has reason to believe that the child was born alive.

5. Any death occurring after an operation necessitated by an injury, or under an operation or before recovering from the effects of an anæsthetic.

6. Any death where it appears from the contents of the medical certificate or otherwise that the deceased was not seen by the certifying medical practitioner neither after death nor within fourteen days before death.

When the Births and Deaths Registration Act, 1926, was under discussion in Parliament, unsuccessful efforts were made to procure a clause necessitating a personal examination of the supposed corpse by the certifying doctor in such a manner as to satisfy himself that life was extinct and to confirm his opinion formed as to the cause of death. This was an attempt to secure from the medical practitioner a certificate of the *fact* of death as well as the *cause* of death. The plan of the Registrar-General's office has been to meet the case by extending the system of references to coroners as stated, thus ensuring that any person not seen by a doctor within fourteen days of death comes under review by a coroner before registration or burial. This necessarily increases the work of the coroner, but the system in my experience works well, and is an additional protection to the public in all cases where the medical practitioner does not accept the responsibility of certification. In no case do I issue a certificate (known as the "pink form") to the effect that the coroner considers an inquest is unnecessary, without view of the body by a medical practitioner or after post-mortem examination.

The importance to the community of the actual cause of death of its citizens is supreme, involving numerous interests—social and economic.

Public health and safety may be involved as well as criminal, civil, and compensation actions. It is a duty which we owe both to our dead and to the living to determine accurately whether

death was due to disease, accident, suicide, or of criminal origin.

There are two groups into which all cases referred to the coroner may be divided, *viz.* :

1. Those in which an inquest must be held.

2. Those where the coroner can exercise a discretion either to

(a) hold an inquest,

(b) issue a certificate after post-mortem examination,

(c) issue what is known as the "pink form" after due enquiry, setting out the probable cause of death, or permitting the medical practitioner to certify, and notifying the registrar that an inquest is not considered necessary.

It is the last group that causes considerable anxiety and requires very careful consideration. The power of the coroner is limited by the judgment of J. Stephens in *Rex v. Price*, 1884: "The coroner has not an absolute right to hold inquests in every case in which he chooses to do so. It would be intolerable if he had power to intrude without adequate cause upon the privacy of a family in distress and to interfere with their arrangements for a funeral. Nothing can justify such interference except a reasonable suspicion that there has been something peculiar in the death, that it may have been due to other causes than common illness."

Every coroner possesses powers, which, rightly used, are admirably adapted for the protection of the public from foul play and irregularities and of discovering and recording accurately the cause of death.

Two dangers have to be avoided, *viz.*, causing of unnecessary pain to the relatives of the deceased by the ordeal and publicity of an inquest and loss of time to witnesses and others required to attend; but the other danger is still more to be avoided—the passing over or hushing up of a case which ought to be inquired into and probed to the bottom.

There are special statutory provisions dealing with inquests in the case of explosions; accidents in mines and quarries, in factories and workshops, and on railways; industrial diseases, food poisoning, etc.

It is also provided that some person on behalf of the Secretary of State or the Board of Trade and, in certain cases, the representatives of the workers through trades unions, attend such investigations and as directed by the coroner may be of great value in clearing up any obscurity, not only as to the precise cause of death, but also in bringing circumstances as

showing, for example, how far the disease or accident was due to neglect, either on the part of the management or the worker, to observe the necessary precautions. The publicity of the proceedings may also be of value in directing public attention to a demonstrated danger or to any injury which requires a remedy. The assistance of a jury in such circumstances is frequently of great value.

Post-mortem Examinations.—There is no legal obligation on the coroner to call upon any particular medical man, either to give evidence or to conduct a post-mortem examination. I have always been strongly of the opinion that the general medical practitioner, however admirably equipped he may be for diagnosis and treatment of disease, is not the most suitable person to conduct an autopsy, and for that reason, while giving him an opportunity to be present, I rarely entrust this duty to him, but avail myself of the services of a skilled pathologist or members of the teaching staff in pathology at the university. The evidence thus obtained is of extreme importance in cases of suspected murder, infanticide, criminal abortion, etc.

Again, in those cases where death follows an alleged injury sustained while in the course of employment or as the result of an accident, the question of responsibility arises which cannot in a certain proportion of cases be satisfactorily solved without a post-mortem examination, and in justice to the relatives of deceased, the employers, or the insurance companies, skilled and experienced observers should be requisitioned.

I have further assured myself that even in those cases where the cause of death is satisfactorily cleared up by post-mortem examination without an inquest, the observations and opinions of the skilled observer make for greater accuracy, and information which might otherwise be lost is left in the possession of those who can best make use of it for the furtherance of scientific needs and the advancement of medical knowledge.

In order to enable the work to be carried out properly and decently, mortuaries with properly equipped post-mortem rooms are a necessity. Powers are possessed under Sec. 143 of the Public Health Act, 1875, to provide suitable facilities, and the coroner possesses the power both under common law and the Coroners' Amendment Act to move a body to any place thus provided. The coroner may avail himself of facilities provided for making post-mortems in the area adjacent to his own district with the

consent of the sanitary authority concerned, which may obviate difficulty in the country districts.

Birmingham possesses an up-to-date mortuary, refrigeration room, and fully-equipped post-mortem room with two tables, situated within easy access of the law courts, where all bodies, except those persons dying at the General Hospital, are brought for view and post-mortem examination. An attendant is always on duty who is possessed of the requisite skill to restore the body properly after the post-mortem examination, and receives payment according to a schedule approved by the local authority.

The sanitary authority and its officers are vitally interested in the subject of accurate death certification. From the brief sketch of the part the coroner plays to achieve this end there is nothing to prevent its consummation as far as he is concerned.

At an Inquest.—By law and custom, coroners' inquisitions are primary tribunals in England for enquiring into and determining the cause of death. An inquest is not like the proceedings before the magistrates or a grand jury. Before the coroner there is no accusation. No one is excluded, and all witnesses who know anything about the death can be examined. In this common-sense procedure the rules of evidence prevailing in other courts are not strictly adhered to in the coroner's court. In all inquests which result in the committal to trial of an accused person, a medical man who is giving his evidence before the coroner is virtually delivering it before a judge at assize and a jury. His evidence is taken down, and is put in the depositions and signed by him. This fact alone should induce him to give his evidence guardedly, and with due regard to the serious results to which exaggeration or mis-statements ultimately may lead.

Many of the cases taken by the coroner may be the subject of civil proceedings later, as, for example, deaths arising from civil negligence (as distinct from criminal) or from injuries received in the course of employment or on the highway. The various interests affected may be legally represented, and when counsel or solicitors are present it is usually with a view of getting such evidence taken as may be useful in some other court for damages.

Medical witnesses must be prepared to answer questions put to them for this purpose, and their evidence will be in the possession of both parties at any subsequent stage. Failure of memory, want of accurate observation, or carelessness in giving evidence at a coroner's

inquest may lay a medical witness open to severe cross-examination or even censure, and my reason for drawing attention to this point is that medical men often treat the proceedings at inquests too lightly.

A medical man is not privileged from disclosing statements made to him by a patient, and he must remember that there are no medical secrets.

Medical men who are called in every case before the coroner appear as scientific witnesses and form an exception to the general rule of law which confines witnesses to statements of such facts only as are within their knowledge.

They are allowed to state their opinions upon a matter with which they are conversant, and then the opinion of medical men may be admitted as to the cause of disease or death, or the consequence of wounds, or with respect to the sane or insane state of a person's mind (as, for example, in cases coming within the Infanticide Act). The language should be simple and easily understood by the layman.

The function of the medical expert witness is to assist the court by his special knowledge. He should not be an *ex-parte* witness, and should be absolutely free from bias. When he expresses an opinion on the facts before him in a written report—and the evidence of the medical man who has made a post-mortem examination by instructions of the coroner is always delivered in the form of a written report which will be read out in court, followed by questions to clear up doubtful points—it is well that the reasons for the opinion should be concisely stated, and those opinions should be the unalterable views on which he has no doubt whatever. Doubtful opinions should be omitted from such a report. Answers to questions should be clear and concise and without hesitation, and lengthy explanations avoided.

Before a medical witness attends court to give evidence where no post-mortem examination has been ordered he should make a thorough external examination of the body to be assured as to the cause of death. When first called to see the body his observations should be made with a view to determining the approximate time of death, and whether the death was natural, accidental, suicidal, or homicidal. It is impossible for me to deal with the points arising under these headings, but I have been surprised on several occasions at the carelessness shown by medical witnesses in failing to see or appreciate the significance of what they were looking at.

If the body is not identified he should note the probable age, colour of hair, condition of

teeth, and any birth-marks or deformities.

Careful notes should be made of any external marks of injury or violence, and whether they are ante-mortem or post-mortem; in a throat wound, the instrument used and whether self inflicted; in a case of coal-gas poisoning, the presence or absence of pink discoloration of the skin, the colour of the blood, and the smell of gas from the body; in children found dead in bed with their parents, the signs of pressure points and asphyxia.

In Birmingham 8.5 per cent. of the annual deaths are thus reviewed by the coroner.

The staff at my disposal consists of a coroner's officer, who is a chief inspector of police, assisted by two sergeants and four constables, all of whom are members of the city police force, and are specially detailed for this duty alone, and are, therefore, highly skilled and experienced in inquiries of this type.

We can now pass on to deal with certain aspects of the work in which the medical officer of health is particularly interested.

I would not refer to road fatalities except to say in passing that I disagree with the suggestion of Sir George Newman in his report on the State of the Public Health for 1926, p. 22, that a useful purpose would be served by investigations undertaken by the public health officials of large areas. This work is at present being adequately dealt with by the coroners, the police, and the Safety First Council, and to introduce another set of officials to augment or supersede those already acting would not be in the public interest, and might lead to confusion. I may say here that my experience after having worked in the public health service for so many years is that under proper direction and with the power possessed by the police a more detailed and searching inquiry can be made in this way than by officers of the local sanitary authority, however competent. Further, the exact information which is obtained on oath in the coroner's court in all fatal accidents is available on the payment of a nominal fee for a copy of the notes of evidence, and at the present time coroners throughout the country are collaborating with the Safety First Council in providing accurate and detailed statistics of road fatalities. If the Road Traffic Bill becomes law, the Minister of Transport will probably in the future undertake this work.

Deaths during Anæsthesia.—Registrars of deaths are required to refer to the coroner any death occurring under an operation or before recovering from the effects of an anæsthetic. The question then arises what enquiries should be made.

The British Medical Association, in the memorandum of the Departmental Committee on Coroners, considered that every death occurring under an anæsthetic should be inquired into, but that the inquiry should be held in private. This is an expression of opinion with which I cannot entirely agree.

There is an important distinction to be drawn between deaths from an anæsthetic and deaths under an anæsthetic. For example, a person under an anæsthetic may die from the action of the anæsthetic or surgical shock or from hæmorrhage, or from a combination of these or other causes. So again, a person under an anæsthetic may die from some accident consequent upon its administration, e.g., asphyxia through the tongue slipping back or the regurgitation of food, swab or blood in the air passages, etc.

Without a detailed investigation of each case it is impossible to say how far the anæsthetic was or was not the cause of death or whether it contributed to it. A certain number of deaths are inevitable whatever the care and skill may be with which it is administered. From ascertainable statistics it would appear that the number of deaths under anæsthetic are increasing, although whether the increase is only relative to the increased number of operations performed is not quite clear. I think, however, it will be agreed that a certain number of these deaths are due to preventable causes. My opinion is that it is not desirable or necessary to hold an inquest in every case. The press frequently report details of the inquests, and give them a prominent place in the news items. In certain cases held before the coroner publicity is of great value, but this group is not one of them. It alarms the public unduly in regard to anæsthetics and may penalise the surgeon and anæsthetist who are frequently doing their best for a patient in extremes, and where the prognosis is hopeless without the surgeon's skill.

In all deaths under an anæsthetic a post-mortem examination is made by a skilled pathologist, and if the death occurs in hospital the pathologist selected should not be on the staff of that hospital.

In the absence of any desire being expressed by the relatives that an inquest should be held, and with the report of the post-mortem examination before him, the coroner can use a discretion, but there will always remain a certain number of cases in which an inquest is desirable.

Stillbirths.—There is no more frequent medico-legal operation which a medical man has to perform than that of examining the dead body of a newly-born infant. In the poorer

districts assistance may not be summoned until the last moment, and during the night, and the child may be born into the chamber utensil, into the bed-clothes, the mother's clothing, or on the floor, and thus prevented from breathing. On the result of that examination he will determine whether it is a stillbirth, or that the child was born alive and had a separate existence, and that the cause of death was due either to natural causes or want of attention at birth, or violence.

The Births and Deaths Registration Act, 1926, requires the registration of stillbirths.

"Stillbirth" and "stillborn" shall apply to any child which has issued from its mother after twenty-eight weeks of pregnancy, and which does not at any time after being completely expelled from its mother breathe or show any signs of life. A medical practitioner or midwife who is present at the birth and the child is stillborn can issue the certificate. If when the doctor or midwife arrives the child is found to be dead, it is the practice in Birmingham to report the fact to the coroner together with an opinion as to whether it is a stillbirth, or refuse to give a certificate, in which case the registrar will communicate with the coroner.

If an investigation into the circumstances leaves the matter in doubt, a post-mortem examination is ordered. In addition, midwives are required to report to the local supervising authority appointed under the Midwives Acts all stillbirths occurring in their practice. The child may have been born alive and lived, but may have died in a few moments from lack of proper attention. This, of course, is not registered as a stillbirth.

The number of dead bodies of newly-born babies found thrown away in parcels in gardens, parks and canals is considerable. In few of these can it be definitely established that they have been murdered. It appears that these bodies are thrown away if still-born or if dying soon after birth to avoid the expense of burial or to conceal the fact of an illegitimate birth. All these cases have to come under review in order to exclude or establish wilful and deliberate neglect, murder and infanticide.

Forty-eight cases of newly-born infants were reported to me in 1928. In 35 cases no inquest was held, 29 being registered as stillbirths, and six as want of attention at birth, one drowning (murder against some person or persons unknown), one asphyxia (evidence insufficient to show how occasioned). In the remaining four inquests, one was stillborn, one was want of attention at birth, and in two other cases the

mother was charged with infanticide.

The accepted principle in law in charges of infanticide is that the accused should get the benefit of any doubt as to her guilt. This would rule out all those interesting cases of children living after birth without apparently respiring or of infants living and breathing for some time after birth and yet finding on post-mortem examination an absence of air in the lungs (atelectasis).

A woman is never put on her trial unless there is evidence of external violence which would be sufficient to cause death if, in fact, the child had been born alive.

Professor Harvey Littlejohn sets out in detail in a paper on Respiration and the Proof of Live Birth, published in Vol. XVI of the Transactions of the Medico-Legal Society, how the post-mortem examination should be carried out in these cases. He examines the head first for the presence of injuries, such as fracture of the skull; site and extent of caput succedaneum, amount of head moulding, and the presence of intra-cranial hæmorrhage, *i.e.*, evidences of compression that may be the cause of asphyxia even in an infant which shows air in the lungs; then proceeding with the examination of the air passages. In exposing the larynx, great care must be taken not to interfere with any mass of mucus or foreign matter resting over its entrance. The windpipe is then ligatured half-way between the larynx and the bifurcation of the trachea; after placing a ligature round the œsophagus above the diaphragm the contents of the thorax are removed *en masse*.

There is the usual examination of the lungs, the hydrostatic test merely confirming the conclusions which any experienced examiner has drawn from what he has already observed, *i.e.*, physical condition, crepitation, colour, marbling of surface, and especially the fine mosaic of expanded air vesicles on the surface, round and dome-shaped, and best seen with the lens. Valuable corroboration of the respiratory tract is to be found in the presence of air in the intestines. Air is usually swallowed during the first respiratory movements in an infant which survives birth; the air has passed to some extent into the duodenum, and the longer the infant lives the further the air extends into the intestines. In demonstrating this, a ligature should be placed round the duodenum, and another lower down the intestines.

The chief difficulty encountered in the proof of infanticide depends on the fact that the law demands evidence that the infant was born alive and had a separate existence outside the body of the mother before the charge of causing the

death can be proffered. Murder may be possible from a medical point of view and impossible from a legal point of view. The law differs in this respect in other countries. The essential test is that of respiration, and it is not always possible to affirm that breathing took place after complete expulsion of the body. Everything depends on a careful consideration of the post-mortem findings and of the circumstances in order to make it possible to give a definite opinion. Proof of respiration is by no means the only evidence required in these cases; of almost equal importance in deciding the question of live-birth will be the determination of the cause of death. This requires skill and experience more especially as regards those causes which tend to produce death during labour and those which result in stillbirth with subsequent death shortly afterwards. (Smellie's post-mortems.)

I have made a practice of setting out fully the findings of the pathologist on the cause of stillbirth when notifying the registrar of births and deaths.

Registrars, however, only register such cases as "stillbirth" without stating the cause, as, for example, "supra renal hæmorrhage," "intra cranial hæmorrhage, precipitate labour," etc., etc.

In view of the importance of collecting reliable information on this subject, the Registrar-General might consider the desirability of placing on record the conditions established at the autopsy.

So much depends in the examination of the bodies of newly-born infants on the knowledge and experience of the examiner equally in the interest of the mother and of the Crown, and I am of the opinion that such examinations should only be carried out by persons who have by practice acquired the necessary experience. It is important that the medical man should be really familiar with the subject on which he is called to give evidence, and criminal cases of infanticide are perhaps the most difficult of all on which to base an accurate opinion.

Abortion.—Registrars have instructions under Statutory Rules and Regulations, 1927, No. 485, before registering a death to report to the coroner all cases where the cause or the suspected cause of death was due to abortion.

It is the custom in many cases for the doctor to communicate with the coroner direct, thus avoiding delay and obviating the possibility of a post-mortem examination being carried out before the circumstances have been considered. It is desirable that interested parties should be given an opportunity to be represented at any post-mortem examination, and more especially

in those where the findings at the post-mortem may be of great moment.

In every case a post-mortem examination is made in order to establish or exclude as far as practicable the question of mechanical interference.

There is no doubt of the necessity for routine investigation and post-mortem examination in these cases. Within the past fourteen days, out of four cases of abortion reported to the coroner, three were due to mechanical interference. The death of a young woman who died at one of our large public hospitals in 1925 before the Births and Deaths Registration Act became effective, was registered as abortion without reference to the coroner; there was no inquiry into the circumstances and no post-mortem examination. Several months later, as the result of persistent rumours, the body was exhumed. Definite evidence of mechanical interference was discovered, and a woman was charged with procuring abortion and is now serving under sentence of seven years.

Infant Life Protection Act.—Any person who for more than twenty-four hours undertakes for reward the nursing or maintenance of any child under seven years of age shall, on the death of such child, give written notice after death to the coroner (in addition to that required by the local authority) who shall hold an inquest unless there is a certificate from a duly qualified medical practitioner who has attended the child during the last illness, and provided the coroner is satisfied that there are no grounds for holding an inquest. This notification necessitates an investigation by the coroner's officer into the death of every child coming under the provisions of the Act.

Children Act, 1908, Sec. 13 and 15.—*Suffocation in bed with parents.*—This is fortunately a cause of death in infants which is becoming less frequent. The factors that are working to this end are well known to you, and may include smaller families, less abject poverty, better housing conditions, restrictions in the hours of sale of alcoholic beverages, instruction of parents, and supervision of infants by women health visitors directed by the medical officer of health.

It is during the first six months of life that infants are especially in danger from this cause. Coroners can assist the local authority in securing that babies be provided with a separate cot by establishing at the inquest whether parents were thus advised and dealing accordingly with those who deliberately failed to act on advice.

Midwives who are in attendance on the mother during the puerperium period could with advantage be required to give such advice, under the rules of the local supervising authority; subsequently the infant welfare centres could assist and advise the parents how to surmount the difficulties.

In attributing a death to suffocation it is inadvisable to be guided alone by the circumstances under which the child was found unless unmistakable signs are noted on external examination.

In three cases noted recently, ages 17 days, 1 month, and 7 months respectively, the autopsy established the cause of death to be due to broncho-pneumonia, which, without a pathologist's report, would undoubtedly have been recorded incorrectly as suffocation.

Food poisoning.—I can never understand why food poisoning that is the characteristic condition set up by the *Salmonella* group of organisms has not been made compulsorily notifiable to the medical officer of health. The medical practitioner will, as a rule, notify the coroner of the death in doubtful or suspected cases, but if he fails to do so the registrar will himself notify the coroner before issuing the burial order, and this procedure ensures an enquiry into the circumstances of that particular case.

In accordance with suggestions contained in Home Office circular, October 31st, 1923, 439053/1, the coroner should without delay give notice to the medical officer of health of the district in order that he may institute inquiries and, where possible, afford him an opportunity of having examination made of post-mortem materials, etc., associated with the illness. This arrangement is better than nothing, but it is unnecessary for me to point out how belated such information is, or the advantage of placing on the medical practitioner the obligation of communicating to the medical officer of health his diagnosis or suspicion before death.

Although there is no definite recommendations in regard to allied conditions which may be of an epidemiological character, co-operation between the coroner and the medical officer of health is desirable.

Industrial Diseases.—The industrial diseases that are referred to the coroner are defined by Sec. 73, Sub-section 3, of the Factory and Workshop Act, 1901. This list has been extended by special order made under the section, and notice of time and place of holding an inquest is required to be given to H.M. Inspector of Factories.

The Secretary of State further points out

that where death is due to or suspected to be due to an industrial disease other than these, an investigation directed by the coroner may be of great value in clearing up any obscurity as to the precise cause of death and in bringing out all the circumstances contributing to the death.

Registrars have instructions to communicate with the coroner when any mention of fibrosis of the lungs or pneumoconiosis appears on the death certificate as a cause of death.

The dangerous character of the industrial disease known as silicosis, a fibroid condition of the lung produced by long exposure to silica dust, in which tuberculosis often supervenes, is now widely recognised, and in such case an inquiry is held. The disease assumes an added importance on account of the silicosis compensation scheme for refractory industries, and a post-mortem examination made by an expert pathologist or by the medical referee appointed under the silicosis board is necessary.

The tuberculosis officer is particularly interested in this condition, and if, on enquiry, it is found that he has had the deceased under observation, an opportunity is afforded him to attend at the post-mortem examination.

Again, anthrax is a condition where close co-operation between the medical officer of health and the coroner is assured, and the medical officer of health's assistance is of especial value, particularly in those cases which cannot be determined satisfactorily without bacteriological examination.

I think I have indicated, although briefly, the many points at which there is contact between the coroner and the medical officer of health and the advantage to both of co-operation. The coroner does not work as is sometimes supposed in a water-tight compartment, and there is no reason why the information which he is so well able to obtain cannot be made available to those who may be able to make further use of it for the benefit of the State or in the interest of preventive medicine.

There is one further point which I would like to touch on briefly, although it hardly comes within the scope of this paper, and that is the making available the material passing through the coroner's hands for the purpose of teaching forensic medicine.

The coroners system in England has been rather severely criticised in "Methods and Problems of Medical Education" (9th series, 1928), published by the Rockefeller Foundation. Criticism has come from Scotland and from the medical examiners of New York City and

Suffolk County, Massachusetts.

The account of the medico-legal system in the parts of the United States where the coroners system has been abolished, for reasons which would not obtain in this country, has not filled me with any enthusiasm, and reading between the lines there is a note of despondency and lack of co-operation which need never exist under our English system.

The coroners system was abolished in Massachusetts in 1877, and in New York in 1915, when it was replaced by what is called the medical examiner system. Sufficient time has, therefore, elapsed to justify us in requiring proof of its efficiency in making it difficult, if not impossible, for one human being to take the life of another without detection and punishment.

This is what the Birmingham *Daily Mail* of January 30th, 1930, said in a leading article on criminal investigation in America:

"There were last year some 12,000 murders committed in the United States—a perfectly appalling number; and making full allowance for the polyglot character of the population, it appears impossible to resist the conclusion that this terrible record is due to the corruption and the inefficiency of the judicial system there, as a result of which five out of six murderers escape conviction and punishment. In this country the position is more than reversed, and the person who is deliberately guilty of the gravest of all offences has a very small chance indeed of escaping the extreme penalty."

The liaison which I have already outlined between the coroner and the professor of pathology and his staff in our university and the specialist pathologists of our teaching hospitals, places available knowledge in the proper hands.

It is difficult to see how the lecturer in forensic medicine in any of our English universities can ever hope to find it worth his while financially to attempt to acquire medico-legal practice.

It is possible that the difficulty of obtaining teachers with practical experience might be surmounted by the appointment of the coroner in university towns to be a lecturer in medical jurisprudence.

In answer to a request for a definition of an uncertified death, Dr. Davison explained that where it is definitely established that a medical practitioner was not in attendance during the last illness of the deceased, the issue of a medical certificate of death did not arise, and, unless the coroner held an inquest or ordered a post-mortem examination under Section 21, Sub-section 2, of the Coroners' Amendment Act, 1926, the registrar must register the death as uncertified.

The Society.

Reports, Proceedings and Announcements.

NOTICES.

ANNUAL SUBSCRIPTIONS.

Members who have not yet forwarded the sessional subscription due on October 1st last are asked to do so at once in order to avoid the necessity for further notices from the Executive Secretary.

NOMINATIONS.

The following candidates have been nominated for the next election to the Society: *As Fellows*: Dr. Edith I. L. Abbott, 50, Highgate Hill, N.19; Dr. Hilda A. Cohen, Health Dept., City Hall, Cardiff; Dr. John Innes, City Sanatorium, Yardley Road, Birmingham; Dr. J. W. Lobban, Health Dept., Town Hall, Chester; Dr. D. F. McCarthy, General Infirmary, Salisbury; Dr. J. H. Weir, City Isolation Hospital, Groby Road, Leicester; Major H. J. G. Wells, R.A.M.C., Government House, Portsmouth. *As Associate*: Miss Muriel C. Robertson, L.D.S., School Clinic, Hyde, Cheshire.

MATERNITY AND CHILD WELFARE GROUP.

The *Annual General Meeting* of this Group will be held at the house of the Society on Wednesday, July 2nd, at 5 p.m. Nominations for President, Vice-President, Representative on Council of the Society, Committee, and Hon. Sec. should be forwarded to Dr. Grace Calver, 1, Holly Terrace, Highgate, N.6, before June 21st.

On Thursday, July 3rd, Dr. J. A. Stephen will deliver his *Presidential Address* on "The Importance of Education in Child Welfare" at the house of the Society, at 5 p.m.

The *Annual Dinner* of the Group will be held at the Florence Restaurant, Rupert Street, W.1, on Thursday, July 3rd, at 8 p.m. Members are invited to bring their friends. All applications for tickets (7s. 6d. each, including gratuities) must be sent to Dr. Calver before June 30th.

A *Post-Graduate Course* organised by the Fellowship of Medicine in co-operation with the Group will be held from June 30th to July 5th. Applications for tickets (5s. each) should be addressed to the Secretary, Fellowship of Medicine, 1, Wimpole Street, W.1. The course will include demonstrations by Lady

Barrett, Mr. Hedley, and Mr. Wyatt (St. Thomas's), Mr. Bourne and Mr. Rivett (Queen Charlotte's), Dame Louise McIlroy and Dr. Chodak Gregory (Royal Free), Dr. Pritchard (Infants' Hospital), Prof. Browne, and Dr. Barton (University College Hospital), Mr. Bright Bannister (Charing Cross), Dr. Cameron (Royal Waterloo), and Dr. Remington Hobbs.

The programme includes a number of visits to institutions.

Members attending the National Conference on Maternity and Child Welfare in London, July 1st to 4th, who wish to take advantage of this Post-Graduate Course, should secure nomination as delegates by their local authority, and thus qualify for allowance of expenses as authorised by the Ministry of Health (England), the Department of Health (Scotland), and the Ministry of Home Affairs (Northern Ireland).

COUNCIL MEETING.

A meeting of the Council was held at the Municipal Buildings, Harrogate, on Saturday May 17th, 1930. The President (Dr. J. J. Buchan) was in the chair, and there were present Professors H. Kerr, J. Johnstone Jervis, and W. W. Jameson, Drs. G. H. Pearce, T. W. Naylor Barlow, R. M. F. Picken, P. H. Stirk, E. H. Snell, Stella Churchill, J. Fenton, G. F. Buchan, F. T. C. Linton, R. A. Lyster, and R. H. Wilshaw.

The Minutes of the last meeting having been approved and signed, apologies for absence were received from Drs. Chalmers, Jolly, Sharpe, Joseph, Wood, E. Ward, Tapper, Puddicombe, Baker, Eustace Hill, Mussen, Gibbons Ward, Lt.-Cols. F. E. Fremantle, M.P., and G. S. Parkinson.

Ice Cream Standards.—On a report from the General Purposes Committee (April 11th, 1930) it was agreed to reply to enquiries from the Association of Municipal Corporations as follows:—

(a) That premises where ice cream is manufactured, stored, sold, or exposed for sale, should be subject to registration and inspection.

(b) Ice cream should not be sold elsewhere than on registered premises except in a package covered and sealed at the place of manufacture.

(c) That ice cream should only be manufactured or sold by persons registered by the Local Authority.

(d) That the Local Authority should have power to refuse to register, or to remove from the register, premises or persons.

(e) That chemical or bacteriological standards should be set up for ice cream.

The Askwith Scale of Salaries.—At the request of the Council, Dr. G. F. Buchan verbally reported on the considerations which arose at the Conference which was held on Wednesday, May 14th, 1930, between representatives of the Society and the British Medical Association in regard to the scale of salaries recommended to Local Authorities by the Conference presided over by Lord Askwith (see PUBLIC HEALTH, September, 1929, page 415). After discussion, and careful examination of the methods to be adopted, the Conference had agreed unanimously that subject to confirmation by the Council of the British Medical Association the new scale should take effect, and that a circular would be issued to Local Authorities accordingly. It was also announced at the Conference that the co-operation of the *British Medical Journal*, *The Lancet*, and *The Medical Officer* had been secured in this matter. After discussion it was resolved that the information given at the Conference on May 14th should be fully reported by Dr. Buchan to the next meeting of the Council.

Undertakers and Infectious Diseases.—On a report from the General Purposes Committee (April 11th, 1930) it was agreed to forward the following replies to questions submitted by the British Undertakers' Association in reference to bye-laws governing the removal and burial of persons dying from infectious diseases:—

1. Q.—How long is the body allowed to remain if death occurs in a private dwelling place?
A.—48 hours. See Infectious Diseases (Prevention) Act, 1890, Sec. 8.
2. Q.—When coffined, how long can the person be kept before the coffin is fastened down?
A.—Ditto. Ditto.
3. Q.—If the person dies in a hospital for infectious cases, can the body be taken home before burial?
A.—The Medical Officer of Health or any other registered Medical Practitioner may certify in his opinion it is desirable in order to prevent the risk of communicating any infectious disease or of spreading infection that the body shall not be removed from such Hospital except for the purpose of being forthwith buried.
4. Q.—Can the body be taken into a Place of Worship,

Chapel, or Chapel attached to a Crematorium for service?

A.—There is no statutory provision with regard to this, but practice necessarily depends on the disease, risk of spread of infection and other circumstances.

5. Q.—Are there any regulations for the disinfection of bodies before being coffined?

A.—No general regulations.

6. Q.—What regulations exist for removing bodies to another area either by road or by rail transport?

A.—Section 11 of the Infectious Diseases (Prevention) Act of 1890 implies that a public conveyance can be hired to convey the body dead of infectious disease provided the owner is agreeable and provided there is immediate disinfection of the vehicle afterwards.

7. Q.—Would either or any of the regulations be remitted if the body were embalmed?

A.—See reply to Question 6.

The above replies must be taken as subject to legal interpretation.

Housing (No. 2) Bill.—A report from the General Purposes Committee (April 17th, 1930) recorded that in accordance with instructions of Council the following observations in reference to the Housing (No. 2) Bill had been forwarded to the Ministry of Health:—

Clause 1.—No definition of "unfit for human habitation" is given. Unfitness does not appear to be dependent only on considerations of health as in previous Acts of Parliament. It would appear difficult for a Medical Officer of Health who has to make an official representation to represent a house as unfit on any except health grounds.

Clause 14.—The houses to be dealt with under this Clause are "any dwelling house occupied by persons of the working classes in any respect unfit for human habitation, but capable at a reasonable expense of being rendered fit."

We consider that the old wording is preferable, namely, "any dwelling house suitable for occupation by persons of the working classes not in all respects reasonably fit for human habitation."

As an amendment to Clause 14 we suggest:—

(a) Any dwelling house occupied or suitable for occupation by persons of the working classes in any respect unfit for human habitation, but capable at a reasonable expense of being rendered fit, or not in all respects reasonably fit for human habitation; or

(b) Any dwelling house in any respect unfit for human habitation, but capable at a reasonable expense of being rendered fit, or not in all respects reasonably fit for human habitation.

Clause 15.—We take strong exception to this Clause which makes the rack-renter, who is an agent, liable for the cost of repairs only in so far as he has, since the date of the service of the notice on him, had in his hands sufficient money to pay for these repairs.

In our opinion a rack-renter should be liable for these repairs in the same manner as in previous Acts.

Clause 19.—This Clause transfers the hearing of appeals from the Ministry to the County Court.

We feel this is a retrograde step and suggest that appeals continue to be dealt with by the Ministry of Health as under previous Acts.

We are aware that this procedure has occasioned delay, but suggest that the staff of the Ministry be increased so that appeals may be dealt with expeditiously.

We consider under sub-section 3 that inspection by a Judge of the County Court is not at all similar to an inspection by a properly qualified inspector of the Ministry of Health, and is not likely to assist the course of these appeals. In addition, practice shows that where appeals are against the amount of work which the Local Authority requires to be done, as a general rule some work has been done before the appeal is heard, and a Judge of the County Court, unfamiliar with housing conditions, would not be likely to appreciate how far the work done had really dealt with the conditions originally complained of.

Dr. G. F. Buchan reported that with Drs. Fenton and Porter he had attended at the Ministry by invitation of Mr. Francis to discuss the above representations, and that the observations submitted on behalf of the Society were receiving sympathetic consideration.

B.M.A. Representation.—A letter was received from Dr. Cox stating that the only nominations received for the election by Public Health Service Members of two representatives on the Council for the year 1930-31 were in favour of Dr. R. M. F. Picken and Dr. E. H. Snell. These two nominees are therefore both elected members of the Council for the ensuing session. The only nominations received for the election by Public Health Service Members of four Representatives on the Representative Body of the Association for the year 1930-31 were in favour of Dr. T. Eustace Hill, Professor Harold Kerr, Dr. R. M. F. Picken and Dr. R. H. Wilshaw. These nominees are therefore elected Representatives on the Representative Body for the ensuing session.

No nominations having been received for Deputy Representatives their appointment rests, under the Bye-laws, in the hands of the Chairman of the Representative Body who will announce his nominations in due course.

Dr. G. F. Buchan was nominated to fill the vacancy on the B.M.A. Public Health Committee caused by the election of Dr. Picken to Council.

Nomination of President.—The Executive Secretary announced that Prof. Harold Kerr, O.B.E., Medical Officer of Health for the City of Newcastle-upon-Tyne had been nominated by the Branches for election as President of the Society for the Session 1930-31. The West of England Branch had proposed to nominate Dr. Ernest Ward, but at his request they had

decided to support the nomination of Dr. Kerr, in order to ensure his election by an unanimous vote. The President expressed the great pleasure with which the Council would recommend Dr. Kerr for election at the annual meeting to the highest position in the gift of the Society.

Election of Officers.—The following were elected Officers of the Society for the Session 1930-31:—

Vice-Presidents.—Dr. J. J. Buchan, Dr. J. Howard-Jones, Dr. E. H. Snell.

Hon. Treasurer.—Dr. G. F. Buchan.

Hon. Editor.—Dr. Charles Porter.

Vote of Thanks.—The Executive Secretary was directed to convey to the Mayor and Corporation of Harrogate sincere thanks for the hospitable welcome extended to the Society on this occasion of their meeting at Harrogate, and also to Dr. James Mair, M.O.H., for the local arrangements which had ensured the success of the meeting.

The Council then adjourned.

ANNUAL PROVINCIAL MEETING.

The annual provincial meeting of the Society was held at the Royal Bath Hospital, Harrogate, on Friday, May 16th, 1930. The President (Dr. J. J. Buchan) presided and there was an attendance of upwards of seventy members and guests.

The minutes of the last meeting having been approved and signed, the following candidates were elected to the Society:—

As Fellows:—

Beal, John Reginald, M.D., CH.B. MANCH., M.R.C.S., L.R.C.P., D.P.H.; Bergin, Margaret, M.B., B.Ch., B.A.O., N.U.I., D.P.H.; Broomhead, Cawthorne, Lishman, M.D., B.Ch., BELF., D.P.H.; Cummins, Janie Millar, B.A., M.B., B.Ch. DUB., L.M.C., D.P.H.; Fawcett, Hugh Alderson, M.R.C.S., L.R.C.P., D.T.M. AND H., D.P.H.; Ferguson, John, M.B., CH.B. LEEDS, D.P.H.; Francis, Harvey, O.B.E., M.D., B.S. DURH., M.R.C.S., L.R.C.P.; Garrett, Thomas Cleator, M.B., C.M. GLASG.; Jeremiah, Cecil Willie Watts, M.R.C.S., L.R.C.P., D.P.H.; Kayton, Maurice Edward, L.R.C.P., L.R.C.S., ED., L.R.F.P.S., GLASG., D.P.H.; Kelleher, Timothy John, M.B., B.Ch., B.A.O., N.U.I.; Knight, John Tomlinson, M.R.C.S., L.S.A.; McCulloch, Elizabeth Esther, M.R.C.S., L.R.C.P.; McKean, Thomas Stewart, M.B., CH.B. GLASG., D.P.H.; Maclean, Jane Alina Dundas, M.D., B.Ch., B.A.O. BELF., D.P.H.; Malkin, Sydney Alan Stormer, M.B., B.S. LOND., F.R.C.S. ED.; Ogilvie, Agnes Millicent, M.A., M.B., CH.B. ED., D.P.H.; Patterson, Margaret C. K. M.B., CH.B. ST. AND., D.P.H.; Powell, Abraham Thos. W., M.B., B.S., M.R.C.S., L.R.C.P. LOND., D.P.H.; Robertson, Dawson Cameron, M.B., CH.B. ABERD., D.P.H.; Sprenger, Ronald Gifford, M.B.,

CH.B. GLASG.; Townley, Alfred Ernest, M.B., CH.B. VICT., D.P.H.; Tulloch, Violet Bertha, M.B., CH.B. ED., D.P.H.; Watner, Refna H., M.R.C.S., L.R.C.P.; Webb, Eric Roland, M.R.C.S., L.R.C.P.
As Associates:—

Bailey-King, Winifred, L.D.S., R.C.S. ENG.; Broom, Isabel Mary, L.D.S. ST. AND.; Carrington, Vincent Clifford, L.D.S., R.C.S. ENG.; Mason, Donald Edgar, L.D.S. BIRM. UNIV.; Webster, K. C. B., L.D.S.

A number of nominations were received for the next election.

There followed a discussion on "Rheumatism in its Public Health Aspects." The opening speakers were: Dr. M. B. Ray, D.S.O., Senior Hon. Phys., British Red Cross Rheumatism Clinic; Dr. Geoffrey Holmes, Hon. Phys., Royal Bath Hospital, Harrogate; and Dr. Sinclair Miller, D.S.O., M.C., Hon. Clin. Pathol., Royal Bath Hospital, Harrogate.

The meeting closed with a cordial vote of thanks to the speakers, and to the Board of the Hospital for the hospitality extended to the Society.

After the ordinary meeting the members dined at the Hotel Majestic, as the guests of the Mayor (Alderman R. Annakin, J.P.) and Corporation of Harrogate, and among those accepting invitations were the following:—

Dr. J. J. Buchan (President of the Society), Dr. E. H. Snell (Coventry), Dr. G. F. Buchan (Willesden), Dr. R. A. Lyster (formerly County Medical Officer of Health, Hampshire), and Dr. T. W. Naylor Barlow, O.B.E. (Wallasey), Past Presidents; Dr. H. T. Bates, O.B.E. (Ilkley); Dr. Stella Churchill, L.C.C.; Dr. G. A. Dawson (Darlington), Dr. A. M. Erskine (Goole), Dr. James Fenton (Kensington), Dr. S. Fox Linton (Scarborough), Dr. Helen M. Gall (Asst. M.O., Bradford), Dr. R. M. Galloway (Asst. M.O.H., Bolton), Mr. W. Halstead, M.R.C.V.S. (Bradford); Dr. Frank Hauxwell (St. Helens), Dr. Margaret Hauxwell, Dr. A. Hawley (V.D. Officer, Coventry), Dr. A. Stuart Hebblethwaite, M.C. (Sunderland); Dr. W. Bertram Hill (Selby, etc.), Professor W. W. Jameson (London School of Hygiene and Tropical Medicine), Professor J. Johnstone Jervis (Leeds), Dr. G. W. N. Joseph (Warrington), Professor Harold Kerr, O.B.E. (Newcastle-upon-Tyne), Dr. F. T. C. Linton (Tunbridge Wells), Dr. D. M. Mathieson (Birkenhead), Dr. C. J. McSweeney (Dep. M.O.H., Cardiff), Dr. H. L. Munro (Beverley), Dr. G. H. Pearce (Batley), Dr. Ralph M. F. Picken (Cardiff), Dr. T. N. V. Potts (Senior Asst. M.O.H., Birmingham), Mr. D. S. Rabagliati, O.B.E., F.R.C.V.S. (Chief Veterinary Officer, West Riding County Council); Mr. R. S. Smyth, M.R.C.V.S. (West Riding County Council); Dr. B. C. Stevens (Grimsby), Dr. P. H. Stirk (Exeter), Dr. D. S. Sutherland (Medical Superintendent, Monsall Hospital, Manchester), Miss Marion M. Thom, L.D.S. (Batley and Spenborough); Dr. Harold Vallow (Senior T.O. Bradford), Dr. J. Walker (Asst. M.O.H., Preston), Dr. D. Walker, Dr. A. D. Whitelaw

(Asst. M.O.H., Bradford), Dr. J. B. Wilkinson (Oldham), Dr. R. H. Wilshaw (Worthing), Dr. Martha Wilson, Dr. J. Yule (Senior Asst. M.O.H., Hull), and Mr. G. S. Elliston, M.A. (Executive Secretary of the Society).

The Mayor, who received the guests, was accompanied by the Mayoress (Mrs. Annakin), and supported by Alderman E. C. Broadbank, J.P., Alderman A. Lambert Foster, J.P., Alderman D. Simpson, J.P., Alderman W. W. Stott, J.P., Councillor E. Schofield, Mr. J. Turner Taylor (Town Clerk of Harrogate), Dr. James Mair (Medical Officer of Health, Harrogate), Dr. Laura S. Veale (Physician, Infant Welfare, Public Health Department, Harrogate), Dr. M. B. Ray, D.S.O. (Member, late President, Harrogate Medical Society), and the following members of the Honorary Medical Staff of the Harrogate Royal Bath Hospital and Rawson Convalescent Home: Dr. G. L. Kerr Pringle, M.C., Dr. Geoffrey Holmes, and Dr. Sinclair Miller, D.S.O.

After the loyal toasts had been honoured, Dr. Geoffrey Holmes proposed that of "The Society of Medical Officers of Health," in a delightful speech, taking as his text various quotations from a copy of PUBLIC HEALTH which had been presented to him. In the course of his remarks Dr. Holmes said it was obvious that the effect of the present trend of legislation would be to increase the membership of the Society, and the responsibility of its individual members. It was appropriate that the Society should meet at Harrogate, since the principal industry of the town was the restoration of health. He expressed the hope that, after what they had seen, the members would go away with the impression that Harrogate had succeeded in its object. He could not conclude without reference to their Medical Officer of Health (Dr. James Mair) and his unfailing tact and courtesy in all his dealings with the medical profession in the town. Friction with his department was quite impossible, and the knowledge that his assistance and co-operation were always freely available relieved to a considerable extent the anxieties of private practice. Coupled with the toast was the name of the President of the Society (Dr. J. J. Buchan). Having heard Dr. Buchan at a meeting earlier in the day, no one could overlook the fact that, however exact a science public health might be, there existed ample scope for the art of the general practitioner in the vast work of safeguarding and maintaining the health of the people of this country.

The President, in reply, said that medical officers of health constantly kept before them the health of the communities throughout the land; that was the first aim and object of their existence. Great advances and tremendous changes had taken place in many directions—in regard to tuberculosis, maternity and child welfare, venereal diseases, and hospital schemes, for example—and in the near future it was to be hoped that chronic rheumatism would receive greater attention. With a fuller appreciation of the seriousness of the disease, public health authorities would take the matter up with enthusiasm. Harrogate had much to teach in connection with the problem, and it was to be hoped that from what the Society had been privileged to learn during a brief visit some good would come for the benefit of the people generally. The high position which Harrogate held in the opinion of the medical profession throughout the country was due in no small degree to the personality and work of the medical officer of health which the town possessed.

Dr. E. H. Snell proposed the toast of "The Mayor and Corporation of Harrogate," and the Mayor in reply, extended on behalf of the Corporation a warm welcome to the members and voiced the hope that the visit would prove both profitable and enjoyable. The local authority, he added, were fully alive to the need for co-operation with local medical practitioners, and were prepared to make every provision for those suffering from rheumatic disease.

THE METROPOLITAN BRANCH.

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

A meeting of the Council of this Branch was held at the house of the Society on May 9th, 1930, the President occupying the chair. Seventeen members of the Branch Council were present.

The Hon. Secretary drew attention to the recent appointment of Dr. Julia M. Browne, as Medical Officer of Health for Stepney, and the Branch Council gave instructions for a letter of congratulation to be sent on their behalf.

The Hon. Secretary read a letter from the Metropolitan Boroughs' Standing Joint Committee, asking for the observations of the Branch on the proposal of the Greenwich Borough Council that, before any new dwelling premises are occupied a certificate shall first be obtained from the local authority to the effect that in

addition to a proper and sufficient supply of water being available, the premises are in other respects fit for human habitation. One member stated that it had been his recent experience to be compelled to issue certificates under Section 48 (2) of the Public Health (London) Act, 1891, to the effect that houses had a proper water supply, notwithstanding the fact that the drains were not properly connected to the sewer. In some of these cases the houses had become occupied and an undesirable state of conditions had resulted. The Branch Council decided to endorse the proposal of the Greenwich Borough Council that there should be legislation requiring that no newly erected house may be occupied until a general certificate of fitness for occupation has been obtained from the local authority.

Two further letters from the Metropolitan Boroughs' Standing Joint Committee were read in regard to a proposal of the Holborn Borough Council that legislation should be promoted requiring architects and others, proposing to construct underground rooms for sleeping purposes, to obtain beforehand the approval of the local authority for the construction of such rooms. A letter was also read from Dr. Hutt, of Holborn, suggesting that it is a weakness in public health law that no municipal authority has power to prevent the construction of underground rooms for sleeping purposes which would not be in compliance with regulations. The matter was fully discussed by the Branch Council who concluded that, in view of the power granted in Section 18 of the Housing Act, 1925, further legislation is not necessary.

The Hon. Secretary reported that he had received a letter stating that the Minister of Health is not prepared to approve the procedure suggested by the Branch in regard to the surveillance of small-pox contacts (*see PUBLIC HEALTH, May, 1930, p. 265*).

A proposal was made by Dr. Maitland Radford, of Shoreditch, that administrative procedure in regard to the supervision of small-pox contacts should depend to some extent upon the type of case notified, i.e., whether variola major, minor or unspecified. In support of his proposal, Dr. Radford made reference to an article by Dr. Jameson on this subject, which appears on page 511 of the *Lancet*, dated March 8th, 1930. The Branch Council, after discussion, decided that this question be referred to a sub-committee to prepare a memorandum for consideration at an early meeting. Drs. Radford, Barnes, Borland, and Young were appointed

to serve on this sub-committee, and it was also decided to invite Dr. Cameron, of the London County Council small-pox service, and a member of the medical staff of the Ministry of Health engaged in this work, to the meetings of the sub-committee.

A discussion took place on the Housing (No. 2) Bill, when it was reported that a deputation from the Council of the Society had been invited to attend the Ministry of Health to submit their views on the new Bill. As both Dr. Charles Porter and the Hon. Secretary were members of this deputation, it was decided to leave this matter to the Council of the Society.

THE MIDLAND BRANCH.

President: Dr. W. D. Carruthers, County M.O.H., Staffordshire.

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

On May 1st, 1930, some twenty-five members of this Branch paid a visit to the premises of two of Birmingham's largest Dairy Companies.

At the Midland Counties Dairy they were shown the complete process of sterilising milk in bottles, and also the method of pasteurisation by means of revolving hot water pipes. Special interest was displayed in the elaborate mechanism for cleansing and sterilising both bottles and churns. Miss Erskine described the firm's efforts to encourage the production of clean milk by their bonus scheme for farmers. Each month the fifteen farmers whose milk has shown the lowest bacterial count receive an extra penny per gallon for it, and the next thirty on the list get an extra halfpenny per gallon. In addition to this, a bonus of one-tenth of a penny per gallon for every 0.1 per cent. fat content above 3.5 per cent. is paid.

At the Birmingham Industrial Co-operative Society's Dairy the party were received by the Manager (Mr. G. S. Lawrence), who demonstrated from start to finish the method of pasteurisation employed. At this Dairy the milk after going through the "clarifying" machine passes over a series of metal plates which are kept at 145° Fahrenheit, and then into a closed tank where it is held for thirty minutes at the same temperature. Particularly careful arrangements are also made for the daily sterilisation of all the appliances in use.

At the conclusion of the visits a cordial vote of thanks was accorded to Mr. Lawrence and to Mr. Edwin White (Secretary of the Midland Counties Dairy) for their kindness and hospitality

and for the very instructive demonstrations arranged by them. In their replies both gentlemen strongly emphasised their belief that pasteurised milk was the only safe milk to drink, and that all the milk supplies of the country would be treated in this manner in the near future.

THE YORKSHIRE BRANCH.

President: Professor J. Johnstone Jervis, M.O.H., Leeds.

Hon. Secretary: Dr. G. H. Pearce, M.O.H., Batley.

A meeting of this Branch was held at the City Infectious Diseases Hospitals, Leeds, on April 25th, 1930, with the President in the chair, supported by twenty-four members. An invitation having been issued by the Public Health Committee of the Leeds City Council to chairman and members of Hospital Committees, the following visitors were present as representing various authorities in Yorkshire: Mrs. Dorothy Murphy, Messrs. Beevers, Brett, Clegg, Dickinson, Halstead, Inglis, Lee, Withey, and Wood.

It was unanimously agreed on the recommendation of the Branch Council, that Dr. H. Angus, Medical Officer of Health, Bingley, for many years a member of the Branch, and one of the Senior Fellows of the Society, be invited to accept the Presidency of the Branch for the session 1930-31, and the Hon. Secretary was instructed to communicate with Dr. Angus accordingly.

After an inspection of the City Hospital buildings, an adjournment was made to the administration block where Dr. James Stirling Anderson, Medical Superintendent, Leeds City Hospitals, and Lecturer in Infectious Diseases, University of Leeds, read a paper entitled "Post-Vaccinal Encephalitis: A Survey of Present-Day Knowledge," which was followed with deep interest by his audience. The paper will be published in *PUBLIC HEALTH* in due course.

After tea, provided through the generosity of the Leeds City Hospitals Committee, a hearty vote of thanks to the Committee was unanimously accorded, on the proposition of Dr. J. Buck, and suitably acknowledged by Councillor Brett, Chairman of the Leeds City Health Committee.

At a meeting of the Council of the Branch it was unanimously resolved that the action of the representatives of this Branch on the

Yorkshire Branch Council of the British Medical Association at its recent meeting be approved, and the Society representatives were again instructed to oppose the election to the British Medical Association of a certain candidate unless in the meantime evidence was forthcoming that this candidate had not in the past acted in opposition to the policy of the British Medical Association and the Society of Medical Officers of Health.

THE NORTH-WESTERN BRANCH.

President: Dr. F. A. Sharpe, M.O.H., Preston.

Hon. Secretary: Dr. G. W. N. Joseph, M.O.H., Warrington.

A meeting of this Branch was held at the new Health Clinic, Birkenhead, on Friday, May 9th, 1930. The President and twenty-three members were present.

Dr. Morley Mathieson gave some interesting particulars of the establishment of the new Health Clinic (which was opened in November, 1929) after which the members had an opportunity of viewing the premises. The Clinic contains a central waiting room and lecture room (capable of seating over 100 people) from which all the other main rooms open. These consist of nurses room, doctor's room, dispensary, clinical room, nursery and artificial sunlight room and homecraft room. In the basement separate systems for central heating and for the provision of hot water for washing are installed. There is also a disinfecting cabinet in which toys, etc., may be sterilised; and a large store room. The clinic has the distinction of being the first institution of its kind in the country to be equipped with a cinematograph apparatus, which is operated from the homecraft room. The site is beautifully situated on the border of one of the great public parks. The total cost was £5,218, (site £368, building £4,300, equipment and furniture £550).

After tea, kindly provided by Dr. Morley Mathieson, a discussion on "Hospital Services and Maternity and Child Welfare after the transfer of the Poor Law Functions" was opened by Dr. C. O. Stallybrass. He began by indicating the necessity for establishing links between the parallel services of poor law and local authorities, particularly as they had developed since the passing of the Maternity and Child Welfare Act, 1918. There had been a striking increase in the use of poor law institutions for confinements in the case of Liverpool; whereas in 1920, 3.23 per cent. of the total births occurred in such hospitals,

in 1929 there had been an increase to 13.4 per cent. He foresaw a further increase to possibly 20 per cent. The increased use of institutions meant an increased risk of puerperal sepsis. If a consultant was to have actual charge of the wards he should be able to devote a large proportion of his time to the work and have a corresponding salary. Dr. Stallybrass referred next to ante-natal clinics, to the training of midwives, and to the unmarried mother and her child. With regard to admission to hospital, the medical officer of health should be able to admit direct. Many other interesting points were dealt with, and the speaker concluded by indicating the necessity for raising of the staffs in poor law hospitals, both in numbers and status. Such increased staff need not add more than a few pence to the weekly cost per head, and should be offset by economies in other directions consequent upon more adequate treatment.

Dr. J. W. Talent, in proposing a vote of thanks to Dr. Stallybrass, said that he agreed that there had been in recent years a greatly increased use of poor law hospitals for maternity cases. He inquired as to the advisability of the establishment of crèches and endorsed the opinion that clinics should not be placed in the slums, but among brighter surroundings.

Dr. H. Whitehead in seconding, stated that he was particularly anxious with regard to the staffing of the new institutions. There was a tendency for midwives to grumble at the extension of accommodation for institutional treatment of maternity cases. Once such places were established, was it right to let private practitioners and midwives attend their own cases or should there be a special staff? He would like to know whether puerperal sepsis was really such a danger in efficiently run institutions as had been stated in some quarters, or had the facts been exaggerated. Admissions to the local authority's hospitals should be controlled by the health department and was best done through a properly organised outpatient department.

Dr. Ruby Bell mentioned that out of some 87 maternal deaths in Liverpool last year, 27 were due to puerperal sepsis and each one of these could be associated with a definite cause. A really adequate specialist service for midwifery cases must include, in addition to skilled obstetricians, general specialists able to deal with nephritis cases, etc. If poor law hospitals developed their specialist service they should appoint the consultants from neighbouring

general hospitals in order that there should be better co-operation and continuity of policy. Dr. Bell considered that day nurseries with proper supervision were seldom abused and were necessary for those mothers who were compelled to go out to work.

Dr. Morley Mathieson drew attention to the difficulty of properly co-ordinating the work of voluntary maternity hospitals with the poor law hospitals. With regard to staffing he was not so enthusiastic on the subject of specialists. There was a tendency to rely too much on specialists, and he instanced a large and most efficient up-to-date institution that had a very small staff of specialists. When employed they should be the consultants from the local general hospital. All cases of infectious disease should be taken out of poor law institutions and dealt with at isolation hospitals. After-care clinics were very important, and there seemed no reason why the public health clinics should not be used in connection with the hospitals.

Dr. Bennett instanced the difficulty in some rural districts of dealing with urgent cases requiring admission to hospital.

Dr. Yeoman said that in his district there was maternity hospital accommodation for 25 patients, and he was glad that he had a specialist obstetrician in charge of them. The public had a high opinion of specialist services and nowadays demanded them.

Dr. Stallybrass, in replying, made special reference to ophthalmia neonatorum and stated that he did not suggest that every case of this condition should be admitted to hospital; probably one bed per 80,000 population was sufficient.

THE SCOTTISH BRANCH.

President: Dr. Thomas Adam, County Medical Officer of Health, Stirling.

Hon. Secretary: Dr. G. V. T. McMichael, Medical Officer of Health, Paisley.

The annual meeting of this Branch was held in the City Chambers, Glasgow, on May 17th, 1930. Ten members were present, and the President occupied the chair. Apologies for absence were intimated from four members.

The Hon. Secretary presented the following reports for the session 1929-30:—

Secretary's Report.—Three meetings of the Branch were held during the year, one in Edinburgh, and two in Glasgow; the Council met on five occasions. The business dealt with at these meetings included such subjects as the Local Government (Scotland) Act, 1929,

the Public Health (Puerperal Fever and Puerperal Pyrexia) Regulations (Scotland), 1929, Report of the Departmental Committee on the Training of Midwives, the National Maternity Service Scheme of the British Medical Association, the manufacture, storage, etc., of Ice Cream, and the contents of the Householders' Census Schedule. The meeting of the Branch in Edinburgh in September was attended by Dr. J. Parlange Kinloch, Chief Medical Officer of the Department of Health for Scotland, who gave a most interesting and informative statement regarding the various provisions of the Local Government (Scotland) Act; 38 members attended this meeting—a record total. During the year, representatives of the Branch attended a conference called by the Secretary of State for Scotland, regarding the development of research work in the areas of local authorities, and also had an interview with Dr. Dunlop, Registrar-General for Scotland, regarding various points in connection with the forthcoming census.

Treasurer's Report.—At the beginning of the year, the amount standing to the credit of the Branch was £27 0s. 5½d., to which falls to be added the Branch Grant for 1928-29, amounting to £11. The expenditure during the year was on an average level, the main items being stationery, printing, postages, etc., £6 16s., and expenses of meetings, £2 11s. 6d. The balance in hand at the end of the year is £28 12s. 11½d.

On the motion of the President the reports were unanimously approved.

The following office-bearers were elected for the session 1930-31:—

President.—Dr. Thomas Adam.

Vice-Presidents.—Dr. A. K. Chalmers and Professor Matthew Hay.

Members of Council.—Drs. Arbuckle Brown, Burgess, Pignold, Buchanan, Finlator, Hamilton, Macgregor, McWhan, Hume Patterson, Rae, Ritchie, Lauder Thomson, and Pratt Yule.

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

The President intimated that Dr. McMichael wished to be relieved of his duties as Hon. Secretary and Treasurer, and it was remitted to the Council to consider filling the post, Dr. McMichael agreeing to carry on the duties until a successor was appointed.

Dr. A. K. Chalmers gave a brief *résumé* of the more important questions dealt with during the past year by the Council of the Society, the Central Midwives Board for Scotland, and

the Queen's Institute of District Nursing, on which bodies he represented the Branch. He also drew attention to the proposals of the British Medical Association for a "General Medical Service for the Nation," and it was agreed that the Council should consider and report on the scheme at an early date. It was also agreed that the Council should consider the recent letter of Dr. Sequeira, published in the *Lancet*, which dealt with the results of the present methods of treatment of venereal diseases and their relation to the question of compulsory notification.

THE FEVER HOSPITAL MEDICAL SERVICE GROUP.

At a meeting of this Group held at Birmingham, on April 25th, 1930, the following were elected officers and Members of Council of the Group for session 1930-31:—

President.—Dr. D. Sage Sutherland.

Vice-Presidents.—Dr. F. H. Thomson, Dr. E. W. Goodall, Dr. E. H. R. Harries.

Hon. Secretary.—Dr. J. C. Blake.

Editor.—Dr. F. M. Turner.

Member of Council of Society.—Dr. A. F. Cameron.

Representative of Group for Metropolitan Branch.—Dr. A. Joe.

Members of Council (Provincial).—Dr. C. Rundle, O.B.E., Liverpool; Dr. E. H. R. Harries, Birmingham; Dr. Anderson, Leeds; Dr. H. S. Banks, Leicester.

Members of Council (Metropolitan).—Dr. F. H. Thomson, Dr. F. M. Turner, Dr. A. Joe, Dr. E. Swainston.

Assistant Medical Officers (Provincial).—Dr. W. M. MacFarlane.

Assistant Medical Officers (Metropolitan).—Dr. Swyer, Dr. Cubley, Dr. Elsie Mann, Dr. Ronaldson.

Scottish Representative.—Dr. W. T. Benson.

Representative of Part-Time Medical Superintendents.—No nomination.

Representative of Medical Officers of Health in Charge of Fever Hospitals.—Dr. D. Forbes.

THE TUBERCULOSIS GROUP.

A meeting of the Group Committee was held at the house of the Society on Friday, May 16th, 1930, at 10.30 a.m.

Present: Drs. Blackmore (chair), Gordon Smith, Heffernan, Trayer, Crossley, Macfie, Cameron

Renwick, Christopherson, Crowe, Moxey, Jessel, Dickinson, MacDonnell, and Ernest Ward.

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

(2) The report of the Joint Tuberculosis Council on Form IV of Memo. 37/T and on Memo 139/T was read and discussed.

(3) The Secretary also reported that:—

(a) The notification memo, originally sent by the Group to the Joint Tuberculosis Council was still in demand, and he had sent off over 1,000 at the request of various medical officers of health.

(b) Dr. Peter Edwards' costs at the enquiry held into the charges made against him had been paid by his employing authority.

(c) Dr. Gordon Tippet with the help of Miss Olga Nethersole of "The Peoples' League of Health," had organised a very influential committee to investigate the cause, prevention, and treatment of tuberculosis of bovine origin.

(4) An account was given of the present arrangements for the Canadian Scholarships.

(5) A new memo. on Contact Examination prepared by Dr. Jessel, and previously circulated was discussed and adopted after amendment. This would be presented to the Council of the Society for approval and publication after Dr. Jessel had passed the amended proof.

(6) A memo. on the Employment of Tuberculous Nursing and Domestic Staffs prepared by Dr. Trayer, and previously circulated, was discussed and adopted with amendments. This also was to be presented to Council for approval and publication with the substitution of a table in place of the summarised illustrative instances at the end of the Memo.

(7) A Tuberculosis Library, the utilisation of Sanatoria, and a resolution brought forward by Dr. Trayer concerning a register of Tuberculosis Nurses were mentioned, but full discussion of these matters was postponed till the next meeting.

(8) The question of officers for the next session was considered. As President, Dr. Blackmore was nominated; as Vice-Presidents, Drs. Crossley and T. R. Elliott; as Hon. Sec. and Council Representative, Dr. Ernest Ward. It was decided that these nominations, together with any others that may be received, should appear on the Agenda for confirmation at the next meeting of Committee before going forward to the Annual General Meeting.

(9) The morning preceding the October meeting of Council at 10.30 a.m. was the date fixed for the next Committee meeting.

The Literature of Preventive Medicine.

THE CHEMISTRY AND BACTERIOLOGY OF PUBLIC HEALTH. By C. L. DUNN, C.I.E., D.P.H. (Lond.), Lieutenant-Colonel, Indian Medical Services; Director of Public Health, United Provinces of Agra and Oudh, etc.; and D. D. PANDYA, D.P.H. (Camb.), Assistant Director of Public Health, Provincial Hygiene Institute, United Provinces of Agra and Oudh; Professor of State Medicine, University of Lucknow, etc. London: Butterworth & Co. (Publishers) Ltd., 1929. pp. 412. Price 12s. 6d. net.

The opinion of the authors of this volume is that it contains everything required by D.P.H. students for the practical portion of their work. It is intended to be used as a companion volume to another by the same authors under the title of *Indian Hygiene and Public Health*.

In order to ensure that as far as possible nothing shall be omitted, and in addition to thanking Professor Kenwood and Messrs. H. K. Lewis & Co. in particular, they offer acknowledgment generally to "the authors and publishers of the various books from which passages have been taken."

The volume has been accepted as a text book for candidates appearing for the diploma or licence in public health of certain teaching and examining bodies in India, and will no doubt be largely used by those studying for these qualifications.

MODERN SUNLIGHT. By LEONARD V. DODDS. Foreword by Sir Oliver Lodge. London: John Murray, 1930. pp. 322. Price 7s. 6d. net.

If dirt and disease go hand in hand, if darkness is associated with the shadow of death, then light and life seem harmoniously correlated and interdependent. Indeed, light was the first of the Creation; and although the worship of the Sun has proceeded in greater or less degree for many a generation, although heliotherapy is certainly "no new thing under the sun," yet it has remained for the present century scientifically to determine, correctly to appraise and widely to broadcast the true value of sunlight. "Modern Sunlight" may not be a new variety of solar radiation, but the volume bearing that name is, indeed, a really useful and excellent new book. The author has succeeded in a difficult task: he has obtained

the collected modern research and evidence of numerous named authorities on this important subject, and (what is far more) he has presented it in a most readable style; accurate, interesting and yet free from the bewildering technical facts and ambiguous details which so frequently are stumbling-blocks to the lay mind.

The work is right up-to-date. Full account is given of the research of Professor Leonard Hill on ultra-violet radiation; of the daily measurement of these rays in many of our seaside resorts and other towns, the recent work done at Torquay demonstrating reflection by the sea; and of the valuable experiments at the London Zoological Gardens and at the Lister Institute, while reference is also given to the part played by these rays in horticulture, agriculture and in various technical processes and uses.

It is a very absorbing book which can be confidently recommended; and it will with profit be read by the ever-widening public which is becoming more and more interested in itself and in its environment. It is admitted that knowledge is far from complete, and that even more wonderful discoveries may yet be made; but the author has given a very able essay on the present state of facts, which should appeal to all those concerned in social work, in the health of the nation, in the progress of science and in the welfare of the human race.

A NATIONAL Conference on Maternity and Child Welfare, organised in co-operation with the Maternity and Child Welfare Group of the Society of Medical Officers of Health, will be held at The Friends' House, Euston Road, London, N.W.1, on July 1st, 2nd and 3rd, with visits to institutions on July 4th, 1930. The main subjects for discussion will be: (a) The relationship between housing and child welfare; (b) infant mortality during the last twenty-five years; (c) the variations in young child mortality in different areas; (d) the relationship between orthopaedic clinics and child welfare centres; and (e) the care of the child of pre-school age in industrial and rural areas. Full details of the programme, including Government sanction for the payment of expenses of delegates, travelling facilities and conference fees, may be obtained from Miss Halford, O.B.E., Hon. Secretary, National Association for the Prevention of Infant Mortality, Carnegie House, 117, Piccadilly, London, W.1.

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Editorial.

National Baby Week.

IN the 1930 campaign leaflet the National Baby Week Council urged that during the year special attention should be given to the following three problems: (a) The need for a national maternity service scheme; (b) the need for the better provision of nursery schools; and (c) the need for provoking amongst those classes not reached by present statutory and voluntary maternity and child welfare schemes the desire for a knowledge of parentcraft.

During Baby Week, which occupies the whole of the first week of July, and all the attention of numbers of areas throughout the Empire, opportunity will be taken to concentrate upon these subjects, exposing the needs, revealing what is done, and showing how much more may be done and how. Particularly it may be

hoped that the effect may be the provoking of the desire for a knowledge of parentcraft referred to in the third problem, since there is little room for doubt that in most areas, no matter how wide the use of the provision for teaching may be, there is still a large proportion of parents who refuse or refrain from making use of it. For this there is no one to blame; least of all the National Baby Week Council, as everyone concerned in maternity and child welfare work who gives any attention to correspondence must know. Of the success attained by the Council there is given full proof in the annual reports issued by that body, and in that of 1929, no less than in its predecessors. Even though limited by meagreness of funds, the field of activities was increased beyond that of the previous year and was able to afford

assistance in connection with no fewer than 637 Baby Weeks, both at home and overseas. In the work done the greatest possible assistance was received from the Press, and gratitude, which everyone engaged in health publicity work will admit is well earned, is expressed for the greatness and value of the help given and the readiness with which it was accorded. In regard particularly to work abroad, the Press proved a most valuable ally and special reference is made to the extensive co-operation received from the section overseas. Indeed, to those who are at home, perhaps the most striking and interesting of all the successes obtained by the Council must appear to be those secured in parts outside these islands. The enthusiasm shown by the authorities and the workers, and obviously also by those on whose behalf the work is done, is intense and most encouraging and refreshing. This is not to say that refreshment and encouragement are lacking nearer home. Indeed, they are not; except that, perhaps, the encouragement might take a more tangible, practical and helpful form. Maternity and child welfare committees and workers, including medical officers of health, are extremely ready to take advantage of the advice and assistance that the Council can offer, to make use of the publicity that it can secure, and to express gratitude for all that is given and enthusiasm in the work that it does. Mostly, however, it seems to stop there. The report of the Council is in no sense an appeal, but it is perfectly clear that if there were more funds more could be done. As a result of the publicity secured during Baby Week, and particularly by the meetings in London, at which questions of real moment are to be discussed, it may be hoped that some who are able to give may be made to recognise how deserving of support the work is. Since, apart from those few who are confirmed opponents of voluntaryism in every shape and form, there can be no medical officer of health who does not appreciate the assistance that has been rendered by the Council in bringing about the undoubted improvements that have occurred in the field of infant welfare, as a body these officers must share this hope. The hope that the 1930 campaign will be even more fruitful of results than those of other years and that the present Baby Week will have a more brilliant success than any yet celebrated is another shared by everyone who desires to see a solution of at least the three problems submitted for special attention during the year.

The Health Organization of London.

AS is generally known, the London County Council, on April 1st last, assumed the functions hitherto performed by the twenty-five Metropolitan Boards of Guardians and the Metropolitan Asylums Board, and at once became the largest municipal health authority in the world.

So huge is their task that there must be many, including even members of the County Council, who have not yet had time to grasp a clear idea of the responsibilities which that authority have undertaken. In these circumstances many will welcome the publication of Mr. Silkin's pamphlet on "The New Public Health Organisation of the London County Council."* Mr. Silkin is the Deputy Leader of the Labour Party on the County Council, and leads the Labour forces on its Central Public Health Committee. He has a wide knowledge of London municipal matters, and has thrown himself with enthusiasm into his Council's new task. The pamphlet is clear evidence of the grasp he has obtained of the many ramifications of this new service.

There are many, among them members of the medical profession, who have little idea of the enormous hospital service now controlled by the County Council. Apart from the thousands of beds for the poor and destitute under the supervision of the Public Assistance Committee, there are 43,284 beds for the sick in the 76 hospitals and institutions under the control of the Central Public Health Committee, whereas the 111 voluntary hospitals in London have only 13,319 beds. This means that approximately 76 per cent. of the hospital accommodation in London is municipal and only 24 per cent. voluntary. It is not even true to say that the largest hospitals in London are voluntary. The London Hospital has 839 beds, St. Bartholomew's 692, and Guy's 646, whereas the County Council now control the Lambeth Hospital with 1,529 beds, the Joyce Green Hospital with 986, and Queen Mary's Hospital, Carshalton, with 900. Only 18 of the voluntary hospitals in London have more than 150 beds, whereas 71 of the London County

* THE NEW PUBLIC HEALTH ORGANISATION OF THE LONDON COUNTY COUNCIL. Described by LEWIS SILKIN, L.C.C. With a foreword by Herbert Morrison, J.P., M.P., L.C.C. (Minister of Transport). London Municipal Pamphlet No. 9, 1930. London Labour Publications Limited, 258-262, Westminster Bridge Road, London, S.E.1. Price Twopence.

Council hospitals have more than this number. The total staff engaged in the work of the municipal hospitals is about 18,000, and there is a fleet of 220 ambulances.

These are but a few of the interesting figures gleaned from Mr. Silkin's pamphlet, which will prove of value to all concerned with the public health organisation of the metropolis.

The King's Birthday Honours.

THOUGH others of the names in the King's Birthday Honours' list, since they belonged to members of the medical profession, were known throughout the Society, there was none that it gave greater pleasure to read than that of Sir Eustace Hill. Of all the honours, a conspicuous proportion of which, not unexpectedly, having regard to the composition of the Government, were awarded mainly for services other than the merely political, none was more fully earned or better deserved than this. During the many years he was medical officer of health of Durham, Eustace Hill gave devoted service to the people of the county, who had the utmost faith in him. He had the entire trust of the Council; had, too, their esteem and affection. By those who worked with and under him, by all, indeed, in the service, he was looked up to as an ideal leader and colleague. The same energy that he gave to his activities in the health department of Durham, which owes much of the high position it now holds to his efforts, he lent to the work he did in the Society and on behalf of its members. On the Council of the Society he was one of those who worked and whose advice was always sought on matters of difficulty, and in the year he filled the high office of President he was responsible for increasing to a marked degree the prestige not only of that position, but of the Society. There is little wonder that amongst his colleagues the feeling should be one of deep gratification at the honour conferred, and that there is not one but desires to offer sincerest congratulations and kindest wishes for the future to the recipient.

For the reason that they are both so well and widely known to the Society personally, and on account of the work done in the field of public health and preventive medicine, it is not out of place that mention should be made of the honour of knighthood bestowed upon Sir Leonard Hill, and of Membership of the Order of the British Empire granted to Mr. Henry Johnson, Chief Sanitary Inspector of Wimble-

don. The congratulations of the Society are offered to both Sir Leonard and to Mr. Johnson.

Obituary.

WE record with sincere regret the death of Dr. Harry Cooper Pattin, for many years medical officer of health for the City of Norwich, and a past-president of the Society of Medical Officers of Health. Although he had been ill for some months, few of his friends were prepared for the news of his death, which occurred at Torquay on May 30th. Educated privately and at Jesus College, Cambridge, he completed his medical course at St. Thomas's Hospital. After qualifying M.R.C.S., L.R.C.P., in 1889, he graduated M.B., B.Ch., at Cambridge in the following year. Later he proceeded to the M.D. degree, and took the Cambridge D.P.H. His whole public health career was spent in Norwich, to which city he gave unstinted devotion, and on his retirement he received eloquent expressions of gratitude and goodwill from the corporation and citizens of Norwich.

The Society is indebted to Sir Arthur Newsholme for the following personal tribute:—

"Dr. Harry Cooper Pattin will be remembered by his many friends and acquaintances for qualities which enlisted both interest and regard. When I visited him in Torquay in January of this year, he was evidently failing in health, but his so early death could scarcely be anticipated. It is regrettable that this occurred in a place remote from his old colleagues and friends of the Society of Medical Officers of Health and of the ancient city of Norwich—as he delighted to describe it—so that few of them could pay him the last tribute of respect and regard.

Dr. Pattin, after a distinguished studentship at Cambridge, and medical studies at St. Thomas's Hospital, became qualified to practice medicine in 1889, and not many years later he was appointed medical officer of health of Norwich, a post which he held and filled acceptably until his retirement a year or two ago on attaining the age limit of 65. I am not certain whether the corporation of Norwich has a systematised pension scheme, but whether so or not, they gave practical and continued evidence of their high appreciation of Pattin's past services.

After his retirement he travelled round the world, making a stay of some months with

relatives in Australia, and taking most strenuous and protracted expeditions to see the wonders of the world. I think this journeying overstrained his strength, and when one saw him on his return, his health had already begun to deteriorate. In his journeyings he represented the British Medical Association, and was also welcomed as a Freemason; and his speeches were always characteristically quaint and witty. The numerous letters and postcards received from him at my address gave evidence of the avidity for new impressions and the catholicity of interests which characterised his entire adult life.

But although this was so, he was also keenly interested in his official work. My first acquaintance with him originated in a letter received when he was elected to the Norwich post, announcing in his own special way his intention to visit Brighton to ascertain what was being done there. I need not attempt to describe his official work. Others can do this with more complete local knowledge than I possess. He often had difficulties to overcome—as we all had—but his tact and self-possession and the absence of bluster helped him to secure the reforms advocated by him.

His colleagues of the Society of Medical Officers of Health elected him their President for the session 1909-10, and he held the post with dignity and success.

But to the writer and his wife, and probably to many others, Pattin appealed especially on his non-official side. He was a great traveller throughout his life. Some of the most pleasant memories of the writer are of bicycling expeditions in France, visiting a succession of cathedrals, visiting and re-visiting the chateaux of the Loire, etc., with Pattin. He was well-informed on all general subjects, and loved to study and realise history in its association with the localities concerned.

At home the same characteristics emerged. Occasionally he would announce an impending visit to the London house of his friend. This would mean his appearing about midnight, after a theatre matinee and an evening concert or theatre. A few days later would come a press cutting from the *Eastern Daily Press* containing an admirable appreciation of what he had seen or heard. Some of these articles and others describing his travels were collected in a volume entitled "The Excursions of an Improvident Philosopher," which contains some of his most characteristic writing.

He affected a literary style of his own, which reminded one somewhat of Sir Thomas

Browne's writings. It made him happy to invent a new word, or to use an almost obsolete word in an unusual, but quite legitimate, manner. Some may think that his writings would have been more popular had he written an easier and perhaps more natural English. Among his other writings were "Ritual of Temperance," "Obiter Scripta," and "Rummage," in all of which Pattin's special views on life emerged. They showed much wisdom in a light and easy form. These volumes can, I anticipate, still be had from his Norwich publishers, and they are worthy of a place on one's favoured shelves.

But although it would appear from the above that Pattin had much that characterises a dilettante—of a choice type—it must not be assumed that his professional work was shirked or belittled, and the record of Norwich during his period of office is adequate proof of this. He loved plays, and music, and pictures, and travelling, and these loves gave to his company a refreshing quality which made him always welcome. When he paid his last visit to my home he was reading Priestley's "The Good Companions," and soon afterwards in a tremulous handwriting, came a copy of this book addressed to my wife, and inscribed *Pignus Amicitiae*, 24.8.29.

It was a treat to hear him recite poetry, and Watson's sonorous lines always appealed to him.

As I write I recall his reciting the following lines from this favourite author of his:—

"Heaven—what is heaven? 'Tis but to see
Thy good deeds branch and bloom,
And know that they make sweet the earth
When thou art in thy tomb."

That represented a part of his philosophy of life, but not its whole. In a letter late in his illness he wrote to his friend, "Shall we receive good at the hand of God, and shall we not receive evil?" Nor do I think this completes the circle of his outlook on life.

He was a choice spirit; and his memory is one of life's treasures."

DR. J. F. E. BRIDGER is in England on leave from Ceylon prior to his retirement from the post of Director of Medical and Sanitary Services of Ceylon, which takes place on July 5th, 1930. His address is: c/o Midland Bank, 449, Strand, W.C., until further notice.

The Seasonal Variations of Infectious Diseases.

By Dr. THORVALD J. M. MADSEN, Director of the State Serum Institute, Copenhagen.

In this, which was the first of his Advanced Lectures on Hygiene, delivered in the London School of Hygiene and Tropical Medicine, under the auspices of the University of London, Dr. Madsen discusses a number of problems in relation to the occurrence of diseases that have puzzled medical officers of health for many years. The explanations put forward by Dr. Madsen in this carefully prepared paper will be read with great interest, and deserve serious consideration.

THAT diseases occur with varying intensity at the different seasons of the year has been long recognised, and as medico-statistical data* have gradually become fuller and more reliable, our knowledge in this respect has been greatly widened, particularly as regards epidemic diseases. In Denmark, Professor H. Westergaard has gone deeply into this question in his papers "Die Lehre der Mortalität" and "Statistikens Teori." In England the important researches of men like Brownlee, Greenwood and Newsholme are well known.

In the case of the large group of diseases communicated through the medium of insects, the explanation of their dependence upon the seasons would seem to be obvious. There the seasonal variations are parallel to the corresponding variations in the life of the insects: plague with those of fleas; typhus fever with those of lice; malaria with those of mosquitoes; and so on. With regard to these, there are a great many research records which I need not discuss, though it may be that the factors to be mentioned later may also play a part.

It has been my idea, however, that a contribution towards the investigation of these problems might be made by a study of limited but well-proved material, comprising Danish epidemic diseases during the past generation, covering periods from 1890 to 1927, according to the medical reports. The Danish material is eminently suitable for an investigation of this kind, as notification of all infectious diseases has been obligatory during a long period. The area of the country is small, the climatic differences not particularly great, the difference between urban and rural populations is smaller than in

most other places, the country has during this period been sheltered from great natural catastrophes, war, etc., and, apart from influenza, there has been no great epidemic.

The graphs shown cover periods of eighteen months, so that it is easier to follow the fluctuations throughout the whole year. The months have been made all the same length, and the figures are what are called "index numbers," grouped about a mean number of 100, and giving an impression of how widely the particular disease varies with the seasons.

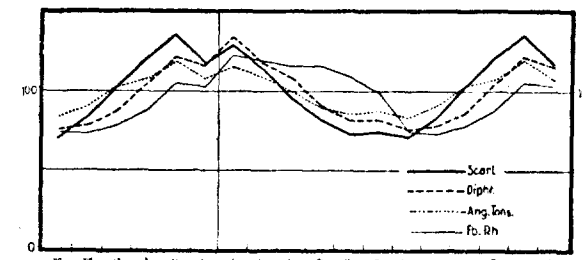


FIG. 1.
Scarlatina, diphtheria, angina tonsillaris, acute rheumatism. Mean of notifications: 1892-1927.

If we begin with *scarlatina* (Fig. 1), for instance, we see that it increases during the autumn to a maximum in November, drops a little in December, and rises again in January to almost the same height as in November, thereafter falling to a minimum in the month of July.

Diphtheria has a curve astonishingly like that of *scarlatina*, with two points in November and January, but higher in the latter month. And if we take *angina tonsillaris*, we find that its curve for the year oscillates less than those of the former two, but that in its main features it closely follows them, with the same maxima in November and January, and the same minimum in July. I will not here discuss whether the cause of this is that in these anginas are concealed a large number of cases of diphtheria and

* The figures quoted in this paper have been brought up to 1927, inclusive, by the Statistical Department of the League of Nations Hygiene Organisation, which has also prepared the graphs. I am much indebted to Mr. K. Stouman and Miss G. Rohde for valuable assistance.

scarlatina, or, at any rate, infection by microbes that are related to those which bring about these diseases.

Finally, this graph shows *acute rheumatism* with a small point in November, and a maximum in January, its curve remaining, however, fairly high well into April and May, and falling to the same minimum in July as the other three.

When working out such mean curves as these from a long series of years it is essential to make sure that they really express the fluctuations during the year, and that, on the whole, these fluctuations repeat themselves year after year. This does not mean, of course, that the wave of the epidemic may not in some years appear sooner, and in other years later, than the mean figures indicate, but only that these figures give a correct illustration of the average course of the epidemic.

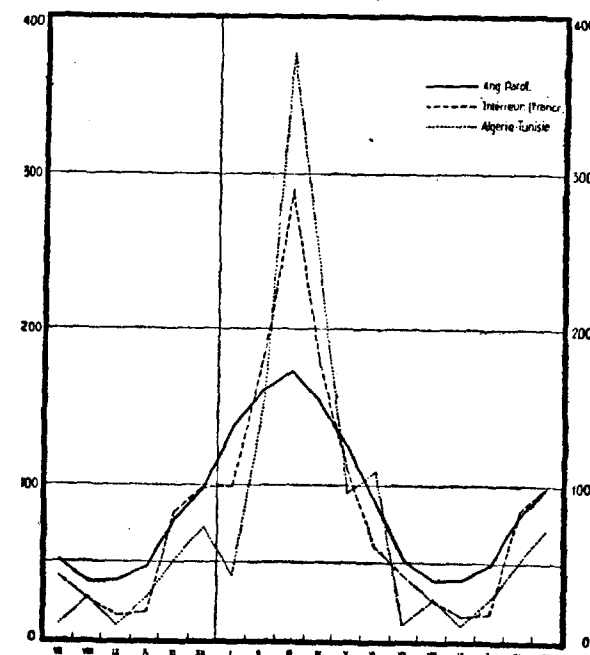


FIG. 2.
Angina parotidea. Mean of Danish Notifications: 1899-1927. Military epidemics in France and Algiers-Tunis.

In the case of *angina parotidea* (Fig. 2), it need only be noted that it has a very pronounced year's curve, with its maximum in March and its minimum in August-September, and that exactly the same curve is found in epidemics in other countries as, for instance, the military epidemics in France and Tunis.*

Fig. 3 refers to a group of most important diseases. First, there are *broncho-pneumonia* and *tracheo-bronchitis*, which display a decided

*Dopler et V. de Lavergne. *Epidémiologie, Traité d'Hygiène*, xix, p. 412.

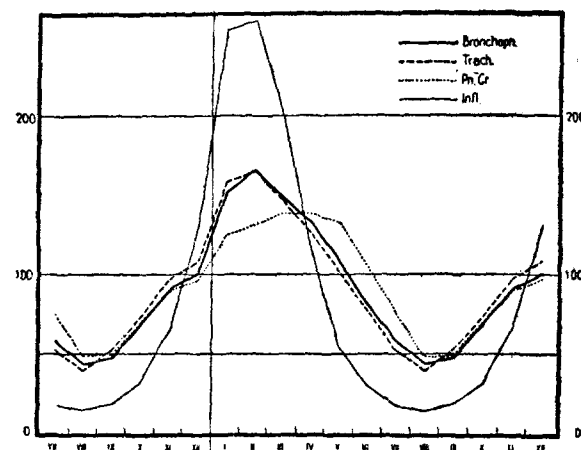


Fig. 3.
Broncho-pneumonia and Tracheo-bronchitis, 1895-1927. Pneumonia crouposa, 1890-1927. Influenza, 1900-1917.

maximum in January-February, gradually falling to a minimum in August. The very close conformity of these two curves, despite the uncertainty of diagnosis and notification, is naturally a result of the fact that the two diseases run into one another. A much more marked year's oscillation is shown by *influenza*, but maximum and minimum, as in the case of broncho-pneumonia and tracheo-bronchitis, are in February and August respectively. There is this to be said about this curve, however, that it comprises the figures from 1900 to 1917, i.e., that which was called influenza after the last wave but one in 1889-90, and before the last one in 1918. Here also we meet the interesting phenomenon that when an infection breaks in over a country with renewed force and altered character, the seasons are not respected at all. As we know, the first great influenza wave in 1918 came in July-August, the months in which the disease usually has its minimum; the next came in October-November, and only gradually has the point of gravity moved to the first months of the year, although not entirely regularly. This may perhaps be connected with the fact that influenza is one of the diseases that has always retained its epidemic character: with its great force of impact it spreads from place to place; it is *epidemic*, not *endemic*, like those already referred to, which occur almost simultaneously in various parts of the country. There are many problems connected with influenza, but as they would lead too far beyond the scope of this paper, further reference need not be made to this disease.

There remains the year's curve of *croupous pneumonia*, which does not attain its maximum until March-April, whereas its minimum occurs

at the same place as the other three diseases, in August.

In connection with the foregoing, and in confirmation of the correctness of the figures given for notified cases, Fig. 4 shows the *mortality* of

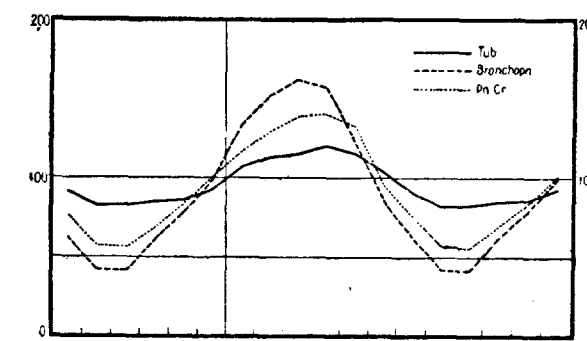


FIG. 4.
Mortality of Tuberculosis, Broncho-pneumonia and Pneumonia crouposa, 1895-1919.

tuberculosis, *broncho-pneumonia*, and *croupous pneumonia*. The year's curve of tuberculosis is closest to that of croupous pneumonia, but is more flat; the influence of the season upon mortality is much less as regards this disease than broncho-pneumonia.

If we turn to the epidemic diseases of the central nervous system (Fig. 5), at the beginning

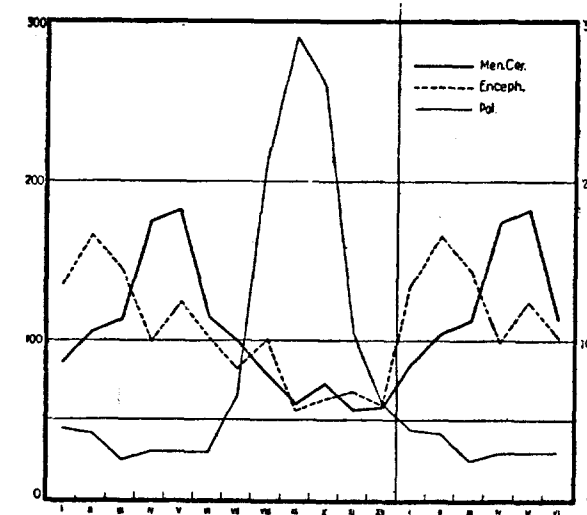


FIG. 5.
Cerebrospinal meningitis, 1910-1927. Encephalitis lethargica, 1919-1927. Poliomyelitis, 1910-1927.

of the year we find *encephalitis*, whose maximum lies in February. The reliability of this curve, which only spans the period 1919-27, may be doubted, however, since the figures of the acute cases are very low in Denmark, and it is a new disease which may not yet have found its annual position. *Epidemic cerebrospinal meningitis*, whose year's curve is very regular, with its maximum in April-May, and minimum in the

last months of the year, and *poliomyelitis*, have more definitely established themselves. The curve of the latter, it will be noted, quite typically runs up quickly in September and down again just as rapidly.

From the winter-spring diseases we now pass to the group of summer-autumn infections (shown in Fig. 6). The first of these is *cholera*,

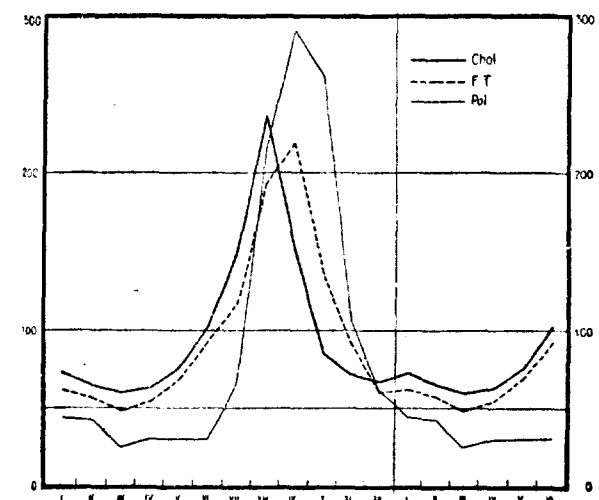


FIG. 6.
Epidemic diarrhoea, 1899-1927. Typhoid fever, 1900-1927. Poliomyelitis, 1910-1927.

with a pronounced maximum in August, whereas *typhoid fever* comes a month later, with its maximum in September. *Poliomyelitis* has been placed on the same curve in order to emphasise the peculiar likeness between the year's curves of these two diseases; this applies not only to Denmark, but to many other countries, as will be shown later. Hitherto it has been the general view that poliomyelitis infected in the same manner as cerebrospinal meningitis—from throat to throat. It is curious, however, that the seasonal curves of these two diseases are diametrically opposed, so that, when the one has its maximum, the other has its minimum, and *vice versa*. The resemblance

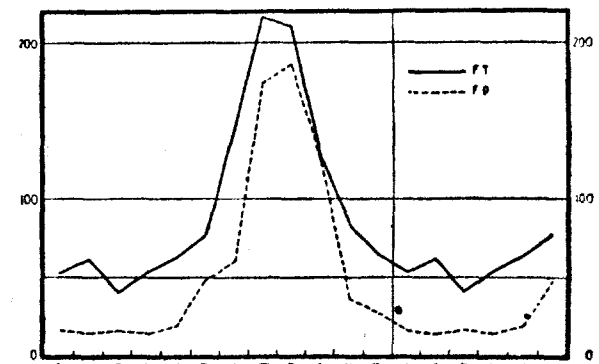


FIG. 7.
Typhoid fever, Paratyphoid, 1923-1927.

to the typhoid fever curve makes one wonder whether the intestinal canal does not *also* play a part as a means of infection in poliomyelitis. As we know, the virus of poliomyelitis is also found there, and diarrhoea is often mentioned as an initial symptom.

Fig. 7 shows the conformity between *typhoid fever* and *paratyphoid*.

I have not yet referred to *measles* and *whooping cough*. The fact is that for these

Whatever the state of the epidemic wave may be otherwise, it is always interrupted, and falls a little in *September*. If the measles curves of other countries are examined the same thing will be found.

In the case of *whooping cough* (Fig. 9), the same remarks apply as in regard to measles: it comes in waves with rather longer intervals, and with its maximum every three to five years. In contrast to measles, this culmination occurs

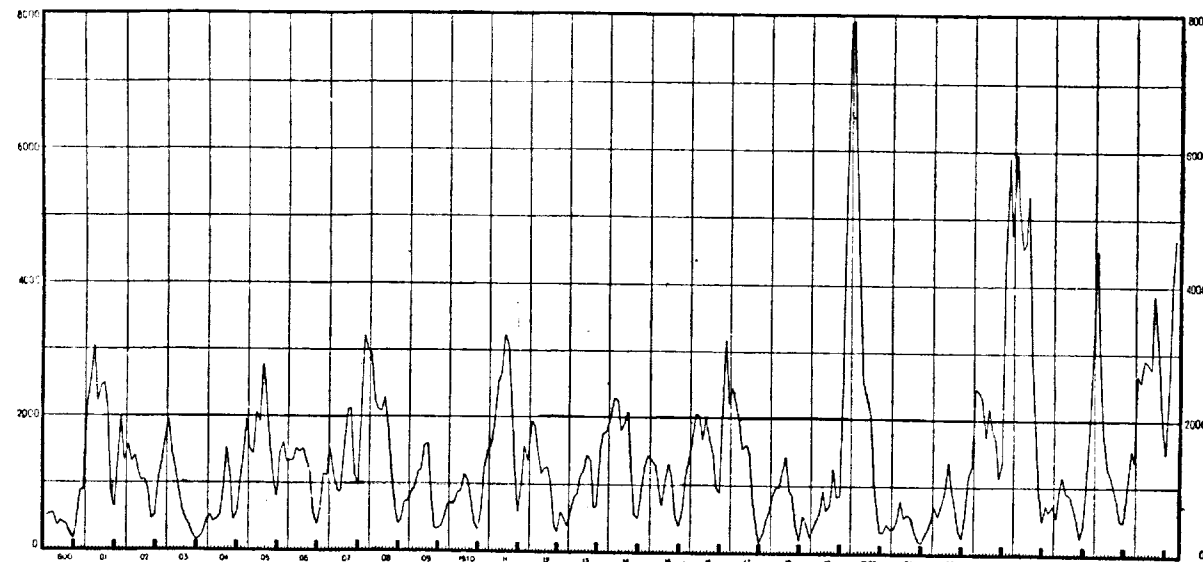


FIG. 8. Measles, 1900-1927.

diseases there are no regular seasonal fluctuations such as occur with those already referred to.

Measles (Fig. 8) comes in waves at intervals of two or three years, with a maximum that most frequently lies round the turn of the year, but sometimes appears further on towards summer. In the intervening years the year's curve is markedly influenced by whether the disease is approaching a maximum or falling towards a minimum. One peculiarity that recurs quite regularly, however, is a depression in September.

most frequently in summer, although it is not regular. In 1922, for instance, it came in the last months of the year.

I might here interject the remark that there are few countries that have such good *notification* statistics as Denmark. As a rule, one has to be content with mortality statistics, which are inaccurate in this respect: that the case fatality of whooping cough varies at different times of the year. In January-March, when the pneumonias have their maximum, whooping cough is

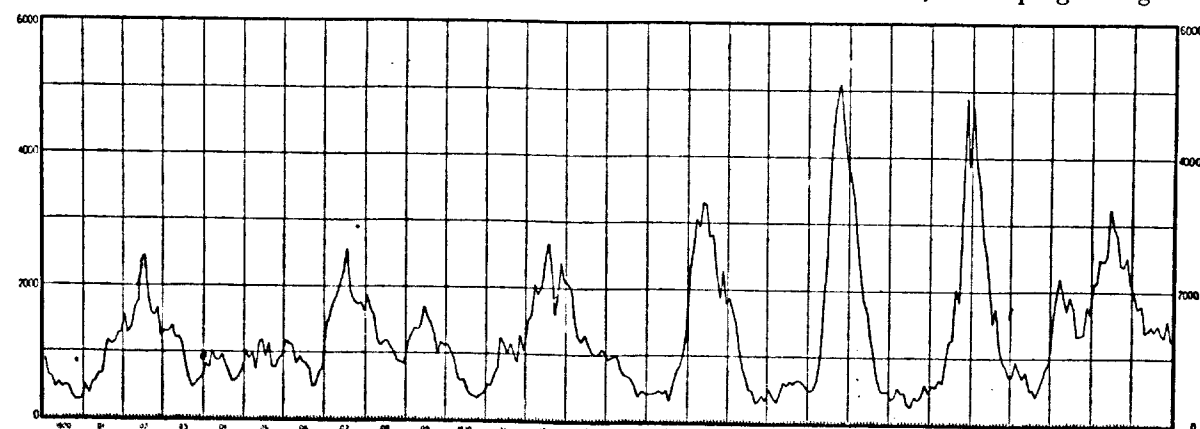


FIG. 9. Whooping cough, 1900-1927.

generally more dangerous than in the summer and autumn months.

Thus we see that neither of these two diseases has a regular year's curve; they have a certain inclination to spread like ripples from a stone thrown into water, and, like our present influenza, have retained their epidemic force of impact.

If we except these, we see that the other epidemic diseases occur with astonishing regularity according to the seasons. In one group there are scarlatina, diphtheria and angina, with a maximum in November-January, and a minimum in July; acute rheumatism, with the same maximum and minimum, but following another course. Then broncho-pneumonia, tracheo-bronchitis and influenza, with a maximum in February and minimum in August; angina parotidea with maximum in March; croupous pneumonia with a maximum in March-April, and minimum in August, etc.

The regularity of these seasonal fluctuations would seem to be so great that it is possible to go further than merely characterise the various disease-groups as "spring, summer, autumn, and winter diseases"—to fix their occurrence from month to month.

Before proceeding to discuss how these phenomena might be explained, there is reason for enquiring the extent to which these data are to be relied upon. There is no doubt that many medical practitioners who, though they accept the admissibility of the notifications for typhoid fever, poliomyelitis, and cerebrospinal meningitis, might doubt the possibility of drawing any conclusion at all from the notified cases of tracheo-bronchitis, broncho-pneumonia, angina or whooping cough. But the peculiar thing is that, despite the apparent unreliability of this material, the size of the numbers gives it considerable value as a means of comparison. The year's curves for tracheo-bronchitis and broncho-

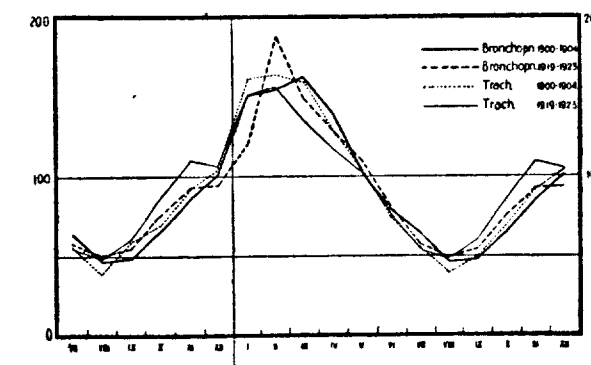


FIG. 10.
Broncho-pneumonia, 1900-1904 and 1919-1923.
Tracheo-bronchitis, 1900-1904 and 1919-1923.

pneumonia for the last thirty-two years, it will be remembered, followed almost the same line.

The applicability of the material is further confirmed by comparing the notifications in various periods. Fig. 10 shows the figures for broncho-pneumonia in the periods 1900-04 and 1919-23, and the corresponding figures for tracheo-bronchitis.

Even a disease such as angina tonsillaris displays similar concordance, as is shown in Fig. 11,

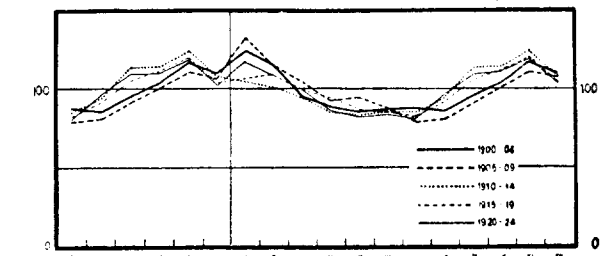


FIG. 11.
Angina tonsillaris, 1900-1904; 1905-1909; 1910-1914; 1915-1919; 1920-1924.

which relates to the disease in the five-year periods from 1900 to 1924.

It will be seen that, although different generations of physicians have been concerned in the making of these notifications, the yearly fluctuations are the same in every five-year period.

I particularly wish to bring this out, because among medical practitioners there is often pronounced scepticism against medical statistics and against the material that they have themselves helped to build up.

The reliability of the Danish material is further strengthened by a comparison with what has been published in other countries. In this respect there is an abundance of evidence, of which I shall only mention one or two examples here.

Fig. 12 shows the five-year curves, 1924-1928, for scarlatina for England, Poland and Germany. How closely these resemble each other will be

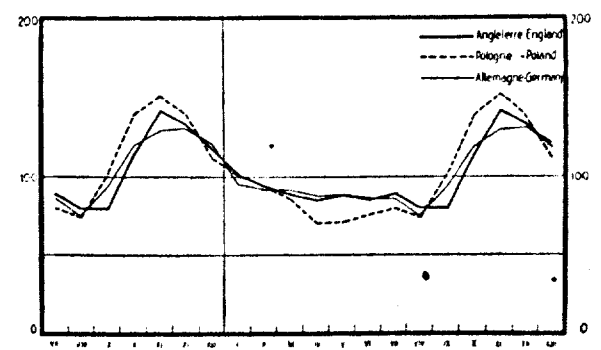


FIG. 12.
Scarlatina: England, Poland and Germany, 1924-1928.

noted, and, interestingly enough, how definitely they show a maximum in November, is displayed in each case, in correspondence with that of Denmark.

Reference has previously been made to the similarity between the Danish curves for typhoid fever and poliomyelitis. You will see that it recurs in the United States (Fig. 13), and

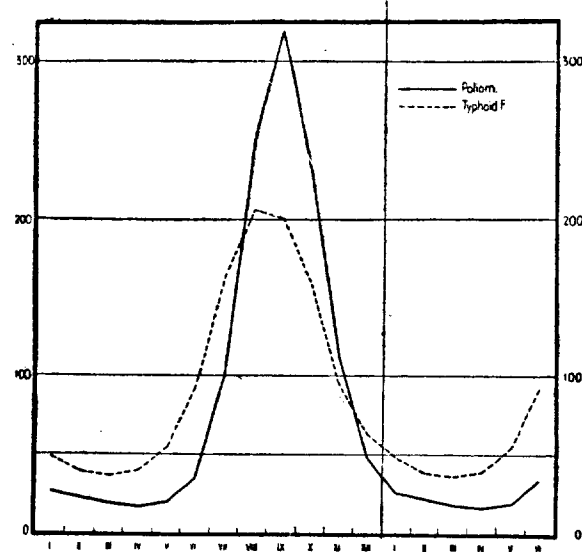


FIG. 13.
Poliomyelitis, Typhoid fever, U.S.A., 1921-1928.

the same thing is true of a number of other countries.

The fact of this correspondence is to be found also on examination of the fluctuations, year by year, in the various countries. Everywhere, for example, scarlatina is breaking out around November, and diphtheria is setting in at almost the same time, but deviating a little later on. The two diseases show about the same regularity in England during 1922-1929

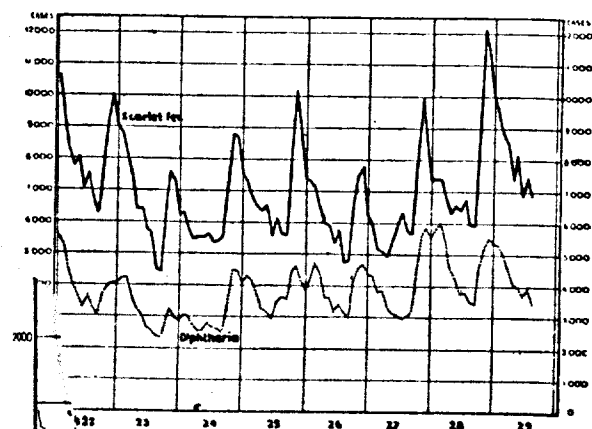


FIG. 14.
diphtheria and scarlet fever in England and Wales, from 1922 to 1929.

(Fig. 14), as they do in Denmark, scarlatina being constantly a little ahead of diphtheria. An interesting contrast is found in the United States of America, where, in 1920-1929 (Fig. 15),

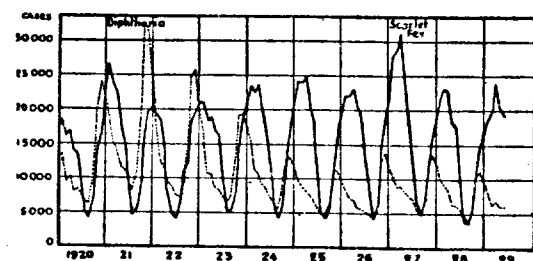


FIG. 15.
Cases of diphtheria and scarlet fever in the United States from 1920 to 1929.

diphtheria is constantly reported to be at its maximum in November, whereas the maximum of scarlatina falls in January-February.

As to the reason for this peculiarity, nothing can be said for the present.

One of the finest testimonies of the dependence of epidemic diseases upon the seasons is given when we turn to the southern hemisphere. Just as the seasons there are reversed, the epidemic year's curve is also reversed. As examples, we may mention poliomyelitis and typhoid fever in Australia and New Zealand (Fig. 16), where these diseases have their maximum in February-April, corresponding to September-November in the northern hemisphere.

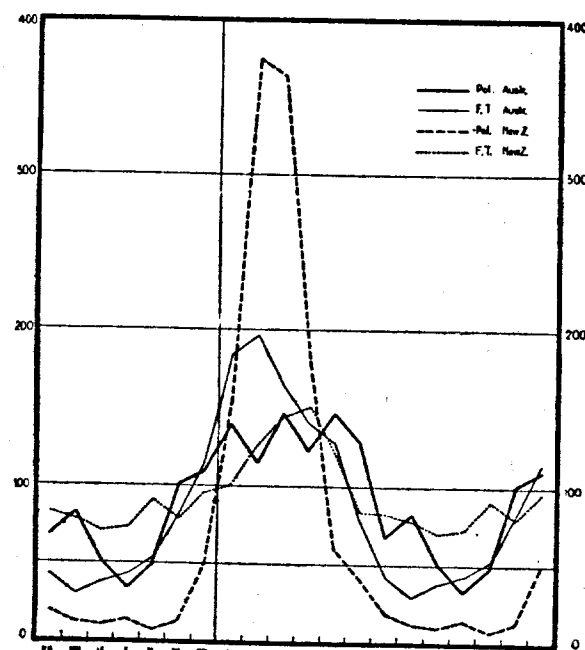


FIG. 16.
Poliomyelitis, Typhoid fever, in Australia and New Zealand, 1923-1927.

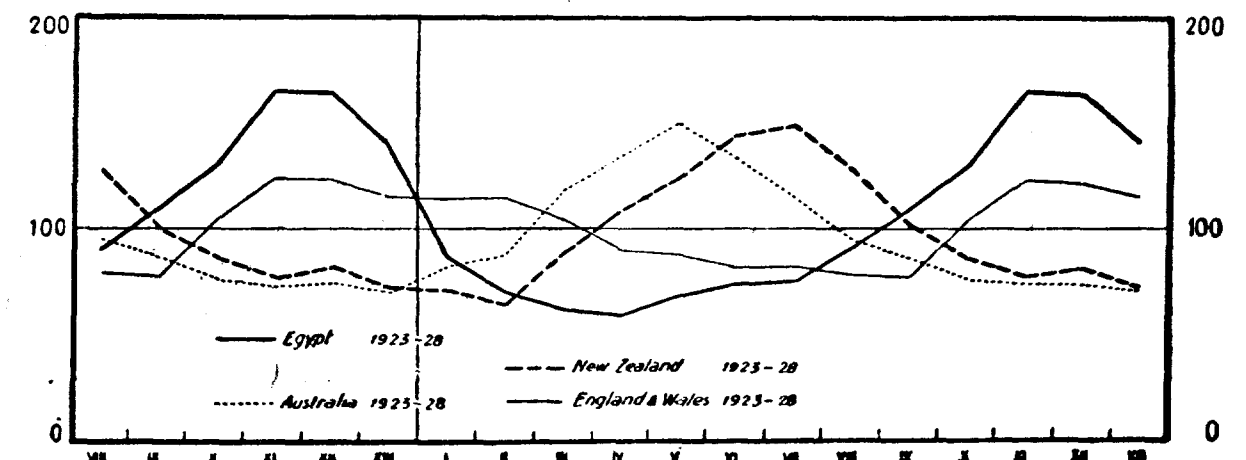
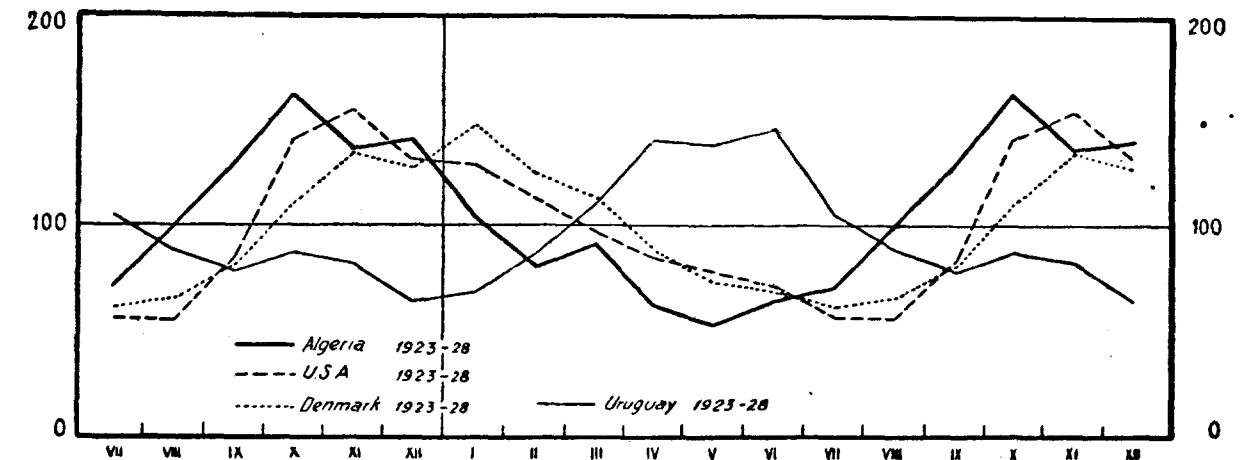


FIG. 16A.

Diphtheria.—Algeria, United States, Denmark, Uruguay, Egypt, Australia, New Zealand, England and Wales, 1923-1928.

Another interesting comparison is between diphtheria cases in Uruguay, New Zealand and Australia on one side and on the other side in Algeria, United States of America, Denmark, Egypt and England and Wales. (Fig. 16A.)

While on this subject I will mention still another disease (anthrax—Fig. 17), because it shows how critical one must be in judging data of this sort.

The *anthrax* curve for Italy, Ukraine, Russia and Poland shows marked seasonal fluctuations, though the cause in all probability can scarcely be attributed to man, but to the circumstance that, in August-September, anthrax occurs most frequently in the infected animals, from which man derives infection in the process of slaughtering, etc. This, therefore, is probably an indirect year's curve, and for this reason the seasonal fluctuations of this disease should rather be placed in the same category as those caused indirectly, e.g., by insects.

Returning now to the problem of why the

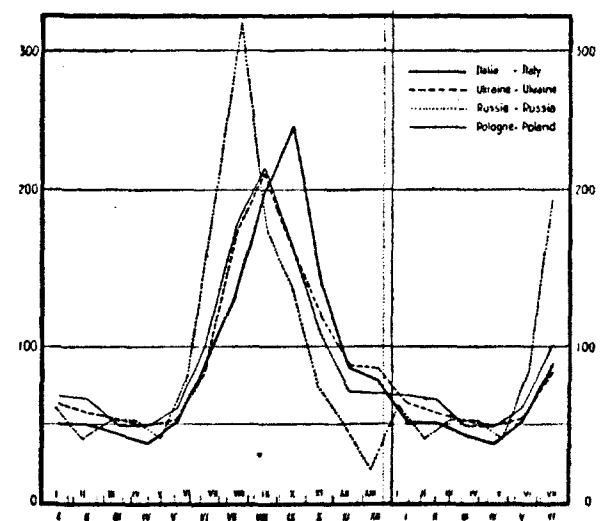


FIG. 17.
Anthrax.—Italy, Ukraine, Russia, Poland.

greater part of our epidemic diseases occur with such great regularity, the question first to be answered is as to whether it depends upon the

microbes or on man himself. It will scarcely be denied that among bacteriologists there has for a long time been a certain tendency to search for the solution of the problem of the epidemic diseases by studying the microbes rather than the individuals attacked. Fluctuations in virulence have also been described as being responsible for seasonal fluctuations, *pneumococci*, for example, being most virulent in the spring months. In spite of this, there is a very real probability that these fluctuations are dependent upon changes in the resistance of the experimental animals.

Most of the microbes that are in question at the moment can only thrive in the human organism. They do not live their life outside it, and are, therefore, quite dependent upon its growth, so that not unnaturally it should be considered first. When explaining the origin of epidemics there is an inclination to ascribe great importance to a number of external conditions; for instance, it has been thought that holidays play a great part. The eating of unripe fruit, infection through drinking-water, milk and flies are always named as factors of importance in the preference of intestinal infections for the autumn months. That these factors have a great significance cannot be denied, but a closer study of the material indicates that the real cause lies deeper.

The human organism doubtless undergoes constant change throughout the year, and our health, our total condition, also changes from winter to spring, from summer to autumn. It is only when, however, we try to find out what changes actually do take place in the bodily organism that we realise how extremely few systematic investigations have been made into this domain.

So far as I know, the change of the *hæmoglobin* with the times of the year was first investigated by Niels Finsen, although with a rather imperfect technique; his results were, however, confirmed by L. Isachsen,* who in Norway has investigated the fluctuations of the composition of the blood, and, as the average number for 13 individuals, obtained the figures given in the table at top of next column.

The quantity of *hæmoglobin* and the number of blood corpuscles thus show in our latitudes concordant changes, with minimum in January and maximum in July.

Of particular interest are J. Lindhard's

*Louise Isachsen: Om periodiske Svingninger i Blodets Sammensætning. Archiv for Matematik og Naturvidenskab. Vol. xxxii. Kristiania. 1911.

	Hæmoglobin. Per cent. Gowers.	Red Corpuscles. No. Average Diameter.	
Jan. ..	116.55	5,420,000	7.935
Feb. ..	120.06	5,555,000	7.875
Mar. ..	125.15	5,740,000	7.855
Apr. ..	127.45	5,843,000	7.82
May ..	132.7	5,905,000	7.775
June ..	137.65	5,991,000	7.74
July ..	141.55	5,913,000	7.633
Aug. ..	135.9	5,595,000	7.738
Sept. ..	132.2	5,636,000	7.783
Oct. ..	129.35	5,594,000	7.848
Nov. ..	122.2	5,460,000	7.909
Dec. ..	119.1	5,314,000	7.931

investigations into *respiratory fluctuations*, first in Greenland, and later at the Finsen Institute in Copenhagen.* As the mean of investigations made in Copenhagen with four male experimental individuals, Lindhard found the following values of respiratory frequency and depth, quotient of ventilation and the alveolar carbonic acid tension calculated as the variation per cent. (mid-April, 100).

	Respira- tory fre- quency.	Respira- tory depth, c.cm.	Ventila- tion quo- tient.	Alveolar CO ² tension, Per cent.
Mid-Jan.	113	95	99	102
" Feb.	112	93	88	104
" Mar.	106	97	94	102
" Apr.	100	100	100	100
" May	94	105	106	97
" June	90	110	112	95
" July	87	114	115	94
" Aug.	87	114	114	94
" Sept.	91	112	111	96
" Oct.	97	106	107	97
" Nov.	103	100	104	99
" Dec.	110	97	101	101

These figures clearly show that the values swing between two extremes, one in January-February, the other in July-August. In Lindhard's opinion these oscillations are *not* dependent upon *temperature*, but upon *light*. This he supports by means of comparative investigations, partly in Greenland (low temperature with intensive light), and partly at the Finsen Institute in Copenhagen, where the influence of light on the respiration has been closely studied (*Hasselbalch*).

It is, therefore, of interest to regard some of the aforementioned phenomena in relation to each other. In Fig. 18 are shown the *hours of*

*J. Lindhard: The Seasonal Periodicity in Respiration. Skand. Archiv. f. Physiologie. Vol. xxvi. 1912.

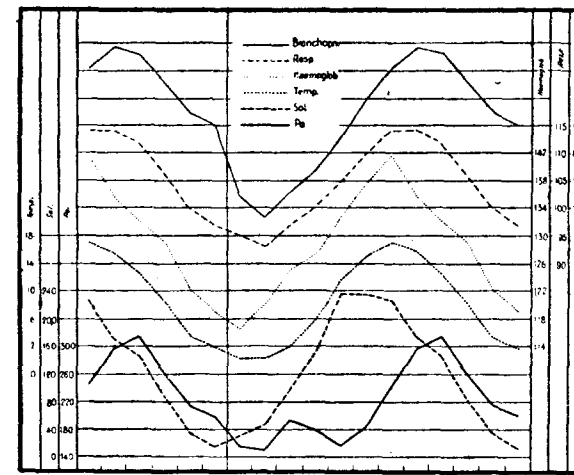


FIG. 18.

Bronch.: Cases of Broncho-pneumonia in Denmark, 1895-1927 (converted).
Resp.: Respiratory depth.
Hæmoglob.: Hæmoglobin % gowers.
Temp.: Temperature, 1903-1925, in Denmark (average).
Sol.: Hours of Sunshine in Denmark, 1903-1925 (average).
Po.: Average weight increase, Boserup Sanatorium, 1902-1921.

FIGURES USED FOR FIG. 18.

Month.	Cases of pneumonia in Denmark, 1895-1927.	Respiratory Depth.	Hæmoglobin Per cent. Gowers.
Jan. ..	151	665	116.55
Feb. ..	166	645	120.06
March ..	149	665	125.15
April ..	133	700	127.45
May ..	109	750	132.70
June ..	81	825	137.65
July ..	59	870	141.55
Aug. ..	44	880	135.90
Sept. ..	48	855	132.20
Oct. ..	69	800	129.35
Nov. ..	91	735	122.20
Dec. ..	100	690	119.10

Month.	Tempera- ture, 1903-25 (Average).	Hours of Sunshine, 1903-25 (Average).	Average Weight Increase, Boserup Sanatorium, 1902-21.
Jan. ..	0.3	29	155
Feb. ..	0.3	46	151
March ..	2.0	94	193
April ..	6.0	155	180
May ..	11.6	237	157
June ..	15.0	237	184
July ..	17.1	227	243
Aug. ..	15.8	175	297
Sept. ..	12.6	147	316
Oct. ..	8.4	85	262
Nov. ..	3.4	36	215
Dec. ..	1.8	14	200

sunshine in Denmark according to the returns of the Danish Meteorological Office for 1903-25, which show a minimum in December and a maximum in May-June; further, the *temperature* for the same years, with a minimum in January-February, and maximum in July, and the *hæmoglobin* with minimum in January and maximum in July. The *respiratory depth* is also shown, with minimum in February and maximum in July-August. If with this we compare one of our commonest respiratory diseases, *broncho-pneumonia*, it will be seen that to an astonishing degree it accompanies the respiratory fluctuations. To show this more clearly the broncho-pneumonia figures are shown converted in Fig. 18.

The same will be seen in Fig. 19, where the

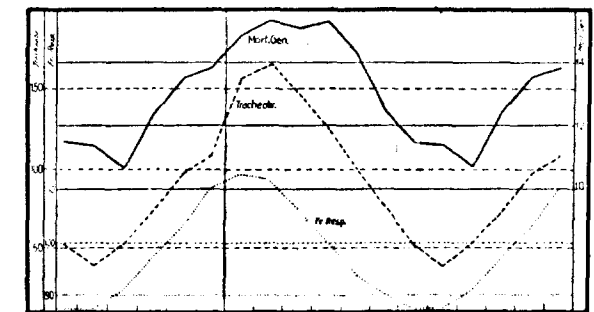


FIG. 19.

Mort. Gen.: Total Mortality—Denmark, 1910-1919.
Tracheobr.: Tracheo-bronchitis—Denmark, 1895-1927.
Fr. Resp.: Respiratory frequency.

fluctuations of the *respiratory frequency* show a maximum in February and a minimum in July-August. The *tracheo-bronchitis* curve is quite comparable with this. It is interesting to compare with these the *total mortality* curve, which reaches its maximum in February, but remains almost unchanged until April, descending thereafter to a minimum in September.

Naturally, one cannot help noticing the striking concordance between the year's fluctuations of our common respiratory diseases and the respiratory frequency. In all probability, these latter are also connected with the fluctuations in the work of the heart. In the summer—August—when the sun has been able to work freely for some months, the labour of respiration is lightest, and probably that of the heart too. In winter, and particularly in February, when the good influence of the summer sun has been used up, the work of respiration, as of the heart also, must be hardest. We must, however, be cautious about blaming this phenomenon for being the direct cause of the maximum of

respiratory diseases at this time of the year. It is probable that the solution of the problem lies deeper. The great similarity shown by the total mortality with the curve of respiratory diseases is doubtless to no small extent due to the high total of the respiratory diseases; the mortality of many heart diseases shows a similar curve. But even if we disregard the respiratory diseases, the general course of the total mortality curve is the same; and if we study the mortality curves of the various diseases themselves, we find similar conditions so far as a great number are concerned—highest mortality in February-April, lowest in July-September. Thus there is reason to believe that, owing to the fluctuations of the light throughout the year, our organism undergoes a number of changes, of which those given regarding hæmoglobin and respiration are merely a few tangible expressions, in their entirety making themselves known by resistance or susceptibility to disease, both infectious and other.

In the foregoing I have passed over a factor that undoubtedly is essential—fluctuations in the *vitamin* content of food. I shall not go into details; we know that for instance keratomalacia has a typical year's curve* (Fig. 20), which has

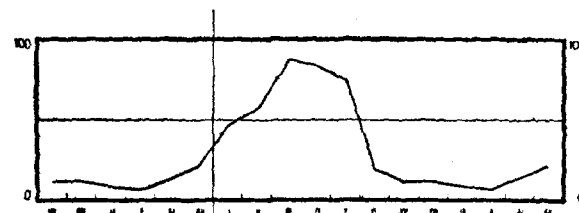


FIG. 20.
Monthly occurrence of keratomalacia in Denmark, 1909-1920.

been well studied in Denmark. I shall also pass quickly over the rachitic diseases, whose direct and indirect dependence upon light is now well known. That something similar may be the cause of the varying susceptibility of our experimental animals to microbes and toxins is no doubt probable.

There is still another domain in which we know of annual fluctuations; that is with regard to *bodily weight*. First of all there are Malling-Hansen's well-known investigations into the weight of school children, at first disputed, but later generally accepted and confirmed and extended by Adersen's work on "The Physiological Year."

* Olaf Blegvad. Om Xerophthalmien og dens Forekomst i Danmark, 1909-20. Copenhagen, 1923.

There is also much well-investigated material in the tuberculosis sanatoria, where variations in the weight of the patients are followed with particular care. Strandgaard* gives the following figures of the average weekly increase of weight in grammes for patients at Boserup Sanatorium in the years 1902-1921.

January ..	155	July ..	243
February ..	151	August ..	297
March ..	193	September ..	316
April ..	180	October ..	262
May ..	157	November ..	215
June ..	184	December ..	200

The weight increase has a minimum in February, and, as in the case of school children, a maximum in September.

In the foregoing I have only occupied myself with the broad outlines of the seasonal variations of infectious diseases, as indicated in trustworthy material. That the material is so great is, of course, a result of compulsory notification, the value of which is incontestable. Most probably we should find a similar regularity if we could obtain a sufficiently large amount of notification material for other diseases. In this respect the mortality curve is only of limited value, as secondary diseases are often of great contributory effect; but sufficiently useful data might be obtainable through the sick benefit clubs.

Other problems, tempting though they be, upon which I cannot touch, include a closer study of *climatic* conditions (weather, barometer heights, moisture, temperature) and their influence upon the course of epidemics in the various years. This has often been attempted, and many interesting correspondences have been observed; but it goes without saying that a most critical sorting out of the material is required.

Nor can I do more than hint at the tremendous field of labour presented by the study of these seasonal variations in various parts of the world. The already-mentioned difference in the seasonal variations in scarlatina and diphtheria cases in the United States and England alone show this.

Were such differences solely dependent upon light, one would naturally expect that they would decrease the nearer one approached the equator. Unfortunately, the material at present available is very defective, and all that can be used are

* N. J. Strandgaard: Seasonal Variation of the Weight of Tuberculous Patients. Acta Medica Scandinavica. Lvi.

the mortality statistics. These, however, are complicated by the fact that in hot countries we get an autumnal increase as the result of malaria, intestinal diseases, etc., which we do not have in our northern latitudes. This is shown by a graph (Fig. 21) drawn up by the Hygienic

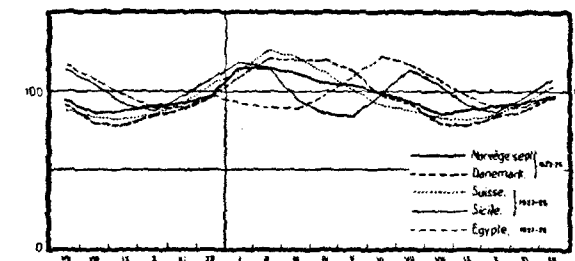


FIG. 21.
Comparison of Mortality Curves in North Norway, Denmark, Switzerland, Sicily and Egypt.

Section of the League of Nations at Geneva, comprising mortality curves in North Norway, Denmark, Switzerland, Sicily and Egypt, in which, incidentally, the absence of levelling of the curves from North to South may be noted. Obviously, conditions are most complicated, and only a very thorough study can tell us anything about the advantages and disadvantages of the different distribution of light and heat in the various countries.

It would also be an interesting task to follow the changes in the annual fluctuations through which certain infectious diseases have passed in the course of time; for instance, typhoid fever now is much more a purely autumnal disease than it was earlier, when winter and spring epidemics were not rare.

The foregoing remarks may be briefly summarised thus: a large number of our infectious diseases, when they settle down in a population—that is to say, become really "endemic"—adapt themselves to a certain year's curve, varying for the different diseases.

The principal cause must be presumed to lie in the changing power of resistance of the bodily organism through the seasons, in the last instance dependent upon the fluctuations of the light. We can only vaguely glimpse the reason why each disease has its maximum and minimum. It must be remembered that, from a physiological point of view, minimum is just as interesting as maximum, which as a rule occupies hygienists most, because the epidemic diseases then give them most to do and cause them most trouble.

I cannot see otherwise than that these year's curves for the infectious diseases are one of the best indicators we have of the physiological

changes in the organism throughout the year, even if the part played by the microbes and their varying virulence be not overlooked.

It might be tempting, in conclusion, on the basis of the foregoing, to try to find some hint for the improvement of our defence against infectious diseases. If we look at the annual curve of mortality, we realise at once that the autumnal diseases in our latitudes have now played out their rôle as an essential factor in mortality, the more dangerous, such as the typhoid group and dysentery, having been forced back and still being pursued, it may be hoped, to complete extinction. Infantile cholera (epidemic diarrhoea), too, has lost its sting and, with increasing hygiene and more enlightened conditions, should be reduced even more. But we are not so well placed with regard to the respiratory diseases. Even if we can undoubtedly progress much further than now by means of common-sense isolation and restriction of the possibilities of infection, this is not everything. The question arises as to whether or not we can do anything to make up for the minus effect of the dark period upon our organism. Anyone who has spent some time up in the mountains in the winter time has had an opportunity of observing what a wonderfully stimulating influence even a stay of only a few weeks can have. And we have also seen an increasing understanding of how important it is for young people to get out into the open air as much as possible. All too many still spend the greater part of their day in a town atmosphere, indoors and behind windows, which we know keep out a great part of the active rays of the sparse light. We of the medical profession must support every endeavour to counteract this and try to procure mankind as much efficient light as possible.

NOTE.—In this paper, which is mostly based upon Danish material, importance has not been attached to bibliographical references. The following, however, may be quoted:—

Madsen, Th.: Conférence faite au Cours international d'Hygiène organisé sur l'initiative et avec concours du Comité d'Hygiène de la Société des Nations à l'Institut d'Hygiène de la Faculté de Médecine de Paris (Janvier, 1927).

Sedgwick & Winslow: Statistical studies on the seasonal prevalence of typhoid fever in various countries and its relation to seasonal temperature. Memoirs of the American Academy of Arts and Sciences. Vol. xii. 1902.

The Registrar-General's Statistical Review of England and Wales for 1925. London, 1927.

Prausnitz: Epidemiologie.
Dopter et V. de Lavergne: Epidémiologie.
 Traité d'Hygiène.
 Particularly interesting are *P. Woringer's*
 works:—

Carence solaire et infection. *Revue Française de Pédiatrie*. Tome ii, No. 2.

Carence solaire et rythme saisonnier des maladies infectieuses. *Journal de Médecine de Lyon*. December 5th, 1928.

Ut Ita Dicam.

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

The Ministry and the Health Visitors.

I have rarely read with more gratification any pronouncements of the Ministry of Health than those contained in the circular (1117) that accompanies the summary of information with regard to the remuneration, annual leave, superannuation, etc., of certain officers engaged in the public health service. Largely this is because it refers particularly to a class of officer, health visitors to wit, who to my mind, and as indeed the summary shows, in far too many instances receive recognition that is totally inadequate. There is another reason, however, and that is that it appears to me so admirable a beginning to a practice that might well be extended to other officers engaged in the health service. If it was determined to extend it, it seems to me on going through the circular that very little alteration need be made in its wording to make it applicable. It is not only in respect of health visitors that the Minister might be made to say that it appears to him that local authorities who still pay inadequate salaries cannot expect to secure or retain the services of officers properly qualified to discharge the important duties attached to the post. The expression is one that has been so frequently repeated by members of the service in regard to medical officers of all grades that it might have been from them that the Minister learned it. Now that he has applied it in the case of the health visitor he might safely bring it back and use it in relation to those for whom it was originally coined. Going further he might use it in respect of other groups in the health department, sanitary inspectors for example.

The Claims of Other Officers.

A summary, such as that prepared for health visitors, in regard to these officers would reveal circumstances no less unsatisfactory, and would justify the Minister in calling the attention of local authorities to them, and urging the need and wisdom of taking steps to improve the conditions of service in a branch of public health the importance of which is generally underestimated. Come to think of it, and as a matter

of fact, instead of dealing with the groups piecemeal, the Minister might quite safely issue a circular covering the whole public health personnel at once, and without troubling to prepare separate summaries. As executive officers we all of us occupy a quite peculiar position, inasmuch as we are required to possess specific qualifications and to undergo long courses of preparation which prevent us from entering upon the practice of our specialty until long after other officers in the public service. This is a fact overlooked by local authorities, and that certainly has been forgotten in fixing remuneration. Since no reference is made to it in circular 1117, the Minister apparently overlooks it also. Perhaps when he accepts my suggestion and circularises local authorities on the matter of public health staffs generally, he will make good the omission and enter it as a special note.

Swan Song of the M.A.B.

The Metropolitan Asylums Board, which ceased to function as such at the coming into operation of the Local Government Act, have done what all the legion of those who recognised their organisation as unique and superbly effective and well run hoped they would do, and have caused to be prepared a special volume descriptive of the work done during the period of its existence, 1867-1930. The work of compilation, entrusted to Sir Allan Powell, has been carefully and lovingly done. What other or better hand could it have been in, and how otherwise could he have done it, since his own association with the Board extended over half the period of its existence, having entered the service in 1894, and he was intimately concerned in its making and largely responsible for its direction and working? It was a great undertaking the Metropolitan Asylums Board, and its name gave no proper idea of its size and importance. Who but those who had concerns with the Board knew, or could have suspected that, in addition to providing and maintaining institutions for mental defectives and epileptics, they played a big

part in the fight in the metropolis against infectious disease, being responsible for the isolation accommodation needed by the millions of the population? And how many who knew about this work thought the Board did anything else, or suspected they kept a ship upon the sea training boys for the sailor's life and colonies for housing homeless poor and teaching children to become useful citizens, and that, in a word, the work involved provision for a daily population of 30,000 people and the expenditure of round about two million pounds per annum?

The Board and Infectious Disease.

Important as these figures and the other work done by the Board was—worthy of special mention, perhaps, is its performance in the Great War, so fascinatingly described in this volume—that that interested and interests the health officer is what was done in relation to the infectious diseases. How well that was carried out, how smoothly the organisation fitted in with the various and often varying health arrangements in the different local government areas in the metropolis, health officers in these areas know and others outside must have divined. Practically friction was non-existent; practically there was nothing that the organisation could not tackle, and that it would not tackle in the way of helping a health officer to deal with infected individuals. For this, in recent years at any rate, Sir Allan Powell was in the main responsible. Few administrative officers could have had a better understanding of medical people, curious and difficult as they are, than he; few could have been so acceptable to or held in such high esteem and regard by them. From Sir Allan everybody on the Board, members as well, took their cue, and there was never one, not even the most junior resident or probationer, in whom it was possible to detect the existence of even the faintest suggestion of hospital "side."

Teaching and Research.

In the mere mechanics of isolation the Board approached perfection and the system of hospital arrangement was practically flawless. This was recognised universally, and in the world of fever hospitals the name of the Metropolitan Asylums Board was one to conjure with, and to have been on the staff of the Board was a thing to boast of. Rightly it was, since the medical work done in the hospitals of the Board was of the best type, up to date, if not ahead of it. For this the fact that the hospitals were there to provide all that was best for the

population for whose benefit they existed was mainly, perhaps, responsible. Apart from that, however, the responsibility of leadership was definitely upon the service and it had to develop along lines involving teaching and research. It is greatly to the credit of the members of the Board that they recognised this and gave every help and encouragement in the development. The material at the disposal of those concerned in research and teaching is, of course, vast, but that the opportunities offered with the passage through the hospitals of such quantities of material (34,431 cases in 1929) were not neglected, the annual reports of the Board from year to year have given proof, as have also the books and writings of such men as Goodall, Thomson and Rolleston, to mention only a few.

Accommodation for Small-Pox Cases.

In the story told by Sir Allan Powell of the Board and its works, there is no part more fascinating than that dealing with small-pox. Here reference is made to the troubles encountered and the many actions brought against the Board because of the serious allegations made by, amongst others, certain sanitarians as to the influence of hospitals, and the aggregation of large numbers of small-pox patients therein, in populous neighbourhoods in relation to the occurrence of outbreaks of the disease amongst the inhabitants. The effect was the setting up of a Royal Commission in 1881, which eventually recommended that small-pox should be treated only in hospitals established in isolated situations on the banks of the Thames, or in floating hospitals on the river itself. This recommendation was accepted and ships were placed at Long Reach, fifteen miles below London Bridge, and land purchased opposite the ships. On this land various buildings were erected, and eventually, in 1903, when Joyce Green (which now seems likely to be continuously in use for small-pox purposes), was opened, the use of the ships, which had never been really convenient and satisfactory, was discontinued. The temptation to linger over this last of the publications issued by the old Board is overwhelming, and a book that offers such a temptation is one to be treasured. It is one, too, that calls for special thanks and congratulation to the author. These, both, are offered to Sir Allan Powell, who, even though he has shown extraordinary restraint in his choice of material and in seeking recognition for what has been done throughout the years of existence of the Board, has provided

a volume of extreme fascination and of undoubted historical value. And just to show how difficult it is to lay the book down and to resist the temptation to quote, by way of finale I lift this from the section on small-pox:

"The immunity from the disease of the Board's

staff in contact with small-pox has been remarkable. At the outbreak of the epidemic of 1901-02, there was a record for the period since 1884 of 17,900 small-pox cases dealt with by a staff of 2,198 persons, among whom there was no single instance of the disease being contracted where there had been successful re-vaccination."

P.

The Present State of the Public Health Service.

By RALPH M. F. PICKEN, M.B., CH.B., B.SC., D.P.H., Medical Officer of Health, County Borough of Cardiff.

In quite a number of the Presidential Addresses of the present session, aspects of the Local Government Act were dealt with. Dr. Picken, though he made perhaps less reference to it than others, nevertheless submitted to the Welsh Branch an extremely fascinating and stimulating Address.

TWENTY-TWO years ago I delivered a presidential address to the Glasgow University Medico-Chirurgical Society. I was then in my final year as an undergraduate at that University. Its title, which I had originally intended to be "The Present State of Medical Ignorance," was finally worded for the sake of appearances as "The Present State of Medical Knowledge." Recently I came across the manuscript of that address when I was raking through some old papers, and it occurred to me that a modification of its title might be appropriate enough for the present occasion. I had forgotten its subject matter until I took it up and read it again, and I was considerably intrigued at certain passages. The whole paper revealed a mood of disappointment and much pessimism as to the potentialities of medical treatment as viewed by one on the threshold of the medical profession.

But, on reading it over again and remembering that at that time I scarcely knew of the existence of the public health service and had planned my way to eminence along the rose-strewn paths of surgery, I wondered if there might not be something in my racial ancestors' faith in predestination when I realised how often prevention was pointed to as the only hope of humanity.

Now, I have referred to this *jejune* address because I think it is important to appreciate the dissatisfaction of mind, commoner in students than practitioners, into whose framework the experience of twenty years of institutional and state-medicine has been moulded in the formation of the attitude toward our common task to which I am now about to

give voice. I find, of course, that I have nothing to unsay about prevention but that I am not quite so pessimistic about treatment in general. Perhaps my ideals are wearing threadbare but I cannot avoid being impressed with the progress of knowledge with which I find it very hard to keep pace. I do not propose to range at large over the wide field of medicine, beyond trying to illustrate the contention that, in relation to the æons throughout which human life has existed on this Earth, the progress of medical knowledge during this infinitesimal passage of time that covers your experience and mine is truly remarkable, however trivial it may be in contrast with what still remains unknown. We have seen the striking development of X-rays for diagnostic and therapeutic purposes and the new province of radiation opened up with immense potentialities in connection with the treatment of the cancers. During this time the deficiency diseases have been practically discovered and the way cleared for their scientific treatment and prevention. The astonishing discovery of the interchangeability of the sun's rays with one at least of the accessory food substances has pointed the way to a means of therapy and prophylaxis which is still at the stage of exploitation rather than scientific use. Our knowledge of hormones and their interactions has vastly increased and the practical application of at least two internal secretions to the cure of common diseases, *viz.*, diabetes and pernicious anæmia, has become a routine and accepted procedure among physicians. The treatment of syphilis by arsenobenzol compounds is an advance on the older mercurial therapy, even if it has not

proved the triumph that its introducers hoped and believed it would be. Knowledge of the modes of transmission of malaria, trypanosomiasis, bilharziasis, ancylostomiasis and other tropical fevers and diseases has increased so greatly in these twenty years that we are watching a revolution in the conditions of life in tropical and semi-tropical lands. Of more immediate interest to us is the change in epidemiological thought as the result of bacteriological and other laboratory work and the observations and studies of clinicians and epidemiologists, which has brought together modern knowledge of "carriers," latent epidemisation and latent immunisation and mass movements of susceptibles in a new theory of the epidemic which explains the comparative failure of our past attempts to control the communicable diseases. During this period, too, the practice of active immunisation, which had virtually been confined to the prevention of a few diseases like smallpox and rabies, has been extended to many other diseases, if it is little nearer receiving the universal public acceptance which is necessary before it can become a practical method of eradicating the fevers to which it is applicable. This list set down at random ought to be sufficient to banish pessimism about the prospect of medicine alleviating the ills of the people in ever-growing measure. The man of experience is perhaps a little less pessimistic than the student because he has approached his problems with less lively expectations and has learned by looking back to be less impatient with the rate of progress.

Coming closer, then, to our own province, let us consider the steadily falling mortality at most age-periods and the receding age at death. These are merely signs of the immeasurable benefits which the community is deriving from past and present movements, making for greater health and happiness. It is quite impossible to assess the part which medicine, the medical profession and, in particular, the public health service, have taken in the general amelioration of the distresses of the people. Things which are incidental may so profoundly influence the public health. For instance, the disappearance of malaria from our land as an indigenous disease was more the result of the cultivation of marsh lands around populous places by the introduction of Dutch gardening, than of any specific measure taken against the disease; and typhus has vanished probably as much on account of the displacement of woollen by easily washable

cotton underwear as by reason of any achievement of sanitation. Improved trade and agriculture and greater prosperity and enlightenment toward the end of the eighteenth century were associated with a most remarkable improvement in the health of the people, interrupted by the Napoleonic Wars and the subsequent trade slump and cholera invasions, but resumed thereafter and carried on to our own time. How much of it has been due to material progress, general education and the natural process of adjustment of the people to aggregation by the elimination of the totally incapable and immunisation of the rest? Had the great sanitary movement in connection with which the names of Chadwick, Shaftesbury, Farr and Simon at once leap into our minds, little influence after all on the communal health? The truth undoubtedly is that sanitation made material progress and education increasingly possible, just as the latter contributed to the ways and means of providing a decent environment; and that an essential part of the process of adjustment to new conditions throughout the latter half of the nineteenth century was the dilution of infections which only became possible as the result of the work of the sanitarians. But how much credit is due to conscious public health effort and how much was dependent upon social progress of other kinds probably no one will ever be able to say.

It seems to me that it is important for us to keep this idea of the inextricability of hygienic circumstances constantly in our minds, for it gives point to what I am going to say about the scope of the activities of health departments. When we turn to the things which local authorities do in the name of health, we find that only a small part of these activities falls within the province of our work. Indeed, the expenditure of the so-called health departments is trivial as compared with the total incurred by other services with the object of protecting the community from disease or of promoting its physical fitness. Much of the agitation, and most of the stimuli behind it, leading to communal water supplies, sewerage schemes, cleansing systems and refuse disposal, housing, open spaces and recreation, came from medical men and especially during the last fifty years from medical officers of health, whether part-time or whole-time. Inevitably, medical practitioners were the pioneers who preached day in and day out the doctrines of cleanliness, which meant pure

water and facilities for cleansing and the removal of filth, but—and this is what I want to emphasise—it was not their job to carry out the reforms or even to supervise the process. It was for the medical profession, and particularly the health service, then, as it is now, to blaze the trail but not to clear the forest. The public, with its usual practical sense, is ready to see the absurdity of employing comparatively expensive specialists like us to do or supervise work which does not call for our special kind of knowledge and I think we ought always to be ready to cast off any part of our responsibilities which is falling into this class. For we may easily find our minds engrossed with things which others can do equally well and which leave us no time or energy for what is our real work—pioneering.

Let us consider then what has been happening to our service in the last twenty years. Until practically the end of the first decade of this century, medical administrators were mainly concerned to prevent the acute communicable diseases, and record sanitary evils and their effects, and officially agitate for new means of alleviating them. What has happened to us since then? The school medical service, maternity and child welfare, venereal diseases, tuberculosis, mental deficiency and the medical examination of aliens are all new responsibilities, of a more or less clinical nature, which have been placed upon us. The public health service has grown out of all recognition both in size and in character. We believe that the old "public health" which concentrated on environment and the control of epidemic diseases had at least something to do with the modern decline of mortality which may be said to have set in about 1870. Have we reason to be satisfied that the new services are also going to justify their existence? We are faced at once with the statistical facts that the infant mortality had begun to fall before births were made notifiable and before all the present maternity and child welfare machinery was created and set in motion. The death-rate from tuberculosis cannot be said to have fallen any faster since 1912 than it might have been expected to do if no special attack had been made on the disease, when we study its previous rate of decline. There is no simple means, at present, of scrutinising from without the results of the school medical service, for there were no reliable data as to the health of the children before its inception,

so that it is difficult to pass any unbiassed comment upon them. It is probably too soon to expect the organisation set up to reduce the damage done by venereal diseases to be reflected in the mortality statistics by way of reduction in aneurysm, arterio-sclerosis and the other late sequelæ. If it was difficult to separate the accidental from the designed causes of the public health uplift of last century, it is even harder to say now how much of its continued progress is due to the efforts of our expanded departments. It is true that the country generally, and more especially South Wales, is coming through a testing period of bad trade and unemployment with amazingly little discernible influence upon the communal health, a thing unheard of in the annals of this or any other country; but we cannot overlook the importance in this connection of other provisions than those administered through our departments, e.g., unemployment benefit and the financial relief afforded by boards of guardians, which exceed in liberality any previous allowances given out of public monies, however meagre they may appear to be in each individual case. We are forced back upon our faith that what is obviously a good thing cannot have anything but good results. Whatever doubts the statisticians or our own scepticism may raise, there is not one of us who, being familiar with the past neglect of the health of children, of the tuberculous, the venereally infected and mental defectives, would contemplate for one moment a return to the policy of *laissez-faire*. Within the operations of these schemes themselves we see debilitated children recover their health and colour and growing up stronger, cleaner and more vigorous than of old; tuberculous patients given a chance of recovery or offered attractive alternatives to stuffy rooms and the spread of infection to their relatives; and venereally infected persons given a chance of complete cure.

These may not be the best ways of dealing with the particular problems of health with which they are concerned, but we cannot admit that they are fundamentally wrong and ought to be dropped. We are far from satisfied with many features of these schemes. I, for one, think that we are in danger of becoming obsessed with the clinical in the pursuit of early diagnosis and treatment, and of forgetting that the reason for our existence and for the existence of these schemes is primarily the prevention of disease and not its treatment.

Moreover, the treatment we provide is wasted in many instances by obstruction or neglect on the part of potentially infective patients, or parents who are regardless of the welfare of their own children, and we are tempted to seek and use powers of compulsion to make people adopt the line of treatment which we favour for the time being. That, however, is a difficulty of detail. I am one of those who think that the immediate task of the health service, in relation especially to tuberculosis and venereal diseases, is to imbue those who are engaged in these particular branches of the service with the preventive spirit, so that they will not rest content with successful treatment and its enforcement, or thrust the question of prevention back upon some other sort of social provision such as housing, but rather seek how they can apply it through the machinery of their own organisation.

And this brings me to what I really set out to say and commenced to say before digressing into the subject of the newer services. Our responsibilities have grown. They are going to grow still further. Very soon we shall have some duties in relation to the medical services of the poor law. Evidently, better provision for maternity is contemplated which will probably be administered through our departments. There is a hint that some other reform of health insurance is under consideration and that may bring us new work. At the same time the ramifications of our departments are spreading into fields which are not mainly our concern, as, for instance, the management, time-tables and curricula of special schools, the provision of food for school children, for mothers and infants, physical training of children and young persons, the provision and management of day-nurseries and nursery schools, and so on. It seems to me that we ought to be quick to cast off much of this class of work and to retain only an advisory interest in these things, and also in such matters as housing, atmospheric and rivers pollution, the management of non-medical institutions and the ascertainment and care of mental defectives, just as we do in relation to sewers and sewage disposal, refuse collection and disposal, the management of swimming baths and the provision of open spaces and places for recreation. It is perfectly true that housing and mental deficiency have a fundamental bearing on health and that we cannot throw off our responsibilities in

these connections lightly. But their reactions on health are simple and their solution non-medical. Ultimately, therefore, I think we shall be wise to hand them over to other departments.

It is essential, to my mind, that we should be first and always medical men, and only to the necessary and minimum extent business men. We get great kudos if our departments are well and economically managed and, since we are responsible for the expenditure of public money, it is right that we should pay attention to these things. But I wish to say most emphatically that we must not allow them to displace from our minds in the slightest degree the purely medical aspect of the public health question. It is essential that we should keep ourselves generally abreast of medical discovery. If the progress of medical knowledge and ideas continues to be even faster than it has been in the twenty years of my experience, which is highly probable, to keep pace with it is alone no mean task for the average brain. If we are to absorb this new knowledge and continue to exercise what I take to be our main function, pioneering for prevention in the medical services, we cannot afford to retain any extraneous responsibilities. We must go on pointing out new social needs, perhaps taking a hand in starting the services called into being to meet them, but casting off as soon as possible as much as possible of the work which others without a medical training can do as well as we can. If we retain them under our general supervision we accept responsibility for their efficient conduct, which means that if we take our responsibilities seriously we must devote time and attention to them. We cannot spare this time and attention without allowing the medical part of our armamentarium to grow rusty.

I have hammered away at this point because it seems pretty obvious that the public health service is coming to a parting of the ways. The poor law medical services and many other functions ancillary to them are coming over to our authorities. County and county borough medical officers, at least, are bound to have greatly widened interests as a result. They may become administrators of large, unwieldy departments with numerous loosely knit branches, to control which will require a mind like a telephone switch-board and an absorption in office routine which will be destructive of mind and ideals. This will be especially the case if we are tempted to cut

the Gordian knot of overlapping by seeking control of many parts of the present poor law organisation which are not even mainly of medical interest—a position which some of our colleagues seem not unwilling to accept. On the other hand, let us leave no stone unturned to get our position properly established in relation to the medical services of the poor law and any other new medical services which may be created, so that these may be linked up with the medical work we are already doing. And let it be clear that our motive is the permeation of the newly acquired services with that zeal for prevention which is, or ought to be, peculiarly ours.

To come back to the point where I started, I have then to confess that my relatively short experience in medical practice has belied my

early pessimism, and that when the black mood invades my reflections on public health progress, as it sometimes does, I have only to look back on the progress of medicine and the development of our service during the short passage of that experience for an antidote. I can see only one grave danger ahead of us—the gradual effacement of the medical man in the future public health administrator, which would be a disaster and will require all our care to avoid. We must keep the ideal constantly before us of making the practice of medicine ultimately preventive rather than curative, and that will best be attained, I believe, by our retaining the closest possible touch with the practice and the practitioners of medicine.

The Campaign against Tuberculosis.

By ERNEST WARD, M.A., M.D. (Cantab.), F.R.C.S., L.R.C.P., Tuberculosis Officer, South Devon Area, Devon County Council.

No one better qualified than Dr. Ernest Ward to make critical examination of tuberculosis schemes, to discover the weaknesses, if any, and suggest remedies, could be found. Certain as it is that any views he had to submit would receive full and respectful consideration, he has definitely ensured that they should, by giving them expression in his Presidential Address delivered before the West of England Branch of the Society.

UNDER an able central control our methods of campaigning against tuberculosis tend to become stereotyped, so it may be useful to attempt to review these methods and to consider how far we are succeeding. As Hon. Secretary of the Tuberculosis Group of the Society and of the Joint Tuberculosis Council, opportunities present themselves of learning what is being done in different parts of the country and with what results.

While tuberculosis is steadily diminishing as our efforts intensify, I sometimes wonder whether the decrease is proportionate to our efforts, and if not what changes should be made in our attack. A form of disease which appears to increase, though it may be only that it is not diminishing at the same rate, is pulmonary tuberculosis of young people from 15 to 25 years of age; and especially girls. These patients are often rather suddenly attacked, and even though seen soon after symptoms commence, therapeutic measures are in many instances of little avail.

Epidemiology.

The view of the epidemiology of tuberculosis enunciated in Dr. Wingfield's recent

book should be mentioned. He regards tuberculosis as an epidemic disease, dangerous to infants, children, and primitive races, but pulmonary tuberculosis as a blood-borne recrudescence of earlier disease conveyed to the lungs from a previous focus. The fall in our tuberculosis mortality is considered to be the result of a more or less complete urbanisation of the population, and is compared with the American mortality where similar conditions prevail, and contrasted with the level curve of France, where urbanisation is proceeding, and the increasing death-rate of Japan, where urbanisation is just commencing. There is an almost specious simplicity about the conception, but the curves reproduced by Dr. Wingfield have not been brought up-to-date, and the shorter the length of such lines the more treacherous they become as a basis for conclusions.

Methods of Attack.

In broad outline the methods of attack in different areas are similar, but in detail they differ widely. Some places aim to stimulate the responsibility of the general practitioner, while others will almost entirely replace him.

Recently there has been transferred to my district a patient living in a house of good rental, who was solely under dispensary treatment in the place whence she came, and another similar case that was actually receiving fortnightly visits from the local tuberculosis officer. To my mind, one of the most vital points in the tuberculosis campaign is to create or increase the practitioner's sense of responsibility in preventing and dealing with tuberculosis.

Relations of Tuberculosis Officer and Medical Officer of Health.

The part played by the medical officer of health, as distinct from the tuberculosis officer, varies. In Lancashire the tuberculosis department is entirely independent. In other districts the tuberculosis officer is given complete independence, but the medical officer of health retains administrative control, and in areas I have in mind there is no doubt he would swiftly make his presence felt if the work was neglected or improperly done. In other localities the reverse takes place, and the medical officer of health shoulders the responsibility of the whole work, even signing opinion letters to practitioners, when if the tuberculosis officer is to be of any value as a consultant his reputation must be personal and based on a personal knowledge of his work by practitioners. Such a system as the above cannot be carried out by a good tuberculosis officer; if originally a good tuberculosis officer has been secured he will not remain so under this régime.

I think the best arrangement is that tuberculosis should be a department of the public health administration, which enables successful co-ordination with other departments and provides for occasional wise suggestions on administrative matters of prevention by the medical officer of health. But the tuberculosis officer should have opportunities of meeting the committee dealing with tuberculosis so that he is to them a personality rather than a name.

Universality of Tuberculosis.

Perhaps it is tilting at windmills, but it still seems to me that we do not recognise the universality of tuberculosis and its frequency as a minor disease among the highly resistant majority of the population. We are still statistically wedded to the Victorian conception of tuberculosis.

In a recent conversation with a well-known epidemiologist I was asked two questions:—(1) Tuberculosis is common as a pathological finding, yet when accurately diagnosed the prognosis is guarded. Why is this? My reply was that if on the alert for them, symptoms due to tuberculosis are almost as common as the pathological findings. (2) Why does the presence of tubercle bacilli in the sputum make the prognosis so gloomy? The answer is, first that the presence of bacilli often indicates a low resistance, and secondly that it entails a constant risk of re-infection.

Public Health Measures.

Recognising the prevalence of tuberculosis, by what public health measures should it be countered?

(1) Some have it, and Dr. Wheatley in his Presidential Address to the Society almost seemed to take this view, that the disease is fading away and we had better let it fade by its own methods. Of course, nature has a way of doing these things, just as plague died out in the Middle Age, and as rats will become immune from *Dansyz Virus*.

Foot-and-mouth disease in animals we deal with by methods similarly ruthless to those of nature, but I doubt if any of us would like to leave tuberculosis alone. We should agree with the detuberculation of the community.

(2) Should the disease be tackled on everyday anti-infection lines? Some medical officers of health have told me that they believe this to be best and, if so, any man will do as tuberculosis officer, or, indeed, a health visitor is all that is necessary.

(3) Are we to attempt to deal with tuberculosis on more intimate lines and appoint an expert who will help the practitioner to answer such individual questions as: "Are *this patient's* symptoms due to tuberculosis? What should be done for *this patient*? And, if he is infectious, what should be done to protect the community against him?" Personally, as might be expected, I would strongly urge the third course, and while believing that the tuberculosis officer's work should form part of the public health department, I am convinced that he should be entirely independent clinically.

To fill such a post a really prolonged experience of tuberculosis and disease generally is necessary, but it must be said that one man will pick up in a year what another takes ten years to acquire.

Notification.

The notification of tuberculosis should be gone into, but not on the lines hitherto followed of merely dinning into the ears of practitioners that they must notify every possible case, which is hardly feasible or desirable, but by telling them what sort of cases should be notified, the objects of notification, and the way in which they can help the public health department.

Sanatoria.

A suitable patient benefits more from sanatorium treatment than from any other line of treatment, and the ideal sanatorium is the one which places patients under the best possible conditions of life. Unfortunately, these are not exactly the same for everyone; middle-aged and elderly patients, and some young people, will not stand exposure.

It would be advantageous also to use sanatoria as adult preventoria, not insisting on a mathematical diagnosis of tuberculosis before patients are sent there. In many ways the isolation hospital is more useful than the sanatorium, but patients will not willingly enter a place where only advanced cases are admitted. There must be provision for observation and probation cases as well.

Contact Examination.

There are certain disappointments connected with contact examination.

(1) When contacts are seen at the dispensary, those that are ill and most cases of surgical tuberculosis do not attend and are missed.

(2) The usual routine examination is insufficient to declare that the examinee is not tuberculous, and the discovery of a latent inactive lesion is unimportant.

(3) One examination, or even three or four are insufficient, for clinical manifestations may first appear several years after infection.

Examination should take place in the patient's home and an enquiry then made into the health of all members of the family and all living in the house; but only suspicious contacts need be carefully examined and, if necessary, admitted to an institution for a more thorough overhaul.

The tuberculosis officer should make full use of his personal acquaintance of practitioners, and persuade practitioners, school medical officers and health visitors to make use of him.

The Future of the Tuberculosis Service.

As already said, tuberculosis officers should be reasonably independent and looked on as consultants by practitioners. About 75 per cent. of patients that I see for the first time are seen at the doctor's request for an opinion, and I hope before being retired on account of age, or of a too active disposition, that it will be 95 per cent.

Acting as consultant I believe a tuberculosis officer could cover larger areas than at present, especially if some of the routine work could be done by junior part-time officers, or health visitors; but I would regard the tuberculosis officer as a clinician rather than as an administrator, and think that there should be higher posts in the tuberculosis service for him to enter without transferring, as so many good men have done in the past, to the purely administrative work of the medical officer of health.

Whether the lines of reform I have indicated will be followed I know not, but should like to persuade you of their reasonableness.

MOTHER AND CHILD (formerly *National Health*) is now the sole official organ of the National Council for Maternity and Child Welfare and its constituent societies, viz., the Association of Infant Welfare and Maternity Centres, Central Council for the Care of Cripples, Child Guidance Council, Incorporated Midwives Institute, Institute of Infant Welfare Fund, Invalid Children's Aid Association, Mothercraft Training Society, National Association for the Prevention of Infant Mortality and for the Welfare of Infancy, National Baby Week Council, National Council for the Unmarried Mother and her Child, National Institute for the Blind (Blind Babies' Department), National Society of Day Nurseries, Save the Children Fund, and the State Children's Association. As *National Health* the journal was the official organ of certain of the societies only and the hope is expressed that the new arrangement will result in still greater unification and co-ordination of voluntary child welfare work. *Mother and Child* is edited by Miss Norah March, B.Sc., and communications for the journal should be addressed to 5, Tavistock Square, London, W.C.1.

The Society.**Reports, Proceedings and Announcements.****NOTICES.**

A number of members have not yet forwarded the annual subscription due on October 1st, 1929. They are asked to do so at once, as the collection of these payments must be completed before the annual audit.

NOMINATIONS.

The following candidates have been nominated for the next election to the Society: *As Fellows*: Dr. Frank Appleton, Hamilton House Hotel, Hulse Road, Southampton; Dr. H. D. Chalke, 20, Glenluce Road, Blackheath, S.E.; Dr. Katharine M. Cellan-Jones, Health Dept., Sunderland; Dr. Daniel Hughes, Borough Isolation Hospital, Southampton; Dr. Daniel Regan, 11, Gordon Street, Luton, Beds.; Dr. Thomas Seekings, Pook's Corner, Telegraph Wood, West End, Southampton. *As Associates*: Mr. Kenneth Eady, L.D.S., 1, East Park Terrace, Southampton; Mr. L. J. Haworth, L.D.S., 10, Denzil Avenue, Southampton; Mr. D. W. Lamb, L.D.S., Sutherland Hotel, Cumberland Place, Southampton.

THE HOME COUNTIES BRANCH.

President: Dr. E. H. T. Nash, M.O.H., Heston and Isleworth.

Hon. Secretary: Dr. A. A. Turner, M.C., M.O.H., Finchley.

On May 9th, 1930, members of this Branch met at the Firestone Tyre and Rubber Company's Factory at Brentford. The welfare department was first visited, and the medical officer explained the exhaustive examination to which all workers are subjected before being employed and the scheme for their treatment when suffering from injuries. The party then followed the process of manufacture of tyres and inner tubes from the raw rubber, as it is imported, to the finished articles, each step being explained by the chief engineer.

After tea the President thanked the chief engineer for his very interesting and instructive demonstration, which was greatly enjoyed by the members.

THE YORKSHIRE BRANCH.

President: Professor J. Johnstone Jervis, M.O.H., Leeds.

Hon. Secretary: Dr. G. H. Pearce, M.O.H., Batley.

A meeting of this Branch was held at the Public Health Offices, Harrogate, on May 16th, 1930, with the Branch President in the Chair, supported by Dr. J. J. Buchan (President of the Society), Alderman Dr. David Walker (Chairman of the Health Committee, City of Bradford), and sixteen members. Apologies for absence were received from nine members.

The Hon. Secretary submitted letter from Dr. Angus, Medical Officer of Health, Bingley, in reply to the invitation of the Branch Council that Dr. Angus should allow himself to be nominated for the Presidency of the Yorkshire Branch during the Session 1930-31, regretting that the state of his health would not permit him to undertake the office. The hope was expressed that Dr. Angus would in the near future be restored to his accustomed health, and that on some further occasion it might be possible for him to accept the Council's invitation.

A letter from the Executive Secretary of the Society, respecting the resignation of Dr. B. G. Forman, Medical Officer of Health, Scalby Urban District, was read. It was unanimously agreed that the Council of the Society be requested to retain Dr. Forman's name on the Roll as a fully-paid life-member. In this connection thanks were expressed to Dr. S. Fox Linton, Medical Officer of Health, Scarborough, for information furnished to the Hon. Secretary.

A discussion took place respecting the notice of a meeting of the North of England Branch, Blyth Division, of the British Medical Association, which appeared on page 215 of the supplement of the *British Medical Journal*, for May 10th, 1930, when it was unanimously resolved that the attention of the Council of the Society be drawn to this notice, and that the Executive Secretary be requested to communicate with the British Medical Association thereon in the terms indicated.

The following were elected to positions specified for the Session 1930-31.

Branch President.—Dr. L. Pickering-Pick,

Medical Officer of Health, Spenborough Urban District Council.

Two nominations had been received: Dr. Thomas Gibson, Medical Officer of Health, Wakefield, and Dr. Pickering-Pick, but Dr. Gibson, who was President of the Yorkshire Branch in 1914, had expressed the wish to decline nomination. In view of Dr. Gibson's decision, Dr. Pickering-Pick was declared unanimously elected.

Vice-President.—Only one nomination had been received, the name being that of Dr. J. J. Buchan, President of the Society, and he was declared unanimously elected; at the same time it was unanimously agreed that Dr. Buchan's services to the Society as a whole during his Presidency had been of much value.

Eight Members of the Council.—Eleven nominations had been received, namely, Drs. Bates, Hilda Channon, Fleming, Galloway, Gibson, Macdonald, Mair, Gladys Russell, Thornley, Wear and Whitelaw.

The following were elected:—

To retire in 1931: Drs. Hilda Channon, Wear and Thornley.

To retire in 1932: Drs. Gibson and Bates.

To retire in 1933: Drs. Mair, Macdonald and Gladys Russell.

The voting was as follows:—

To retire in 1931: Drs. Hilda Channon 5, Wear 3, Thornley 2.

To retire in 1932: Drs. Gibson 13, Bates 7.

To retire in 1933: Drs. Mair 11, Macdonald 8, Russell 8.

Four Representatives of the Yorkshire Branch of the Society on the Yorkshire Branch Council of the British Medical Association.—The names of the present representatives, Drs. W. Bertram Hill, J. J. Jervis, J. Mair, and G. H. Pearce, were the only nominations received, and they were declared duly elected.

No nominations having been received for two auditors, it was decided that this election should take place at the June meeting, when the Branch Representatives on the Council of the Society would be elected.

A meeting of the County District Group was held the same afternoon, with Dr. Scott, Medical Officer of Health, Shipley, in the chair, when the following resolution was passed:—

"That this Meeting of the County District members of the Yorkshire Branch declares its agreement with the principle of delegation laid down in Section 62 of the Local Govern-

ment Act, 1929, and is of the opinion that steps should be taken as soon as possible to give effect to the intention of the legislature as expressed in the aforementioned section."

It was further resolved that this resolution be presented to the Branch and, if approved by that body, be forwarded to the Council of the Society with a request that the matter be taken up with the Ministry of Health.

On this being put to the meeting of the Branch it was unanimously approved, and the Hon. Secretary was instructed to forward the resolution to the Executive Secretary accordingly.

The Council of the Branch met earlier in the afternoon.

There being no further business an adjournment was made to the Royal Bath Hospital, to take part in the Annual Provincial Meeting of the Society.

THE NORTHERN BRANCH.

President: Dr. G. C. M. M'Gonigle, M.O.H., Stockton-on-Tees.

Hon. Secretary: Prof. Harold Kerr, O.B.E., M.O.H., Newcastle-upon-Tyne.

A meeting of this Branch was held at the Medical Institute, 7, Windsor Terrace, Newcastle-upon-Tyne, on May 23rd, 1930, the President occupying the chair. Twenty members were present. Apologies for absence were received from four members.

The following were elected members of the Branch: MacLean, Jane A. D., Assistant Medical Officer of Health, West Hartlepool; Smith, R. C. F., School Medical Officer, Durham County Council.

The Chairman stated that Dr. Andrew Smith, Medical Officer of Health, Ryton-on-Tyne, had again invited the members to lunch as his guests if they decided to hold the summer meeting at Ryton. It was agreed that the summer meeting be held at Ryton, on Friday, June 13th, 1930, and the Hon. Secretary was instructed to thank Dr. Smith for his kindly hospitality.

Dr. R. MacLeod, Medical Officer of Health, Hetton U.D.C., asked if it would be possible to make arrangements for the Northern Branch Representative on the Council of the Society to give detailed reports to the members at the Branch meetings on matters that had been discussed at headquarters in London. It was

agreed that the question be put on the agenda for the next meeting for discussion.

The Chairman stated that the retirement of Dr. James A. Hislop, Medical Officer of Health, Tynemouth, had already taken effect, and that he had gone to live at Patterdale, near Penrith. The Hon. Secretary was instructed to write a letter conveying to him the members' good wishes, and express the hope that his retirement would bring Mrs. Hislop and himself good health and happiness.

Dr. J. O. Murray was congratulated on his appointment as Dr. Hislop's successor, and reference was also made to Dr. W. E. Roper Saunders' recent appointment to Rowley Regis, the latter's new post necessitating his removal out of the Branch area.

The Chairman said it was his pleasing duty to state that Dr. Harold Kerr, Medical Officer of Health, Newcastle-upon-Tyne, had been unanimously nominated as the Society's President for the year 1930-31, at the Council meeting held at Harrogate, on May 17th, 1930. In congratulating Dr. Kerr, on the honour and wishing him a happy year of office, Dr. M'Gonigle said the nomination was a compliment to the Northern Branch.

Dr. Kenneth Fraser, Deputy County Medical Officer of Health, Cumberland, gave an address on "Things found Useful in the Administration of a Public Health Department." In stating at the outset that he did not claim that the Cumberland county system was in any way extraordinary, Dr. Fraser explained in detail the various methods that are in use, and supplied members present with specimen forms, etc. A discussion followed, and on the motion of Dr. Harvey, seconded by the Chairman, Dr. Fraser was accorded a hearty vote of thanks for his address.

On June 13th, 1930, the Branch held its annual summer meeting at the Ryton Golf Club House. The President and twenty-three members were present. Apologies were received from six members.

On the motion of Dr. R. MacLeod, the following resolution was discussed at length and agreed:—

That whenever practicable the Representative on the Council of the Society shall report matters of interest, such as proceedings as to scales of salaries, to the Branch for discussion and expression of opinion.

Reference was made to the Knighthood

bestowed that day upon Dr. T. Eustace Hill. The Hon. Secretary was instructed to send a telegram to Sir Eustace conveying hearty congratulations and expressing the great delight this honour had given to the Branch.

Dr. J. W. McKeggie, Medical Officer of Health, West Hartlepool, was elected a member of the Branch, having recently transferred from the Midland Branch.

On the motion of the Chairman, Dr. Charles Franke, Medical Officer of Health, Durham County Council, the present Vice-President, was elected President of the Branch for the session 1930-31.

Dr. A. F. G. Spinks, Maternity and Child Welfare Medical Officer, Newcastle-upon-Tyne, was elected Vice-President.

In view of the nomination of Dr. H. Kerr as President of the Society, Dr. J. A. Charles was appointed Hon. Secretary and Treasurer of the Branch in his stead.

Dr. G. C. M. M'Gonigle was appointed Representative of the Branch on the Council of the Society.

It was reported that the total membership of the Branch is 149, including three honorary members.

Dr. H. G. Donald and Dr. A. S. Hebblethwaite were appointed direct Public Health Representatives on the Council of the North of England Branch of the British Medical Association.

Dr. Mary E. Howie and Dr. J. A. Charles were appointed to the Executive Committee of the Newcastle-upon-Tyne Division of the British Medical Association.

An invitation was issued to the North of England Branch of the British Medical Association to elect a direct general practitioner representative on the Branch Council of the Society, the Hon. Secretary being instructed to express the very high appreciation by the Branch of the services of the present representative, Dr. James Hudson.

Dr. J. A. Jackson made a suggestion that in future the agenda for the Branch Meetings should include in each issue an item "Matters of Doubt and Difficulty," in order to afford members an opportunity of obtaining counsel and advice upon particular problems. This was welcomed and agreed to.

The meeting then adjourned for luncheon at the invitation of Dr. J. A. Smith, who has thus carried on for several years the traditional hospitality of his late father, Dr. Jas. W. Smith, for which he was warmly thanked.

The weather being delightful and the course in first-class condition and looking most beautiful, a bogey competition was held with the following result:—

1st. H. G. Donald, Handicap 11, 1 down.

2nd, A. S. Hebblethwaite, Handicap 18, 3 down.

3rd, S. V. Tinsley, Handicap 18, 5 down.

A day quite in accordance with the excellent records of similar occasions in the past.

THE NORTH-WESTERN BRANCH.

President: Dr. F. A. Sharpe, M.O.H., Preston.

Hon. Secretary: Dr. G. W. N. Joseph, M.O.H., Warrington.

The annual meeting of this Branch was held at Preston on June 13th, 1930. The President, who occupied the chair, was supported by nine members, Alderman Derham (Mayor of Preston), Alderman Dr. Durham, and several lady visitors.

Members met at Preston Town Hall, where they were welcomed by the Mayor, and then proceeded by motor to the Preston Docks. Here they embarked on a steamer, kindly placed at their disposal by the Ribble Committee of the Corporation, for a trip down the river. The weather was glorious and the party proceeded down the river as far as Lytham and St. Annes-on-Sea. Tea was provided on board during the return trip by the kindness of the President. A vote of thanks for the very enjoyable outing was proposed to those responsible by Dr. C. O. Stallybrass, seconded by Dr. F. T. H. Wood, and responded to by the Mayor of Preston, Alderman Dr. Durham, Dr. Sharpe and Councillor Mrs. Pimlot.

At a short business meeting held on board,

THE JOINT TUBERCULOSIS COUNCIL.

A meeting of this Council was held at the house of the Society of Medical Officers of Health, on May 17th, 1930. Twenty-two members were present.

The Secretary announced that, with the help of Miss Olga Nethersole and the Peoples' League of Health, Dr. Gordon Tippet had succeeded in constituting an influential committee to consider the cause, prevention, and treatment of human tuberculosis of bovine origin.

A letter from Dr. Alfred Cox was read

the Hon. Treasurer's annual statement of accounts for the session was read. The Hon. Secretary reported that eight ordinary meetings had been held with an average attendance of twenty-three, and one special meeting with an attendance of thirty-four members. During the session twenty new members had been obtained.

The following officers were elected for the session 1930-31:—

President.—Dr. C. O. Stallybrass.

Hon. Treasurer.—Dr. H. H. I. Hitchon.

Hon. Secretary.—Dr. G. W. N. Joseph.

Asst. Hon. Secretary.—Dr. J. Spence.

Council Representatives.—Drs. Veitch Clark, F. T. H. Wood, O.B.E.; and the Hon. Secretary.

Committee.—The Vice-Presidents and officers, together with the elected members: Drs. Gebbie, Whitehead, E. H. Walker, and E. H. Scholefield.

It was decided to ask the President-elect (Dr. C. O. Stallybrass) to greet, on behalf of the Branch, 200 members of the Public Health Association of America, who were arriving in Liverpool on the S.S. *Adriatic* on June 23rd.

THE NAVAL, MILITARY AND ROYAL AIR FORCE HYGIENE GROUP.

President: Wing-Commander Andrew Grant, O.B.E., R.A.F.M.S.

Hon. Secretary: Lt.-Col. G. S. Parkinson, D.S.O.

At a meeting of this Group held at the house of the Society, on May 29th, 1930, Major H. N. Stafford, M.C., R.A.M.C., read a most interesting paper entitled "Milestones in the History of Inoculation." A cordial vote of thanks to the speaker was proposed by Professor H. R. Kenwood, and seconded by Colonel P. H. Henderson.

announcing that the Association Professionnelle Internationale des Medecins had recently issued a questionnaire on the subject of the campaign against tuberculosis. The questionnaire and replies received, appeared in the *Revue Internationale* for May. The Secretary was asked to review the article concerned and report thereon at the next Council meeting.

The following committees were elected:—

Research.—Drs. Roodhouse Gloyne (convener), S. Vere Pearson, G. Lissant Cox, L. T. S. Burrell, G. T. Hebert, Ernest Ward,

F. W. Goodbody, Professor Kenwood, and Professor Lyle Cummins.

Employment.—Drs. J. B. McDougall (convener), D. P. Sutherland, H. Vallow, Jane Walker, G. Jessel, Peter Edwards, and C. O. Hawthorne.

Memo. 37/T.—Drs. D. P. Sutherland (convener), L. Crossley, Esther Carling, G. Lissant Cox, and D. A. Powell.

The title of the Royal Commission Committee was changed to the *Tuberculosis Service and Training Committee*, and on it were elected: Drs. G. Lissant Cox (convener), L. T. S. Burrell, W. Brand, S. Vere Pearson, Ernest Ward, F. W. Goodbody, D. P. Sutherland, H. Vallow, Jane Walker, G. T. Hebert, and Professor Lyle Cummins.

Entertainment.—The officers and Dr. Hebert.

Notification.—Drs. Ernest Ward (convener), Esther Carling, James Watt, G. T. Hebert, and Gilchrist. The Secretary was asked to write Dr. Lissant Cox, in order sincerely to thank, through him, the anonymous donor whose generosity had made possible much of this committee's work.

Scholarships.—Sir Henry Gauvain, Drs. Lissant Cox, Ernest Ward, James Watt, Alison Glover, A. S. McNalty, and Professor Lyle Cummins. It was decided that after the return of the participants in the Canadian and American tour the Tuberculosis Service Committee should meet and consider the lessons there learnt, together with the findings of the Conference of the National Association for the Prevention of Tuberculosis in July, and report to Council thereon. The Secretary gave an account of the position with regard to the Canadian Scholarships. The present cost of the tour was £128 10s., of which about £102 10s. would be paid by the Sun Life Assurance Company of Canada. A circular informatory letter with a map of the itinerary would be sent to each participant.

The Canadian Tuberculosis Association had pointed out that as members would be sharing British Medical Association hospitality at Quebec, Montreal, and Toronto, as well as attending the meeting at Winnipeg, it was most desirable that members of the tour should also be members of the British Medical Association. Nine elected scholars were not members of the Association, and these he had circularised explaining the position. Six had replied that they were joining. It was resolved that the three remaining members be informed that unless the Secretary heard within ten days that they

were taking steps to join, their scholarships would be passed to someone else. (Later all three replied favourably.)

The report of the Employment Committee, which had been circulated, was discussed. It was resolved (a) that the Report of the Employment Committee be received and that the Council congratulates the Committee on the presentation of this most valuable document; (b) that this resolution be placed on the minutes of the Council. It was decided to send copies of the report to the medical and lay Press, and a circular to medical officers of health, tuberculosis officers, and medical superintendents announcing the publication and intimating that copies could be obtained at 1s. 6d. each from Dr. McDougall. The Report of the Research Committee, which had been circulated, was next discussed, and it was recommended that the report be presented again, at the next Council meeting, with an account of exactly what steps would be taken to carry out the research.

The consideration of a letter from Dr. Pearson concerning the arrangement of refills for cases of artificial pneumothorax was postponed to the next meeting.

THE general principles which govern the wise feeding of children, coupled with their detailed application, will be found simply, concisely and pleasantly stated in "Children's Diet," pp. 12, post free, 3½d., published by the Food Education Society, 29, Gordon Square, London, W.C.1. It is a pamphlet which individuals responsible for the rearing of children would probably find interesting and perhaps helpful.

THE League of Nations Health Committee has been reconstituted for a period of three years from July 1st, 1930. The new members of the Committee, appointed by the Council of the League after consultation with the outgoing Committee, include Dame Janet M. Campbell, D.B.E., M.D., M.S., Senior Medical Officer for Maternity and Child Welfare, Ministry of Health, who is Chairman of the Committee of Health Experts on Infant Welfare of the Health Organisation of the League. Sir George Buchanan, C.B., M.D., F.R.C.P., Senior Medical Officer, Ministry of Health, has been re-appointed a member of the Health Committee on the nomination of the governing body of the Office International d'Hygiene Publique in Paris.

The Literature of Preventive Medicine.

THE T.B. PATIENT'S GUIDE. By FREDERICK J. C. BLACKMORE, M.R.C.S., L.R.C.P., Tuberculosis Officer, Woolwich; President, Tuberculosis Group, Society of Medical Officers of Health. London: Cassell and Co., Ltd., 1930. pp. 76. Price 1s. 6d. net.

This little book aims to assist that co-operation with his doctor which is so essential to the cure of a tuberculous patient; it is written by a physician with wide experience of dispensary work and a considerable knowledge of human nature.

It is always a difficult task to describe to the patient his disease, and most readers will agree that this author comes out of the ordeal very well. It is also difficult to give instructions which cannot be criticised, for there is an individuality about advice, and no two experts will follow exactly the same therapeutic path.

Instructions are given regarding life at a sanatorium and in the home, and an attempt is made to answer in simple language some of the standard questions asked by patients. The description of a "window tent" would benefit by revision; at present it is difficult to follow without close reading. A useful chapter deals with employment and makes suggestions of occupations which are considered suitable for the tuberculous.

The book ends with a table on which a patient possessing the volume can enter a few useful details about his health from month to month over a period of five years, as he proceeds from activity to quiescence, quiescence to arrest, and from arrest to cure.

Of guides such as this a number have appeared, but Dr. Blackmore is to be congratulated on producing one so clear, so brief, and yet so helpful.

A NEW TREATMENT OF TUBERCULOSIS. By PIERRE HULLIGER, M.D., Physician, Mont-Riant Nursing Home, Neuchâtel, Switzerland. London: H. K. Lewis and Co., Ltd., 1930. pp. 146, illustrated. Price 8s. 6d. net.

It is customary for British colleagues to proclaim their successes, if not always with modesty, at any rate with a conventional restraint. But Dr. Hulliger is bound by no such conventions and begins: "The results are there. It is impossible to doubt when face to face with the evidence, facts, and palpable proofs. Twelve years ago we began our researches. Since then our treatment by anti-

tubercular injections has produced such invariable reactions that we have certainly found a specific against tuberculosis." A sense of duty alone could compel the reviewer to read further, and to suffer further annoyance from the translator who heads one chapter "The tuberculine" and writes persistently of "the altitude."

It seems that in Switzerland a sense of competition exists between the physician of the mountains and his *confrère* of the plains, and Dr. Hulliger is at pains to declare how much more successful is the physician of "the plain." The sun and the seaside are likewise maligned.

The composition of this "therapia magna sterilisans" is not given but it is said to consist of copper, silver, tin and manganese—an attractive-sounding metallic combination. Four to seven injections of this remedy are administered at intervals of from ten to twelve days, and a cure, so it is said, is obtained in four months or less.

The latter portion of the book professes to advise patients on the details of their daily life. The subject is dealt with rather intimately. The unmarried are advised to "masturbate very rarely; for example, once every two or three weeks." If married, intercourse is recommended once a fortnight.

It seems unlikely that readers will obtain much profit by a perusal of this book.

WORK CENTRES FOR THE TUBERCULOUS. The Experience of the Spero Firewood Factory, London. By NOEL DEAN BARDSWELL, M.V.O., Legion d'Honneur, M.D., F.R.C.P., F.R.S. EDIN., Consulting Physician, King Edward VII Sanatorium; Assistant Medical Officer, Public Health Department, London County Council; etc. London: John Bale, Sons and Danielsson, Ltd., 1930. pp. 64. Price 3s. 6d. net.

The Spero Leather Works, a London experiment in the employment of tuberculous persons, begun in 1923, is well known to tuberculosis workers, and Dr. Bardswell now gives a useful account of a further experiment in the same direction, the Spero Firewood Factory, which was started in 1926, with assistance from the Central Fund for the Industrial Welfare of Tuberculous Persons. The narration is historical and not in propaganda form, and tells frankly of the difficulties encountered and the lessons learned.

Premises were obtained at King's Cross, and the London County Council gave the factory a contract for 2,000,000 bundles of wood at 4s. 6d. a hundred. The British Red Cross also helped. Pit-prop ends were first used, and were easy to manipulate but, alas, expensive, and in 1927, the initial capital of £2,000 was exhausted and the factory was compelled to close down. Fortunately, more money was forthcoming, and in 1928, the factory re-opened at Rotherhithe, and now appears successful. Old wood at 30s. a ton is used in place of pit-prop ends at £3, and forty to fifty patients are employed, though these are, it is admitted, pensioners for the most part, and therefore not under the necessity of earning a standard living wage.

Dr. Bardswell has provided a useful and handy book of reference for those who contemplate, with or without due reflection, the launching of an employment scheme for the tuberculous.

In the Annual Reports.

SIGNS OF PROGRESS.—The practice of handling meat by customers before purchase has generally ceased in the borough. In the shops where "pieces" are sold, a notice is exhibited urging customers not to handle meat before purchase, and in most of these shops forks are provided to enable the pieces to be turned over by purchasers without direct handling. As a result of the observations and enquiries the inspectors report that the forks so provided are generally used.—Dr. C. W. Hutt, *Holborn*.

PENSION FOR A NURSING MOTHER.—During 1927 the committee considered the question of making a payment (pension) to a mother in order that she might stay at home and breast-feed her infant rather than seek work in order to augment her widow's pension, and agreed to contribute 10s. per week to this end for six months; and this was renewed in 1928 for another six months.—Dr. E. H. Snell, *Coventry*.

THE VALUE OF CONFERENCES.—Attendances at conferences as a delegate, or as a representative on the council of certain societies, are considered by some to be in the nature of an extravagance, but it should be pointed out that as propaganda covers such a wide field of activities, it is essential that one's ideas on these subjects should be refreshed and brought up to modern lines of thought, failing which the propagandist would cease to give information of value.—Dr. A. Stuart Hebblethwaite, *Sunderland*.

VOLUNTARY WORKERS.—During my visits to the maternity and child welfare centres I have been much impressed by the regular attendance and willing help

rendered by these voluntary workers. They are most conscientious and thorough in the work allotted to them, and I could not conceive of the clinics dealing with the present numbers without their valuable help.—Dr. Andrew W. Forrest, *Leyton*.

THE National Baby Week Council has received the following message from Her Majesty the Queen: "I gladly congratulate the National Baby Week Council, of which I am Patron, on the occasion of its fourteenth anniversary, and on the splendid educational and propaganda work which it continues to carry out on behalf of the mothers and children of the country."

UNITED DAIRIES LIMITED may be congratulated on the extension of the milk research laboratories at their Scrubbs Lane Dépôt, Willesden, which form the last link in a chain of establishments erected round London, and mark the completion of a seven years' programme undertaken by the Company with the object of securing London's supremacy in the field of pure and safe milk distribution. The formal opening ceremony of the new laboratories which are replete with the most modern equipment and methods, was performed on June 16th, by Sir Andrew Balfour, Director of the London School of Hygiene and Tropical Medicine, and was attended by representatives of the Ministry of Health, many metropolitan medical officers of health and other members of the medical profession associated with the public health service. Amongst those who spoke, in addition to Sir Andrew Balfour, were Dr. H. C. Corry Mann, Dr. J. B. Howell (President of the Metropolitan Branch of the Society), and, representing the Company, Mr. J. H. Maggs, Chairman; Mr. Ben Davies, Managing Director; and Mr. P. B. Tustin, Head of the Inspection Department. At the inspection of the new laboratories the visitors were afforded facilities for seeing the work carried out in connection with the chemical and bacteriological examination of the milk, of which over eight million bottles are distributed each week from the various dépôts of the Company. A display in which modern dairy equipment and distribution methods were contrasted with those of the past proved particularly interesting. On the day following the formal opening the laboratories were visited by a large party of sanitary inspectors and sampling officers from the London boroughs.

Correspondence.

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

PASTEURISATION OF MILK

To the Editor of PUBLIC HEALTH.

SIR,—In the May number of PUBLIC HEALTH, page 272, I note a brief quotation on "Pasteurisation: the Orthodox View," by Dr. A. Stuart Hebblethwaite, Medical Officer of Health for Sunderland. The views expressed by Dr. Hebblethwaite are exactly those which were current here some fifteen to twenty years ago, and which prevailed in this city until 1912.

It may interest your readers to know that the New York City Department of Health, under the leadership of the late Dr. Hermann M. Biggs, inaugurated an extensive system of administrative control of the milk supply of this city in 1906. A corps of sanitary inspectors and veterinarians was sent to visit and continue the supervision of the 40,000 dairies then producing milk sold in the city of New York. By means of sanitary score cards all the dairies were rated, a copy of the inspection card being kept with the dairyman. Changes in equipment and methods were ordered under penalty of having the milk debarred from sale in the city. Within a few years marked improvement in the dairies was effected, the score card system having great educational value.

Meantime, and despite the much better sanitary conditions brought about, a number of extensive outbreaks of typhoid fever were traced by the writer, then assistant to Dr. Biggs, to bacillus carriers on dairy farms. Moreover, we had to be mindful of the fact that bovine tuberculosis was very prevalent among the herds supplying this city with milk. Bacteriological examinations by Hess (some twenty years ago) showed that 10 per cent. of the milk sold in New York at that time contained living tubercle bacilli. It was realised that the exacting methods perfected by the Medical Milk Commissions under the leadership of Coit—methods designed to produce so-called "certified milk"—could, on the whole, be relied upon to produce a safe raw milk, a milk generally free from pathogenic bacteria. That even these stringent methods are not always effective was shown some years ago by an outbreak of septic sore throat traced to a raw milk produced under these conditions.

From a practical standpoint, however, it was

idle to think of ever adopting such exacting requirements, for their cost makes the price of milk prohibitive to the masses. At the present time, for example, certified raw milk from tuberculin tested cows, and produced under such high sanitary requirements that, when delivered to the consumer, the milk contains not over 10,000 bacteria per c.c., sells for about 25 cents (one shilling) per quart, whereas the bulk of the milk sold in New York City, milk entirely safe for infant feeding, because pasteurised, sells for from 12 to 16 cents.

With no let down, therefore, on the sanitary requirements—in fact, with a constantly more strict enforcement—the Board of Health of New York City in 1912 amended the sanitary code so that thereafter no milk could be sold in the city unless it had been effectively pasteurised. Certified milk, of course, was excepted. Effective pasteurisation was defined to mean heating all parts of the milk to 143° F. and holding it at that temperature for thirty minutes.

Some authorities have gone so far as to demand that even certified milk be pasteurised, but the New York health authorities have held that this is undesirable. They feel that there is a great value in having these high class dairies demonstrate what can be accomplished by proper measures in producing a safe raw milk.

The system of country milk inspection has, of course, been continued, at the present time engaging 45 inspectors with six supervisors. This is entirely apart from a corps of 35 inspectors supervising the handling and sale of milk in the city. We have had no outbreak of milk-borne disease since pasteurisation was adopted in 1912, and no one familiar with present conditions and those that obtained twenty years ago would think of abolishing pasteurisation. Our experience indicates that when properly supplemented with adequate sanitary supervision of the dairies, compulsory pasteurisation is an invaluable aid in promoting public health. It has been a large factor in reducing our infant mortality rate to its present figure of 59 per 1,000 births.

I am, Yours faithfully,

CHARLES BOLDUAN, M.D.

Director of Health Education.

Department of Health,
City of New York, U.S.A.
May 20th, 1930.

PUBLIC HEALTH

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Editorial.

Boundary Extensions.

THE bill recently promoted by the city of Manchester for extension of the city boundaries, it is reported, has now been approved by the committees of the Houses of Parliament. This is the latest of a long series of extensions which have been approved in recent years, and it is interesting to note that in a very considerable number of cases, including Manchester, the particular ground of application for extension of boundaries has been the pressing need for further housing and the purchase of land outside the boundaries of the local authority's area for this purpose.

In the Report of the Royal Commission on

Local Government, the simple purchase of land was not considered in itself to be a sufficient reason for extension of the area of a local authority, but Parliament is apparently satisfied that when such a purchase is associated with housing need, and is actually made for the purpose of providing new houses, it is in the public interest that the local authority responsible for providing the houses should be also the governing local authority. In at least one instance the neighbouring county council concurred in this view and did not oppose the bill for extension.

The Manchester case is of special interest. The Wythenshawe estate, owned by the city council, lies to the south of Manchester and is

about 4,000 acres in extent. The total area to be added to the city amounts to over 5,000 acres, and, town-planned as a satellite town on garden city lines, constitutes, it may be accepted, the first example of its kind to be developed by a local health authority in England. The plan provides for zoning of the new area, shewing density of houses from twelve to the acre downwards, a civic centre placed centrally to the whole estate, a hospital zone, two parks, a golf course, the preservation of features of natural beauty or of historic interest, and an agricultural belt surrounding the area, thus preserving permanently, at least to a certain degree, the charm of rural surroundings. This is enhanced by Wythenshawe Park and Hall, 250 acres in extent, which was presented to the city by Mr. and Mrs. E. D. Simon. Approximately 5 per cent. of the newly-added district is zoned for industrial purposes, but restrictions will be imposed requiring the use of smokeless sources of power. An interesting feature of the development will be the provision of two park-ways through the estate. These park-ways average 300 feet in breadth and provide a central forty-foot carriage way, a fifteen-foot cycle roadway, and on each side of the park-way two paths for foot passengers. Trees, shrubs and sward divide the various tracks from each other, and from the frontage of the gardens adjoining.

The actual development of this work will be watched with much interest and marks a fresh stage in the evolution of the provision of housing by local health authorities.

* * * * *

The Congress of the Royal Sanitary Institute.

NEXT to the Jubilee Congress of the Royal Sanitary Institute, which was held in London, that of 1930 at Margate, which opened on the 21st and ended on the 28th June, was the largest of the long series of such meetings. Of the 1,600 who attended, the number prepared to deny that the pleasure it afforded and the success it attained was as great as that secured by any of its predecessors is probably so small as to be not worth mentioning. From the point of view of work done, in spite of the numerous and undoubted attractions of the place itself, the claims put forward by those in charge of sections appeared to show that this was infinitely greater than on any previous occasion.

The sections particularly attractive to medical officers of health—their own conference, for example, and those dealing with Preventive Medicine and Maternity and Child Welfare—certainly showed extremely large meetings, the numbers present on occasion reaching between three and four hundred. At the first-named the presidential address of Professor Harold Kerr, President-Elect of the Society of Medical Officers of Health, attracted the largest audience of all, the members of which showed the greatest possible interest in the review of the growth and development of the health services of the nation, the subject chosen for consideration by their chairman. The matters down for discussion at the conference, which occupied the whole of Thursday, June 26th, included a remarkable and fascinating paper on "The Etiology of Psittacosis," by Dr. Bedson, of London Hospital, whose contributions to the knowledge of the subject are of outstanding importance; contributions by Dr. McMaster, of Dover, on "The New Health Unit after 1930"; "The Place of School Medical Inspection and Treatment in the Public Health Service," by Dr. Picken, of Cardiff; and a practical note by Dr. Barlow, of Wallasey, on "The Control of Temporary Wooden Dwellings and Holiday Camps." All of these led to a considerable amount of useful discussion.

At the Preventive Medicine Section great disappointment and regret were experienced when it was learned that on account of illness Sir Andrew Balfour would be unable to preside. Fortunately, the services of Professor Bostock Hill were available, and under him excellent discussions were held on the subject of "Education of Health Personnel," opened by, amongst others, Professor Jameson, of the London School of Hygiene and Tropical Medicine, and Dr. George Buchan, of Willesden, Treasurer of the Society of Medical Officers of Health.

The matters discussed at the Maternity and Child Welfare Section, over which Lady Howard de Walden, who is Chairman of Queen Charlotte's Hospital National Mother-Saving Campaign, appropriately and capably presided, included "The Influence of Criminal Abortion upon Maternal Mortality and Morbidity," opened by Dame Louise McIlroy; "The Scope of Prevention in Obstetrics," by Dr. Lane-Roberts; "Puerperal Fever," by Dr. Leonard Colebrook; "Welfare

Schemes," by Dr. Stella Churchill," and "The Future of the Day Nursery Movement," by Viscountess Erleigh. With the Preventive Medicine Section this was one that proved extremely attractive to overseas delegates and more particularly to those of the United States contingent engaged on the medical side of public health work. To these visitors from the other side of the Atlantic a particularly warm welcome was offered at the Congress, and it was regretted very much that the shortness of their stay in this country only permitted of their attending a few of the sections.

In addition to the sectional meetings and conferences, there were the usual arrangements for visits to places of interest in and in the neighbourhood of Margate, many of which, amongst them those to the Royal Sea Bathing Hospital and the Royal School for Deaf and Dumb Children, proved especially attractive. Of the functions a special note may be made of the reception by the Mayor of Margate at the Pavilion and Winter Gardens, with its myriad guests; the luncheon to the overseas delegates at which Sir George Newman presided and offered a welcome in admirably felicitous terms to the American and other representatives, and the Congress dinner. During the course of the last-named function an invitation to hold the Congress of 1931 in Glasgow was extended by Dr. Dunlop, a member of the City Council of Glasgow, and was accepted with enthusiasm by everybody.

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The Maternity and Child Welfare Conference.

THE National Conference on Maternity and Child Welfare, organised by the National Association for the Prevention of Infant Mortality in co-operation with the Maternity and Child Welfare Group of the Society of Medical Officers of Health, was again held during the first week in July at the Friends' House, Euston Road, London, and an excellent attendance of delegates from all parts of the Empire assembled to consider a programme covering a wide range of subjects. Some difficulty was experienced in hearing the speakers, due partly to the size of the hall but in most instances to the speakers themselves, who, with few exceptions, failed to

realise the distance which their voices had to travel.

At the opening session Professor Dame Louise McIlroy took the chair. The Presidential Address was delivered by Miss Susan Lawrence, M.P., after which the various challenge shields handed over to the respective winners indicated the wide interest now being taken in the care of the mother and the child.

The discussion on "Infant and Pre-School Child Mortality" centred round housing and birth control. The speakers mainly pleaded for a type of house at an "all in" rental of seven shillings per week, and one representative asked for birth control to be taught at welfare centres, giving a list of eight authorities whose officers had been ordered to give the necessary information. This question of the low rental which the average working-class family is able to pay out of weekly earnings justifiably received the sympathy of the audience, but the question of birth control was far too complicated a problem to be discussed with any degree of satisfaction or finality at such a conference.

Ultra-violet irradiation naturally came in for criticism, based chiefly upon its supervision not always being in the hands of the medical profession and upon the failure to give the results expected by its earlier enthusiasts. With a science in its infancy the possibilities are apt to be exalted, and failures result from expecting too much. Ultra-violet irradiation in experienced hands will continue to give beneficial results in cases for which it is suitable and not otherwise.

A paper on "The Relationship between Housing and Child Welfare" was a plea for the planning of houses with a view to the requirements of mothers and children and the necessity for a water supply on every floor. This latter point is vital and can only be appreciated fully after seeing the heroic efforts made by mothers to keep the home and children clean in top rooms in tenemented dwellings, where the water supply is derived from a stand-pipe in a distant yard common to two or more such buildings. It is further being realised that tenants in council houses are paying for the privilege of higher rented accommodation by making sacrifices in the food supply, chiefly in milk for the children, and it is becoming an open question as to which is the greater of the two evils—overcrowding in the slums, or a restricted dietary in a larger house.

Health visitors came in for their fair share of praise, and a definite feeling was expressed that their number should be increased, chiefly owing to the fact that with the multiplication of centres in an area and the time taken up with these clinic duties, less time can be spent in the houses of the mothers to give advice suitable to their environmental conditions.

The necessity for closer relationship between the orthopaedic clinics and the child welfare centres was urged in an excellent paper, which expressed the view that both centres should be housed under one roof, and that suitable cases should be placed under the control of the orthopaedic surgeon at the earliest possible moment.

The occurrence of rickets following the use of certain dried milks was also commented upon, but surely this could be expected and can only be avoided if there is a system of education for mothers on the need for the substitution of suitable fruit and other juices for the fresh elements destroyed during the process of reducing liquid milk to powder form. The cause of rickets has been known for years but the difficulty has been in spreading the knowledge of its prevention to the parents of children.

Debating on the "Care of the Pre-School Child," the case for day nurseries was completely made out and many desirable reforms were suggested, all, unfortunately, at the cost of considerable sums of money.

Whilst the case of the illegitimate child and unmarried mother was being discussed, more ante-natal clinics were advised and a delegate drew the wrath of the meeting upon herself by stating that a difference should be made between the married and unmarried mothers at the centres. After all, centres exist for giving advice and not for preaching morals.

A most interesting paper on "Progressive Developments in the Feeding and Care of Infants" advocated the more general use of lactose and humanised milk, and regretted the increasing use of cow's milk for infants, a comparison being drawn between the rates of growth of various animals, and showing the folly of giving food for an animal the size of a calf to the smaller human infant. Representatives must have left with a new idea of infant feeding.

A paper on "The Importance of After-Care in Non-Notifiable Infectious Diseases"

referred particularly to chronic chest conditions. Where these become established, prolonged care during convalescence was advocated, an extended stay in the country being essentially a part of the treatment.

An excellent and well-organised series of outdoor visits to suitable institutions and social events completed the programme of a most successful conference.

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The Cleansing of London.

THE Departmental Committee on Public Cleansing in London, appointed in March, 1929, have now issued their report,* and, not surprisingly, endorsement being the chief function of departmental committees, endorse the views expressed in the Dawes' report† as to conditions existing in the public cleansing service of London and the recommendation that the way out is by setting up a central body for the metropolis. This body is to be responsible for the general co-ordination of the public cleansing service of London; each sanitary authority is to submit to it a comprehensive scheme, the Minister of Health being the final court of appeal in the event of dispute. The decision that the Dawes' memorandum was right in viewing the existing conditions as unsatisfactory was unanimous. With the opinion that by centralising the service a solution would be found, two members, both representative of the City Corporation, disagreed. Conceivably the reason for the failure of these two members to agree was the existence of a certain amount of vagueness as to the constitution and duties of the proposed central authority and the position it is to occupy *vis-à-vis* the local authorities. Also they may have feared, and not unnaturally, that whatever other result might follow the setting up of such a body, one absolutely certain would be the appointment of numbers of officers with whom local authorities and those holding office under them might or might not find it easy to co-operate. If these were not the fears of the two signatories of

* H.M. Stationery Office, 1930. Cmd. 3613. pp. 27. Price 6d. net.

† PUBLIC CLEANSING. Being a Report of an investigation into the Public Cleansing Service in the Administrative County of London. By J. C. DAWES, O.B.E., M.L.M.F.C.H.E., Inspector of Public Cleansing, etc., Ministry of Health. H.M. Stationery Office, 1929. pp. 123. Price 15s. net.

the minority, they will surely be those that will be aroused when the matter comes to receive full consideration by the bodies responsible for local government in the metropolitan area.

Of the part of the report of the Committee dealing with the question of a central organisation it cannot be said that the suggestion is anything more than tentative or that it carries matters much beyond the point that was reached in the Dawes' report itself. The matter, indeed, was still under discussion when the Committee's report was prepared, and the members being unable to agree as to whether or not a central body, if formed, should or should not be a new local government authority, they "decided to make no recommendation on the point." Which is helpful, having regard to the fact that it is suggested, if not recommended, that the body should have power to borrow money; purchase land and tugs and barges and equipment; employ and remunerate officers and servants, and exercise a considerable amount of control and direction over the existing statutory health authorities in the metropolis.

The report contains much in the way of criticism of the methods adopted and at present operated by many local authorities in relation to refuse collection and disposal, most of which is deserved. It is claimed, and probably with justice, that the service rendered, except, perhaps, in the case of hotels and restaurants, the refuse from which is in law counted house refuse and collected without extra charge, is not commensurate with the cost. Various practical suggestions, in addition to that relating to the central body, are offered which it is believed will remedy this and other defects. These include proper costing (the blessed word of the cleansing expert); the education of householders (most of whom either live in houses where cooking and heating are done by gas or electricity or where there is no accommodation for fuel and rarely money enough to buy more than a quarter of a cwt. at a time) to burn their refuse and save the rates; the setting up of special cleansing committees, and the appointment of cleansing officers responsible to the committee only. Doubtless also these officers would work harmoniously with other committees, departments and officers of the local authority. This is a result all the more certain to follow since two

or more cleansing committees of adjoining local authorities might, the report considers, employ a cleansing officer jointly and there would always be, of course, the central body and the officers appointed thereby with whom the cleansing officers would doubtless like, if not prefer, to co-operate.

Other criticisms and suggestions in the report have reference to methods of disposal of refuse. Dumping, naturally, comes in for a just amount of condemnation, and it is pointed out that refuse can be disposed of without causing nuisance where the precautions advised by the Ministry are strictly observed. To this there is added, however, by way of proviso, that "it is doubtful whether this method could be permanently used to any great extent for the huge quantities which have to be dealt with in London," although "it could be adopted pending the carrying out of a new scheme or schemes." What the new scheme or schemes may or might be is not indicated; nor is it noted anywhere in the report that it is perhaps because the quantities of refuse are so huge and the problem in general in fact something of a monster that the situation is such as the author of the Dawes' report and the Departmental Committee have found it.

Certain other suggestions, somewhat practical, offered in the report that may be mentioned are these: that house refuse should be collected at least twice weekly throughout London; that unsatisfactory types of collection vehicles should be replaced as soon as possible by improved types; that payment at cost should be made for the collection of all trade refuse, including that of hotels and restaurants; that legislation should be promoted giving local authorities further powers in regard to dustbins, and that early attention should be given to the question of litter in streets and public places.

The report of the Committee is not a bulky publication, and it will be studied, as it can very easily, by local authorities and all who are concerned in refuse removal and disposal in the metropolis.* By all of these it is certain to be found interesting and even stimulating, some of the suggestions offered being of the type calculated to compel the taking of action if for no other reason than to obviate the risk of the suggestions of the Committee being adopted and carried into effect.

The Annual Report for 1930.

THE circular (1119) with regard to the contents and arrangement of the annual reports of medical officers of health for 1930 bears date June 18th, 1930, and by now, since a copy was transmitted to each medical officer of health, has been fully studied and its contents noted.

The report is to be of the survey type, and though it may be more simple than the last (and first) of this kind, prepared for 1925, it is to contain information on certain matters in more detail than those for the years 1926 to 1929 inclusive.

Because of the changes effected by the coming into operation of the Local Government Act, the transference of poor law functions particularly, medical officers of health have had to make themselves acquainted with the hospital and medical services available in their areas, and the Minister is desirous that the information should be reproduced in the annual report.

Also, since new housing legislation soon to be in operation will require that these officers shall early direct special attention to housing defects and the accurate compilation of records regarding housing conditions, the report will provide an opportunity of setting out what has been discovered. The report for 1930, so far as housing is concerned, must therefore be on a more extensive scale than usual. The lines to be followed and the matters to which reference is to be made in this and other regards are set out in an appendix to the circular, and it is in order that the medical officer of health may have an early opportunity of learning what is required of him that the circular has been issued in June rather than at the customary later date in the year.

As usual the circular reminds the councils that the value of an annual report to them and to the inhabitants of the area and the central authorities is greatly reduced if it is not completed as soon as possible after the end of the year. Through the councils and by the circular itself, which has been sent to them, medical officers of health are reminded of this also. It may be hoped that due heed will be given to the notice, and that the number of reports issued nearer the end than the beginning of the succeeding year will be fewer than ever in 1931.

Ethyl Petrol.

THE Final Report of the Departmental Committee on Ethyl Petrol* is received with more than usual interest since, apart from the scientific findings, the subject has considerable commercial importance. The Interim Report dated July 16th, 1928 (Cmd. 3159), revealed the conclusion that the findings of the United States Government Committee were justified, and that there were no reasons for prohibiting the use of ethyl petrol. However, there were certain points that required further elucidation, and the present report details the results of some most careful investigations and elaborate enquiries.

The results of the experiments showed that, while small amounts of volatile lead and significant amounts of non-volatile lead are present in the crank cases of motor vehicles using ethyl petrol as fuel, there is no danger of the absorption of lead tetra-ethyl through the skin, should oil remain on the hands. Cylinder and exhaust pipe deposits from cars run on this petrol contain only negligible amounts of volatile lead, but large quantities of non-volatile lead compounds: owing to the coherent nature of these deposits, however, there is little danger of lead getting into the atmosphere as dust. There is no serious danger to health from the spillage of ethyl petrol, even in closed confined premises, and if adequate ventilation of such premises is obtained the danger from spillage is negligible.

If ethyl petrol were used universally the quantity of particulate lead which would be retained in the respiratory system of drivers under very severe traffic conditions would probably not exceed two-tenths of a milligram per day. Pedestrians would retain a much smaller quantity. It is, therefore, not likely that dangerous quantities of lead would be inhaled by either drivers or pedestrians. Experimental work on rabbits showed that no danger is probable when the petrol repeatedly comes into contact with the skin. And there is no danger in streets from the lead or from the carbon monoxide emitted from the exhausts of motor vehicles.

The report, however, reiterates the warning that adequate ventilation of all garages is a matter of considerable importance, whatever petrol is used, since the danger from carbon monoxide in an unventilated garage is very serious. It is to be hoped that this fact will be

* H.M. Stationery Office, 1930. Pp. 91. Price 1s. net.

duly appreciated and not be eclipsed in presenting the conclusions to the general public. The report is an extremely able contribution to science, and both the motorist and the man-in-the-street are indebted to the research workers concerned for their excellent, detailed and painstaking experiments.

The Antiscorbutic Vitamin in Apples.

FROM the beginning of their work the Medical Research Council have used an important part of their resources, some derived from the Empire Marketing Board, for the promotion of researches into questions of nutrition, and particularly into that of the part played by accessory food factors, or vitamins, in the maintenance of health.

In a report just issued*, Miss Mary F. Bracewell, B.A.; Mr. E. Hoyle, M.Sc., A.I.C.; and Mr. S. S. Zilva, D.Sc., PH.D., F.I.C., deal with a part of the inquiries undertaken, namely, that concerned with the vitamin value of apples, the vitamin here in question being the antiscorbutic accessory food factor, vitamin C, absence of which causes scurvy. The investigation has been directed to finding the vitamin C content of different apples on the market, and to the correlation of the results with such factors as the breed of fruit, character of soil, age of tree, and season. So far as the work has yet proceeded, the principal result is the discovery of a correlation between vitamin value and breed, and one English cooking apple (Bramley's Seedling) in particular has been found to have an especially high value. Other results illustrate the effects of conditions of transport and storage. A useful practical conclusion, in view of the well-known destructibility of vitamin C when heated in the presence of air, is that there is little loss of vitamin value when apples are cooked in their skins.

These conclusions are admittedly only tentative, but the details of experimental evidence upon which they are based are set out at length in the report, since the validity of all work in vitamin "assay" depends upon the methods employed, and a full exposition of these, available for expert scrutiny, is therefore an indispensable part of any statement of the results. The presence of the vitamin in a particular food can at present be deter-

* Medical Research Council Special Report Series, No. 146. H.M. Stationery Office, 1930. pp. 45. Price 9d. net.

mined only by finding the degree to which the food will prevent scurvy in animals when added to a diet abundant in all respects save that it is devoid of antiscorbutic properties. Its quantitative estimation by this indirect means is therefore an elaborate, laborious, and expensive process. Some easier and more rapid method may be attained in the future, but in the meantime trust can be placed only in results which are based on those procedures which carefully controlled experimentation has shown to be sound.

The work done by Dr. Zilva and his associates is of real value, and because of their interest and practical importance the following summary of the conclusions reached is worthy of reproduction:—

(1) Of a number of apple varieties tested for their antiscorbutic potency, the Bramley's Seedling was found to be decidedly more active than all the other varieties, which differed among themselves comparatively very much less in their vitamin C content. There were no indications that the character of the soil, or the age of the tree or season had any effect on the antiscorbutic activity of the apple.

(2) Bramley's Seedlings picked from the same tree fourteen days before the normal crop were approximately of the same antiscorbutic activity as those of the normal crop.

(3) There was little loss in the vitamin C content of apples stored at 1° C. in the air or at 10° C. in a mixture of carbon-dioxide, nitrogen, and oxygen for about three months. The gas-stored apples showed, however, a definitely greater deterioration in the vitamin.

(4) Tests carried out on a number of imported dessert apples showed that the activity was higher in those cases in which the time elapsing between the picking of the fruit and the testing was the shortest. There was no indication of any very marked difference in activity which could be correlated with difference in variety.

(5) The heating of Bramley's Seedlings in their skins hardly affected their antiscorbutic activity.

The British Post-graduate Hospital and Medical School.

THE Minister of Health, Mr. Arthur Greenwood, after consultation with the London County Council and the Senate of the University of London, has appointed a Provisional Organization Committee to proceed with the action necessary to secure the establishment of the British Post-graduate Hospital and Medical School.

The terms of reference of the Committee are to consider and report, in pursuance of the statement made by the Minister of Health in the House of Commons on April 9th, 1930, upon (1) the action requisite to lead up to the

planning and construction of the Medical School, and (2) the form of government appropriate to the Hospital and Medical School, with special reference to the position of the London County Council as the local authority responsible for the Hospital, and to the position of the University of London in relation to the Medical School.

The Chairman of the Committee is the Rt. Hon. Viscount Chelmsford, G.C.S.I., G.C.M.G., G.C.I.E., G.B.E. The Ministry of Health will be represented by Sir George Newman, K.C.B., M.D., F.R.C.P., Chief Medical Officer, and Mr. M. Heseltine, C.B., an Assistant Secretary. The London County Council will be represented by Miss F. Barrie Lambert, C.B.E., M.B., D.P.H., Sir William Ray, J.P., Mr. Angus N. Scott, F.C.A., J.P., and Mr. L. Silkin. The University of London will be represented by the Rev. J. Scott Lidgett, M.A., D.D., the Vice-Chancellor-elect, Mr. Sidney L. Loney, the Chairman of Convocation and Deputy Chairman of the Court, Mr. H. L. Eason, C.B., C.M.G., M.D., M.S., Superintendent and Senior Ophthalmic Surgeon, Guy's Hospital, and Dr. Edwin Deller, LL.D., Principal.

The other members of the Committee are:—Mr. Donald J. Armour, C.M.G., F.R.C.S., Senior Surgeon, West London Hospital; Lady Barrett, C.H., M.D., M.S., Dean of the London (Royal Free Hospital) School of Medicine for Women; Mr. Comyns Berkeley, M.D., F.R.C.P., F.R.C.S., Surgeon, Middlesex Hospital, and a member of the Radium Commission; Sir Robert Bolam, O.B.E., M.D., F.R.C.P., Honorary Physician, Royal Victoria Infirmary, Newcastle-on-Tyne, and past Chairman of Council, British Medical Association; Dr. H. B. Brackenbury, LL.D., M.R.C.S., Chairman of Council, British Medical Association; Mr. H. W. Carson, F.R.C.S., Senior Surgeon, Prince of Wales's General Hospital, Tottenham; Dr. H. G. Dain, M.B., M.R.C.S., Chairman of Insurance Acts Committee, British Medical Association; the Right Hon. Lord Dawson of Penn, G.C.V.O., K.C.B., K.C.M.G., M.D., F.R.C.P., Physician in Ordinary to the King, and Physician, London Hospital; Professor H. R. Dean, M.D., F.R.C.P., Professor of Pathology, Cambridge University; Sir Walter M. Fletcher, K.B.E., C.B., M.D., Sc.D., F.R.S., Secretary of the Medical Research Council; Dr. G. E. Gask, C.M.G., D.S.O., F.R.C.S., Professor of Surgery, London University, and a member of the

Radium Commission; Sir Thomas Horder, Bt., K.C.V.O., M.D., F.R.C.P., Physician in Ordinary to the Prince of Wales, and Physician, St. Bartholomew's Hospital; Dr. F. N. Kay Menzies, M.D., F.R.C.P., ED., D.P.H., Medical Officer of Health for the County of London; Lord Moynihan of Leeds, K.C.M.G., C.B., M.S., President of the Royal College of Surgeons, Consulting Surgeon, Leeds General Infirmary, and Emeritus Professor of Surgery, Leeds University; Mr. H. J. Paterson, C.B.E., M.C., M.D., F.R.C.S., Senior Surgeon, London Temperance Hospital, and Honorary Secretary, Fellowship of Medicine and Post-Graduate Association; Dr. Harold Pritchard, M.D., F.R.C.P., Physician, West London Hospital; and Sir Holburt J. Waring, M.B., M.S., F.R.C.S., Surgeon, St. Bartholomew's Hospital.

Mr. Heseltine will act as Secretary of the Committee, and all communications on the business of the Committee should be addressed to him at the Ministry of Health, Whitehall, London, S.W.1.

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The Lowestoft Meeting.

MEMBERS are asked to note that, by invitation of the Mayor and Corporation, a provincial meeting of the Society will be held at Lowestoft on September 19th and 20th, 1930.

At 4 p.m. on September 19th there will be a discussion on the scheme for a general medical service recently approved by the British Medical Association. The names of the opening speakers will be announced in the next issue of PUBLIC HEALTH.

A meeting of the Society's Council will be held on the morning of September 20th, and there will be opportunities to visit various features of public health interest in the neighbourhood.

September is usually a very genial month in East Anglia, and the Eastern Branch of the Society, who are making the arrangements, hope that many members from other areas will regard the autumn meeting as a useful opportunity of foregathering with colleagues in pleasant surroundings before settling down for the winter. The importance of the subject to be discussed makes it very desirable that there should be a good attendance.

Mental Deficiency and Lunacy in Relation to Public Health.

By W. M. ASH, M.B., F.R.C.S. (ED.), D.P.H., Medical Officer of Health, Derbyshire; REGINALD WORTH, O.B.E., M.B., B.S., General Secretary, Royal Medico-Psychological Association; and W. A. POTTS, M.A., M.D., Medical Officer to the Birmingham Mental Deficiency Act Committee; Physician to the Mental Observation Wards, Hallam Hospital; Hon. Physician, Tavistock Square Clinic, etc.

The discussion at the ordinary meeting of the Society held in London on April 11th, 1930, on this subject was one of the most interesting of the session, and the three papers that opened it and that are reproduced here will give an idea of the lines followed by those who took part.

DR. ASH.

IT is apparent to many of us who are concerned with the administration of medical services that we are at an interesting stage in their development. Unfortunately, it is also apparent that we are at a stage which, though interesting, is not conducive to that comfortable feeling that all is well. Experience in the immediate past should be of value in directing our course through the development and changes in administration which must of necessity arise as a result of the Mental Treatment Bill.

There are many points of view from which the subject might be approached: from the physiological, the psychological, the social or the administrative. There is also the point of view of the medical profession, particularly those concerned officially with the treatment of mental infirmity. Whatever point of view is adopted I am led to the conclusion that the relation between mental deficiency, lunacy and public health is of the closest nature and that any attempt at separation will be generally inadvisable.

It is the administrative point of view that I shall deal with chiefly.

A brief survey of the changes which have come about with each advance of knowledge will show how and where we stand to-day. In the past, in fact almost up to the present day, the existence of any relationship between mental and physical ailments was unrecognised. In the Middle Ages mental infirmity was regarded as a supernatural visitation and sufferers were either tortured, burnt as witches, or subjected to various forms of exorcism. Bedlam in 1675 resembled a wild beast show more than anything else. The inmates were confined behind iron bars and often chained

to the walls, whilst the public were admitted to this spectacle for a small fee.

The next step had a remote medical basis in that the condition was supposed to be due to "black bile," and so in 1783 we find Dr. Monroe, Physician to Bedlam, pinning his faith to emetics, purges and bleeding.

Pinel in France in 1792, in the face of great opposition, stood out for the abolition of forcible coercion.

Nevertheless, in 1821, Dr. Dunstan, St. Luke's Hospital, believed that fear was the most efficient principle by which the insane could be reduced to order, and the report of Mr. Sargeant Adams to the Middlesex Magistrates shows that as late as 1840 he found at Barming Asylum, two men who had been chained to their beds for 4½ years.

Little real progress was made in the scientific treatment of the insane until the end of the nineteenth and the beginning of the twentieth century, when asylums for detention began to undergo a metamorphosis to mental hospitals for treatment. Up to this time mental deficiency and lunacy were matters which were dealt with by nothing more or less than a brutal prison service.

During the twentieth century there has been a marked advance in that it is now recognised that (a) mental deficiency and lunacy are often preventable, and (b) there is a close analogy between mental ailments and physical ailments, that they not infrequently co-exist and are often due to a single cause.

Now, as in the case of physical disease, we recognise that the indications are to prevent rather than to cure, and where prevention has failed our aim is to treat, not to incarcerate. Thus, to-day, mental deficiency and lunacy are, from a medical point of view, on a par with other public health services.

As in the case of other health services, prevention should commence at an early age, and at an early stage; hence the Mental Treatment Bill.

The Child Guidance movement is an issue of the early study of mental deficiency and delinquency. Its aim is, primarily, prevention. Prevention of disease pre-supposes the absence of developed disease in any individual. At this stage, the visit of a health visitor is welcomed, but I believe a visit from an official of a separate mental department would be resented, and so do those who are supporting the Mental Treatment Bill. If I understand Child Guidance correctly, its object is to unravel the tangle of social, physiological, medical and psychological conditions which result in a particular child becoming a misfit in society. It appears to me that here is an excellent example of team work; the social, physiological and medical members of this team are already part of the public health service, and the psychological member should be also; and, moreover, his clinic should be a department of the general maternity and child welfare and school clinic, and not a separate entity.

I need not stress the importance of early recognition of mental defect in the school child. It is fully recognised by the Board of Education; in fact, no school doctor's appointment receives their approval unless they are satisfied that he has made a study of the subject. He is, presumably, capable of forming an opinion as to when an expert's advice is required, and there should therefore be available, as part of the school medical staff, such an expert. The alternative which has been suggested is that the mental health of school children should be under an independent mental health service, but, as I have said, you cannot separate mental and physical ailments; they not infrequently co-exist and are often due to a single cause. Therefore, such an arrangement would cause unnecessary overlapping, dual inspection of all school children, unnecessary interference with the school routine, and unnecessary expense. In fact, it is altogether impracticable.

Again, I need not elaborate on the inseparability of the problem of mental deficiency in a child under 16 years of age and one over 16. There is no medical line of separation. Children under 5, children of school age, adolescents and adults form one continuous series at any phase of which mental hygiene

is, and mental treatment may be, necessary. The mythical breaks which occur at the age of 5 and 16 are purely legal in origin and application. Fortunately the results of this separation are minimised by the happy circumstance that the Chief Medical Officer of the Ministry of Health is also the Chief Medical Officer of the Board of Education, and the Ministry of Health is the parent body of the Board of Control.

Similarly, locally the medical officer of health is also school medical officer, maternity and child welfare officer and often mental deficiency officer. In my own case all these departments are worked by the same staff, their salaries being paid on basis of user by each Committee. Further, the medical officer of health by virtue of the Notification of Births Act has information from the time of birth of the child. The practical effect of this unity of health service is the continuity of supervision from the earliest moment onwards, and any deviation from the normal, either mental or physical, at whatever period of life, is detected and appropriately dealt with by one health service under unity of control.

With regard to mental deficiency in children of school age; again there is no line of demarcation between the dull and backward and feeble-minded, and between the educable mental deficient and the ineducable mental deficient. There is certainly great administrative advantage if they are all under one control, but there is also the advantage to the patients that they are not rooted up at the age of 16 and placed under an entirely different organisation, as would often happen in the case of children in special schools who, on reaching that age, still require further care and supervision. The 1927 Act recognises this and provides that special schools and institutions for mental defectives may be within the same curtilage. Up to this time special schools for educable mental defectives had to be entirely separate from institutions for mentally defectives under the Mental Deficiency Acts.

There is, in fact, no phase of mental health service which cannot with benefit be incorporated into the existing organisation for prevention and treatment of physical infirmity provided by the public health service. It should not be overlooked that the public health service comprises specialist services for tuberculosis, orthopaedics, ear, nose and throat, etc., all of which, under a unified head, as in

Derbyshire, are with a minimum of formality available for any patient. It appears to me reasonable that the expert in mental diseases should be on exactly the same footing and as much an integral part of the public health service as the experts in other special branches.

The first line of ascertainment of all health service is the health visitor. I am speaking of a unified health service as in Derbyshire. She is maternity and child welfare nurse, school nurse, tuberculosis nurse, mental deficiency visitor, blind persons visitor, and now infant life protection visitor. She is essentially a highly-trained woman. It is obvious her duties will carry her into almost every household within her area, where she is almost universally welcomed as an adviser; not a medical adviser, but a director as to where expert advice can be obtained, and it is her duty to see that it is obtained.

Mental deficiency carries with it in the eyes of the public a stigma not only to the patient but to the patient's relatives. To send a special visitor attached to a department which deals with mental health alone would frequently be resented. That is why Lord Russell urges that early mental treatment should be kept away from all mention of the machinery of insanity. It is at once obvious that the most likely way of getting the patient under the proper department is to use the health visitor.

Briefly summing up the health service as it is in Derbyshire, it is an example of team work. Here, all departments with the exception of lunacy are under one administration, and I take it we all agree with the recent report of the Mental Deficiency Committee which strongly recommends that mental deficiency and lunacy should be inseparable parts of the mental health service. My point is that this mental health service should be equally a part of the general health service. Elsewhere in that report the establishment of a county mental health service is advised under an expert psychiatrist. Closest co-operation is urged between the mental deficiency service, poor law, public assistance committee, education authority and lunacy. Co-operation is all very well in theory, whether with armies in the field or other services, but it is usually found that if a war is to be won or the best practical results are to be obtained, unity of command is essential.

Both the Board of Control and the Royal Medico-Psychological Association appear to

be opposed to medical officers of mental services being part of the staff of the public health service. The objection is said to be on many grounds. I now quote:—"One of these is sufficient, *viz.*, that he would have to consult with the medical officer of health of many local authorities, and therefore should not be under any one of them, but only under a combined board of mental health. Another reason is that unless the post were independent and of senior standing no man of life-long experience of mental cases could be found to fill it."

I am sure of this, that the trend of public opinion to-day is such that it will not contemplate the setting up of new authorities such as boards of mental health covering large areas. I am equally certain that the existing large local authorities would resent their duties being placed in the hands of such combined boards, and I am convinced that the majority of authorities would have quite sufficient work to occupy an officer within their own area. The insinuation that the officers, if they were on the staff of a public health service, would not be of senior standing is without foundation. My heads of departments are officers entirely independent as far as their clinical work goes. I am purely their administrative chief.

Another argument is that the administrative officer is not a mental expert. Neither does he claim to be an expert in the various departments which he at present administers, but this argument is a two-edged sword, for a mental expert is not an administrative expert.

As to the independence of the mental expert, whether he recognises the fact or not, he would rapidly find that detachment of the mental health service would not result in his being an entirely independent officer, but, as in the case of the partial detachment effected by the Education Act of 1921, or the complete detachment attempted by the recent draft order issued under the Local Government Act, 1929, whereby school medical officers are subservient to the directors of education, and poor law medical officers were to have been subservient to the public assistance officer, so he would be subservient to a layman, probably a lawyer.

The tendency to specialisation and detached special departments we have been warned against by Sir George Newman. Nevertheless, there are some who advocate specialisation to such an extent as to dismember the body medical into its component parts. They

must not be surprised if the result is a collection of inert lifeless members of what should be a living whole. They must be made to recognise that if they have their way, sooner or later, as a natural sequence, there will appear those who will advocate the needlessness of the comprehensive medical training we know to-day, and press that each should train in his own speciality from the beginning and practise within its narrow limits, and so our profession will disintegrate into its component parts each of which will be on a par with the bone setter and the herbalist.

In conclusion, I will again quote the words of Lord Russell in the House of Lords whilst discussing the Mental Treatment Bill:—"We ask that it (early mental treatment) should be kept away from all mention of the machinery of insanity. Its whole object, and I am confident it will be successful in this, is to take these people from their suffering from mental illness in the same way as we take them from their suffering from physical illness."

I have endeavoured to show you the way to comply with Lord Russell's request, the impracticability of an independent mental service, the lack of foundation for the suggestion that incorporation of the mental health service with the general health services will detract from the status of the mental expert, and the harm that is likely to accrue to the profession as a whole as a result of detachment of specialist services.

DR. WORTH.

It has been suggested to me that I should open a discussion on the subject of "How the Mental Treatment Bill will affect Medical Officers of Health."

Perhaps it would be wise first to say a few words on the Local Government Act, which, as you know, became effective as from April 1st.

The provisions of the Act are drastic and far reaching and, as far as I am aware, no authority has a cut and dried scheme as to how it is to be worked. All authorities, however, must have considered the provisions of the Act. It would appear essential for each county council to make a survey of the "public assistance" required for its own area. This in itself is a very large endeavour and will take considerable time to complete. I con-

clude that each county will set up a public assistance committee and this will be divided into sub-committees for every branch of assistance that may be necessary. A general health committee for the treatment of physical and mental illness will be one of its most important branches. This I assume will come within the province of the medical officer of health. Sub-divisions of the work of the medical officer of health will consider provisions for the physically and mentally sick, including preventive treatment and after-care. It would appear that the mental health of a county will require a special sub-committee of the general health committee, whose work will be to provide for the treatment of all mental diseases, both congenital and acquired, involving the establishment of clinics and meeting the demand for hospital and mental hospital accommodation.

I assume that all counties will be divided into areas and that those areas will be administered by a more or less local public assistance committee, subservient to the central body, whose duties will embrace the organisation of a social service and a system of relief.

The public health committee will make a general survey of the county with reference to hospitals and the number of beds available, and influence the public assistance committee in the establishment of special areas for administration.

The new authorities under such a scheme are in a position immediately and for the first time to review as a whole the provisions in their areas for the treatment of the sick poor with a view to better organisation and economy of administration. They will also have power to extend these provisions if and where necessary. In such reorganisation and extension the local authorities will act in consultation with the voluntary hospitals and other voluntary agencies of a like nature.

This wider problem affords at last an opportunity for the treatment of the mentally sick and defective to leave its position of isolation, and rejoin, under favourable conditions, the stream of general medicine. This position of isolation was no doubt at one time necessary to progress, and great headway has been made, but its continuation is not now in the interests of psychiatry or general medicine.

The linking up of mental hospitals with general hospitals, which has made some progress recently, especially in London, is a

notable step in this direction, and will help towards the solution of many difficulties which will arise in reorganising and supplementing the existing provisions for the observation and ultimate disposal of poor law cases under the Lunacy Acts. It will also facilitate the administration of new units for early cases which it is hoped will be established in connection with the transferred hospitals.

The centralising of mental hygiene under one authority in a local government area (as advocated by the Royal Medico-Psychological Association) and thus unifying the administration of related Acts of Parliament, is a sound policy. Its success, however, will depend upon the administrative machinery which has been adopted for this purpose. It is left to each local authority to devise, subject to the approval of the Minister of Health, such machinery as seems most suited to its needs and particular circumstances.

The Council of the Royal Medico-Psychological Association have issued a memorandum in which it is urged that the mental hospital and mental deficiency services should be administered and controlled by one *ad hoc* committee of the local authority in each administrative area. The Association has always taken the view that these subjects deal in essentials with one and the same problem, and that their dissociation would have far-reaching and deplorable effects. Although administratively the methods of dealing with the mentally afflicted and the mentally defective differ in many respects, this does not prevent their being the concern of the same body and the medico-psychological ideals of care and treatment being thereby maintained.

Among the duties to be taken over by the county and county borough councils are those of the poor law authorities under the Lunacy Acts and the Mental Deficiency Acts, which include the certification, and in many administrative areas, the reception and early treatment of mental disorder occurring among the poor. It may be here urged that there should be no administrative or medical cleavage between mental hospital and mental deficiency services.

In university centres with medical schools, it may be hoped that the local authorities will make available for teaching purposes the immense clinical field they will control. This has already commenced in regard to mental diseases and some other departments of medical science. An extension embracing the

whole medical curriculum and carrying with it reciprocity and co-operation between city and university or medical school, not only as regards education work, but including research, treatment and prevention of all mental and physical disease, is greatly to be desired.

The passing of the Mental Treatment Bill is a great event—scarcely less for medicine as a whole than for the treatment of mental disorder. While preserving ample safeguards against wrongful interference with liberty, it removes some of the irksomeness of procedure and provides facilities that cannot fail to result in widely extended early treatment of mental disorder, which ultimately will be found preventive in character. It is, indeed, something of a charter. It is welcomed accordingly, and one looks forward to seeing the full use of its provisions.

The Bill consists of twenty-two clauses and has reference to:—voluntary boarders; temporary treatment without certification; provisions as to local authorities; provisions as to central authority; and miscellaneous and general provisions.

Voluntary Boarders.—As you doubtless know, at the present time voluntary boarders, or, as it has been suggested, voluntary "patients," are only admitted into licensed houses and registered hospitals. The county mental hospital was not permitted to admit these cases, with two more or less recent exceptions—the Maudsley and the City of London Mental Hospital at Dartford. The Mental Treatment Bill now gives sanction for their admission to rate-aided hospitals. It is, a permissive measure for the authorities to adopt. It is also permitted for these cases to be admitted into a mental hospital or any hospital or nursing home approved by the Board of Control. Special provision is made for persons under the age of sixteen; they shall not be received on their own application.

Clause 2, sub-clause 3.—Should a voluntary patient become incapable of volition, he shall not be retained longer than one month; he shall at the end of this period be discharged, unless during the month he regains his volition, or steps have been taken to certify him under the principal Act; or under the new Act he may be treated as a temporary case.

Sub-clause 4.—If the case is under sixteen and the relatives refuse to remove him, notice is to be sent to the Board of Control for them to decide what steps are to be taken.

Clause 3.—The Board of Control may inspect voluntary patients and have the power to discharge them or take other steps they may think necessary.

Clause 4.—Friends or relatives of patients may be received as boarders—provided there is sufficient accommodation under the licence—in any registered hospital or licensed house, but not in a State-aided institution.

Temporary Treatment Without Certification.—We now come to Clause 5. This is the most important clause of the Bill: it is, in fact, the real reason for the Bill—that is, temporary treatment without certification. This clause makes provision for the treatment of cases suffering from mental disorder, who do not express unwillingness to, and are likely to benefit by, temporary treatment. On the written application of the husband or wife, or a duly authorised officer—with certain provisos—accompanied by the written recommendation of two registered practitioners, one of whom (not being the usual medical attendant of the patient) shall be approved by the Board of Control, the other to be where possible the usual medical attendant, they may be received as temporary patients for the purpose of treatment:—(i) into an institution provided by a local authority; or (ii) into a registered hospital; (iii) into any such other institution, hospital or nursing home as may be approved by the Board of Control; or (iv) with the consent of the Board of Control, into single care. The medical practitioners examining the case may examine the patient together in consultation or separately. The form of recommendation does not require a certificate of insanity, but a declaration that the patient:—(i) is suffering from mental disorder; (ii) does not express his unwillingness; (iii) is likely to benefit by temporary treatment, and that it is expedient for his recovery that he should be received for a period not exceeding six months.

When such patient is received into a hospital, notice of his reception, together with a copy of the application and recommendations, must be sent to the Board of Control, clerk of the visiting committee or clerk to the visitors as the case may be. There are penalties for default of the above, also for failing to report removal or death of the patient.

Within one month of the reception of a temporary patient he shall be visited by at least two members of the visiting committee, who, if they think that it is proper that the patient

should continue to be detained, shall sign a statement to that effect; but should they think that the case is not a proper one to be detained, they shall send a report to the Board of Control stating such opinion.

A temporary patient may only be detained for a period not exceeding six months, and he shall not be detained more than twenty-eight days after the date at which he regains volition, unless in the meantime he again becomes incapable of volition.

If it is anticipated that a person undergoing treatment as a temporary patient will not recover within the period of six months, the time may be extended by periods of three months for a further six months.

The Board of Control may at any time order: (i) that a temporary patient shall be discharged; (ii) that steps shall be taken to have him certified.

The opportunities which Clause 5 of the Bill affords for the early treatment of acute phases of mental illness are of the highest value. Much depends, however, on the acceptability of this Clause to the relatives of patients that I feel I must express serious disappointment at the requirements which have been introduced into this section during the Committee stage of the Bill. The desire has been that, for a strictly limited period of the illness, and subject to adequate notification of the visitation, Parliament would allow treatment of these cases incapable of volition to be carried out upon the "recommendation" of medical practitioners without insisting that the latter shall "certify" as to any fact or facts. This desire was in the main met in the House of Lords and at the second reading of the Bill in the House of Commons. In the form in which Clause 5 has emerged from the Committee stage, especially as regards the schedule dealing with it, very little difference remains between the "recommendation" and a "certificate of insanity." This is a great disappointment to those who feel they know what are the real requirements of the position if early treatment is to be secured and illegal or "back-parlour" and often bad treatment is to be avoided. I therefore strongly urge that further consideration be given to this point, and suggest that, in Part II of the relevant Schedule, all that should be asked of the recommending practitioners is that they should "declare" that the person is incapable of volition (using for this purpose the

extended expression to cover this term) and that he is likely to benefit by temporary treatment. In my opinion safety lies in notification and visitation, and not in any enlargement of the terms of the Recommendation which, I am certain, will tend only to make it unpopular.

Provisions as to Local Authorities.—It shall be the duty of every local authority to provide and maintain suitable accommodation for the reception of temporary patients (it will be thus seen that this is a compulsory measure) on such terms and conditions as to payment or otherwise as may be agreed subject to the approval of the Board of Control.

Also, subject to the approval of the Board of Control, a local authority may make arrangements for: (1) out-patients' treatment; (2) treatment by other authorities; (3) the after-care of any person who may have undergone treatment (and contribute to the funds of voluntary associations); (4) research in relation to mental disorder, and pay contributions to any research body for the purpose.

There are other clauses in this section dealing with the appointment and powers of visiting committees, and they especially state that every visiting committee of an institution shall have two women in its constitution.

In Clause 8 it states that every mental hospital shall have a resident medical superintendent, and if the visiting committee controls more than one hospital they may appoint a supervising medical officer, who may be one of the superintendents and have general supervision over all their hospitals.

Provisions as to Central Authority.—The Board of Control shall consist of a chairman and not more than four other paid commissioners. One of these at least shall be a legal commissioner, at least one a medical commissioner and at least one a woman. The Board of Control may appoint assistant commissioners and inspectors.

The number of commissioners has been criticised, and it is thought their number is quite inadequate. I feel certain that local authorities will be aggrieved if their large mental hospitals are inspected and reported on by juniors who cannot have had sufficient experience for the work. I say this as I assume that the salaries offered for these posts will not attract suitable men of experience.

With regard to their status, one gathers that it is intended that Commissioners not

members of the Board shall no longer hold His Majesty's Commission. I regard this as a most unfortunate policy. It is difficult to see any reason which can justify it, and I believe that, in the result, besides endangering the confidence of the public, the well-being of the patients and the administration of the Lunacy Act will suffer. It is true that action called for with respect to individual patients belonging to the classes dealt with under the Bill is to be carried out by the Board after report from the Commissioner or other official who has visited upon behalf of the Board, but this leaves untouched the administration of the Lunacy Acts and the powers and duties of Commissioners (whether members of the Board or not) who visit cases certified under these Acts.

Perusing the debates, I cannot help feeling that altogether too much stress has been laid upon the "inspection" of institutions. With the gradual effecting of improvements the importance of mere inspection should, and I think has, become less. "Visitation" involves much more than inspection. The personal visitation of His Majesty's Commissioners (empowered to put informants on oath if felt desirable) of patients whether in institutions or not has always been a cardinal feature of the safeguards provided by the Lunacy Acts.

Again of great and, I believe, of material value and transcending the importance of mere inspection are the discussions that take place, during the course of visits, between the Commissioners and the medical superintendent and other officials of the hospitals; no doubt the effect of these conversations depends upon the personality of the Commissioner; but his status is not without importance, and persons of standing and capacity are not likely to be attracted if they realise that the status of the post has been diminished. Lastly, the King is the protector of all who are not of sound mind, and it is right that those who are appointed to act for him in this respect should continue to be, as heretofore, His Majesty's Commissioners.

Some confusion seems to have arisen (in the course of the debate) as to the future relative numbers of the classes of patients. It seems to be believed that in future about a third of the admissions will be voluntary patients, that at least another third will be received as "temporary" patients and that as only the balance will be received as certified cases there

in future will be a great reduction of certified cases under care; in fact, it has been stated, and not contradicted, that about a third of the patients now under care will be represented in future by the temporary class. This is an important and serious mistake. The temporary class are what the word temporary expresses; a few will die soon after admission; a high proportion of them will be discharged recovered; and the balance cannot retain the "temporary" status for more than a year, and of this balance probably a considerable number will have to be certified before the end of that period. What the Bill so happily does by providing the voluntary and temporary modes of admission, is to avoid certification in the great majority of cases for such a period as will enable most of the cases who are discharged to have received their treatment without certification. This is the boon which has been so long pressed for. But until new measures of treatment have been evolved (if that is ever possible) it will not reduce the number of cases that fail to improve sufficiently to be discharged; and it is a profound mistake to imagine that there is going to be any large reduction in the numbers of certified cases under care on any given date. There will be some reduction in their numbers; possibly 10 per cent., certainly not more than 15 per cent.

In Clause 16 we see what protection may be given to the medical man signing a certificate. This has been a very controversial subject, but I think that the original clause of the Bill will more or less remain, though slightly amended and strengthened, and would read:—

"(2) If any proceedings are taken against any person for presenting any such petition or for signing or carrying out, or doing any act with a view to signing or carrying out, any such order, report, application, recommendation, or certificate, as mentioned in sub-section (1) of this section or doing anything in pursuance of this Act, or any Act amending this Act, such proceedings shall, on application to the High Court, be stayed on such terms as to costs and otherwise as the Court may think fit unless the Court is satisfied that there is substantial ground for alleging that such act was done in bad faith or without reasonable care."

Clause 17.—This clause permits a patient to be sent to a public mental hospital under an urgency order. This in the past has been

a privilege granted to private patients only. An urgency order in respect to a rate-aided patient shall be signed by a duly authorised officer of the local authority within whose area the person is.

As you are aware, an urgency order lasts seven days and could be made by any practitioner on the petition of the nearest relative; at the end of seven days at present the patient must either be discharged or properly certified under the Act.

In the new Bill it is possible that, should the patient be not unwilling, he may be treated as in Clause 5 as a temporary patient, or should he recover volition, remain as a voluntary patient; or if he be unwilling to remain and it be considered unwise to discharge him, through being a danger to himself or others, certification under the Act must ensue.

It will be noticed all through the Bill that it is the intention of the Board of Control to approve certain practitioners.

In conclusion, I thank you for so patiently listening to this short address. I hope I have made clear some of the points of the new Bill.

May I add that I have great admiration for the public health service and those capable men who administer it. It is a source of protection to all of us, and it is pleasant to know that the system of dealing with epidemics—their prevention and treatment—is so thorough. This was brought home to me personally not so long ago when in the institution of which I am the superintendent an outbreak of small-pox occurred. We put ourselves entirely in the hands of our local medical officer of health, and it was an inspiration how the whole matter was so expeditiously and carefully dealt with.

DR. POTTS.

One of the previous speakers said that any attempt at separation of mental defect and mental disorder was not advisable. If he meant that both ought to be part of public health work and included in preventive medicine I agree, but if he meant that both should be treated side by side I do not. Mental defect is either inborn or developed within a few months after birth. It is associated with a diminished number and imperfect development of brain cells. Once established it is not amenable to treatment, as the brain cells, in contradistinction to the cells of all other organs, never change. Mental disorder on the other hand, save in exceptional circum-

stances or at a late stage, is not associated with any abnormality of brain cells, so that treatment is possible. The mentally defective require training. The sufferers from mental disorder require treatment on broad general lines, the results of which are often successful. Both come within the province of preventive medicine, and both are often due to toxæmia. But while mental disorder can be prevented largely by child guidance, and hygiene at all stages of life, the prevention of mental defect is a problem of the ante-natal clinic associated with proper care and instruction of the adolescent girl and young woman.

A previous speaker said that mental disorder was often due to a single cause. I have seen serious mental disorder more than once successfully treated by the extraction of unhealthy teeth, but as a rule there are several factors, all of which must be dealt with to ensure success. The ideal is prevention by hygiene and early treatment of anything unfavourable to health.

Attention has been drawn to the value of child guidance and it has been suggested that it should be a part of the school medical service. Ultimately it should be, but the time for that has not come yet. Many school medical officers have had training in mental defect, but only very few in child guidance. As a rule it would be wisest to start a small child guidance clinic on a voluntary basis, with the help of such trained workers as may be available; this could gradually be developed into a regular clinic. Anything elaborate till there are enough trained workers will only discredit important work.

Mention has been made of the importance of early treatment apart from mental hospitals, which are so expensive to build and equip. This is necessary alike in the interests of the patient and of the community, who have to bear the expense; unfortunately the indications for early treatment are often not noticed. It has also been said that most authorities would have enough to occupy a medical officer within their own area; the fact is that many authorities would have work for several medical officers.

Specialisation has been deprecated. I agree as regards the treatment of many cases of mental disorder, for which all-round experience is invaluable, but as regards mental defect the psychological expert is essential, especially for the diagnosis of many of the

feeble-minded group, which is the largest and most important.

One speaker referred to schemes for dealing with the treatment of mental disorder. As an example of what is possible I would quote Hallam Hospital, West Bromwich, where I am visiting physician to the mental observation wards. This was a poor law infirmary, which five years ago had less than twenty trained nurses, and one medical officer, non-resident. To-day there are a hundred and twenty trained nurses and four resident medical officers, with a visiting staff of eight specialists. A bacteriological laboratory, operating theatre, dental clinic, X-ray room with electric and sunlight treatment, Plombières douche, etc., have been provided. Previously the majority of the patients coming into the mental observation wards were either sent on to a mental hospital or became chronic cases. Last year only 7 per cent. of the cases admitted were transferred to a mental hospital, while 49 per cent. were discharged improved as the result of treatment, specific and general, for the toxæmias always present. Full use is made of the special arrangements mentioned above, especially of the laboratory for Wassermann tests, and the preparation of vaccines, the dental clinic, sunlight and Plombières douche treatment.

Mental defect and mental disorder constitute one of the most urgent social problems of the day. In the United States of America there are more patients in institutions for mental disorder and mental defect than there are students in the colleges and universities. There is little difference in this country. Three years ago I ascertained that there were more beds in mental hospitals, mental wards and institutions for mental defect than in all ordinary wards taken together. My figures did not include the unclassified and unrecognised cases of mental defect in poor law institutions, many of whom pass as ordinary inmates. Mental hospitals are provided by all local authorities, but facilities for early treatment are almost non-existent, while 80 per cent. of local authorities are not dealing with mental defect. One object of the Local Government Act was to enable compulsion to be put on backward authorities to provide the necessary accommodation.

There are two great difficulties at the present time. One is the lack of accommodation, in consequence of which many mental defectives

are in mental hospitals; the other is the inadequate training of our profession in the treatment and prevention of mental disease. In mental defect most medical practitioners have had no training at all. As I have been criticised for making this statement I asked a number of young practitioners if they had ever heard of mental defect; they all said they had, but also said they had never seen a case and knew nothing about it. Yet training and experience are necessary. Idiots and some imbeciles can be recognised at once; but many imbeciles are not obvious, and much experience is necessary to diagnose many of the feeble-minded. Only a few weeks ago I saw a patient, aged 35, who had never done anything effective in her life. Her relations had consulted several eminent members of our profession, all of whom said she was hysterical; treatment was arranged from time to time, but no improvement followed. The truth was that she was feeble-minded, with no more intelligence than an ordinary child of nine-and-a-half. Had this been recognised earlier the waste of much time, money and energy would have been avoided, and a happier life arranged for her.

We are only just beginning to realise that mental defect is a bigger problem than mental disorder. The recent Report of the Special Committee appointed by the Board of Education and Board of Control has opened our eyes to the fact that the proportion of mental defectives in the population is not 5 per cent., but 8 per cent., and that the numbers are not diminishing, but increasing. This is likely to happen while we have indiscriminate preaching and practice of birth control, as a result of which we do not breed so much from the intelligent, reliable and efficient classes as from irresponsible weaklings, drinkers and criminals, who are not likely to follow examples set by the more stable members of the community. The number who can be dealt with as mental defectives by statutory authorities has been increased by the Amending Act which has made it unnecessary to prove that mental defect existed from an early age, provided it was noticed before adolescence was completed. One result of this is to bring in some cases of epilepsy and encephalitis lethargica, which previously could not have been dealt with under the Act. In some ways this is unfortunate because it leads to more cases of sleepy sickness being left untreated till they become chronic and can be certified

as mentally defective. Some acute and severe cases of sleepy sickness, particularly if there have been hæmorrhages in the brain, are not amenable to treatment. But many are capable of responding well, especially if treatment is instituted early and carried out thoroughly. Many practitioners seem to think nothing can be done. But even if the disease is due to a specific infection, it is associated with pre-existing chronic infections; if all these are thoroughly dealt with, many cases can be cured. One difficulty is that slight cases are often not diagnosed till they are followed some months later by serious conditions. Often this is not the fault of the practitioner, because no practitioner is called in. I would like to tell you of two examples. One was a capable young woman, aged twenty-five, who, during her summer holiday became moody, depressed and uninterested. The symptoms became more marked, and when I first saw her there was a Parkinsonian expression, and corresponding slowness in all her movements. I was told she had always had good health, and no recent illness. Enquiry elicited a history of three days in bed with a cold six months earlier; no importance was attached to this as she did not seem ill, and was quite comfortable, sleeping most of the day. Energetic treatment for the constipation from which she had suffered for years, with general hygiene, enabled her to return to her work in the course of a few months. A case of much longer standing, who also had some Parkinsonian signs, who had been told by more than one consultant that there was no treatment available, soon responded to active treatment for constipation and unhealthy teeth; in three months he was able to return to the professional work he had left.

Many mental defectives have been certified under the Lunacy Acts, but many urgent cases have not been dealt with under any Act. Some were placed in poor law institutions, where they were often not recognised as defectives; few were classified or given proper training. In such institutions I know that a considerable number of unmarried feeble-minded women pass through the maternity wards, without any arrangements being made for their subsequent care; mentally defective women are also to be found in the wards for venereal disease. Those who realise these facts sometimes think that a drastic but efficient remedy is available in sterilisation. Unfortunately, sterilisation, though possibly ad-

visible in a few selected cases, offers no solution of the problem because the majority of mental defectives who can be sterilised would still require care, either because they had no home or were unable to earn a living, or else required control in an institution owing to their anti-social conduct. Two years ago I investigated the circumstances of all the cases dealt with by the Birmingham Mental Deficiency Act Committee during the preceding year. Only a small number had sufficient intelligence to be able to earn their own living under favourable circumstances; everyone of those cases, however, required care and control, either because they were ill, or delicate, or epileptic, or anti-social. Sterilisation would not have prevented those feeble-minded cases from being a disturbing influence in a home, or from being very miserable in an environment for which they were unsuited, or from being delinquent. Sterilisation does not stop feeble-minded women from spreading venereal disease, and will not prevent either sex from being an important agent in the making of slums. There is also the fact that although mental defect is often inherited, only a few mental defectives are the offspring of parents who are themselves mentally defective. Sterilisation without segregation would therefore be a slow method of dealing with the problem. Some of those who admit the value of segregation say that we cannot afford to make the necessary arrangements at the present time. As a matter of fact, we are usually paying for their maintenance all the time indirectly, either by maintaining them in a public assistance institution or in prison, or by means of unemployment pay. It would be more satisfactory, and not necessarily more expensive, to deal with them frankly in a satisfactory manner, especially if arrangements were made for simple and economically arranged buildings.

DISCUSSION.

Dr. Maitland Radford (Medical Officer of Health, Shoreditch) enquired if mental disease and mental defect were frequently diagnosable under the age of five years, and whether, in connection with maternity and child welfare schemes, special clinics should be provided in which cases might be referred.

Dr. Potts replied that it was generally accepted that mental disorder practically never developed before fifteen years of age, and therefore it could not be diagnosable at five, although a possible tendency might be. With regard to mental defect, he was of opinion that it was not possible to diagnose all cases at five years. An expert would probably be able to do so

by the time a child was seven, except in those cases characterised by unsatisfactory social conduct which became apparent only at a later age.

Dr. Binnie Dunlop, in a brief reference to the subject generally, wondered if medical officers of health realised the effect of the new legislation upon their work.

Dr. T. W. Hill (Assistant Medical Officer of Health, Willesden), stressed the need for further specialisation according to the intelligence quotients of the children, more particularly in the case of the dull and backward group. He agreed with Dr. Ash that the system of treatment of mental disease should be incorporated in the public health service, and that the health visitor should be the connecting link between the public health department and the home with regard to all forms of mental disorder.

Dr. Ash, replying to a question by Dr. Potts, said that he certainly had no intention of conveying the impression that mental defect and mental disease should be treated in the same institution. He had spoken purely from the administrative point of view in urging that they should be under one head. With regard to child guidance clinics, he was particularly anxious that in Derbyshire they should be attached to school clinics, for it was difficult to suggest where else they should go. Dr. Ash said he fully realised the need of increased staff, and had asked his council for ten to start off with. He was quite sure the work would have to go forward, and a great amount of additional work would come over from the poor law authorities. The stage was set, and the time had arrived when a move ought to be made.

The Chairman (Dr. George F. Buchan) moved a hearty vote of thanks to the openers, and this was carried by acclamation.

DR. E. BERTRAM SMITH, formerly Medical Officer of Health for the North Essex United Districts, has been appointed Medical Officer of Health for the Skegby Rural District.

THE Third Health Education Conference, arranged by the Central Council for Health Education, will be held at the London School of Hygiene and Tropical Medicine, on Thursday, November 13th, 1930.

THE Council of the Royal Institute of Public Health has accepted an invitation from the German Government, the Municipality of the City of Frankfurt, and the University of that City, to hold its International Congress in May, 1931, in Frankfurt. The Most Hon. The Marquess of Reading, G.C.B., G.C.S.I., G.C.I.E., etc., has accepted the Presidency of the meeting. This is the first Congress of the Institute to be held in Germany since 1912, when it was held in Berlin under the Presidency of the Earl Beauchamp, K.G.

Ut Ita Dicam.

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

The Children's Hour.

Dr. Shirley Wynne, Health Commissioner of New York City, is convinced that many parents now patronizing welfare centres are undoubtedly in a position to pay a moderate fee to a private practitioner. In his opinion they only hesitate to go to the family doctor because it has been their custom to call him in when illness occurs and because they do not know what the fee for hygienic advice only will be, but fear it may be beyond their means. In order to try to bring doctor and parents together and to promote the practice of preventive medicine by private doctors, Dr. Wynne has presented a plan to various county medical societies whereby it is sought to induce practitioners to set aside a particular hour or hours weekly ("children's hours") on which they will see and examine well children, advise with regard to feeding, carry out diphtheria immunization, and so on. With the object of learning the views of the physicians and also finding out the amount of fee likely to be charged in each case, no standard having been fixed, Dr. Wynne arranged to send a letter to each, signed by himself and by the president of the medical society. With this letter there would be enclosed a number of slips which it is suggested the doctor might send to patients announcing the establishment by him of a "children's hour" at the request of the health department, setting out the advantages of medical examination, and indicating the fee to be charged. This letter would be signed by the health commissioner and the president of the health society. Any physician adopting the scheme is expected to send a card to the commissioner, who will file it with others, and any mother desiring information as to a doctor suitable for consultation will be given a list of two or three in her own neighbourhood. The advantage of the scheme is that while it does not violate medical ethics, as understood in New York, it enables medical practitioners to urge patients to adopt preventive methods in dealing with disease. Also it helps to meet the criticism, apparently more frequently levelled against health officers in the States even than here, that they are being ruined by the operation of welfare and other clinics. How far

Commissioner Wynne has got with his scheme at present, I do not know, as I only read of it in the *Weekly Bulletin* of June 14th, but it will be interesting to see how it develops. The idea behind it, as a fact, has much to commend it, and though it could not, of course, be worked on lines such as are possible and permissible under the New York code of ethics, with appropriate modifications it might be recommended for consideration here, and, if Dr. Wynne is able to report successful results after a reasonable period of trial, possibly for adoption.

Sir Andrew Balfour.

To Sir Andrew Balfour, who is the very soul of conscientiousness and would never, except under extreme stress, fail to keep a promise or disappoint anybody, the fact that he was compelled at the last moment to announce his inability to be present and to preside over the Preventive Medicine Section of the Royal Sanitary Institute Congress at Margate must, I know, have appeared the very worst part of the illness that came upon him so suddenly in the early part of June. To those who attended the meeting, as to all who know him and are his friends, the anxiety that was felt on account of the reason for his absence far outweighed the disappointment experienced at being deprived of seeing and hearing him at the meeting. Those who knew him felt sure that there must be real reason for anxiety, and expressions of sympathy, and of hopes that the illness was not really serious and that recovery would be rapid and complete, were many. It is pleasant to know that conditions were less bad than was feared and that Sir Andrew is making good progress. During his absence from duty, his work at the London School of Hygiene and Tropical Medicine is being carried on by Professor Jameson, and it must be a relief for him to know that at a time so critical it is in charge of one so keen for the welfare of the School, and as anxious for the successful and smooth working of the organisation as he is himself. Sir Andrew Balfour will be sure of a warm welcome when he comes back, and in the meantime he may be perfectly certain that he has the best wishes of everybody, not only in

the School but in the service as a whole, that his return to complete health and to the work he loves so much may not be long delayed.

Pasteurization of Milk.

In certain quarters, one anyhow, it was hoped that the letter, in the last issue, of Dr. Bolduan, of New York, who, if he had signed his communication "Constant Reader," would still have been recognized as the writer, would provoke comment or discussion on milk pasteurization, the subject with which it dealt. These hopes, as the days have gone on, have steadily faded and the only person provoked to comment is myself. This, by one less optimistic, might have been anticipated, though in excuse it may be urged that in meetings where the milk question is raised (and where is it not raised?) and in annual reports, many voices are heard lamenting the terrible mortality-rate amongst vitamins as a result of pasteurization, and the extraordinary opportunities for evil practices that the introduction of the process has presented to the wicked, wicked people who have strayed from the paths of rectitude and entered the milk business. To those of us who accept pasteurization (there must be one other medical officer of health, at any rate, so I am justified in using the plural) the views expressed by Dr. Bolduan and the claims he makes do not appear in the least exaggerated. To the anti-pasteurizers, those who think any word uttered in commendation appears to be an obstacle in the path of progress to a clean, pure raw milk supply, it must seem horrible that anybody in the health service anywhere should so bluntly state, as does Dr. Bolduan in his letter, that "compulsory pasteurization is an invaluable aid in promoting public health." Jeremiahs all of them, they will subscribe to such a statement as occurred in a resolution passed at one of the sections at the Margate Congress, that bovine tuberculosis is a grave menace to the health of the people. Apart from demanding, however, that a Royal Commission should be set up to investigate it, they will not raise a finger to ensure that something practical should be done with the object of dealing practically with the menace.

The Health Service and Pasteurization.

Everybody must know that if bovine tuberculosis is a grave menace from the disease production point of view it is mainly, if not

wholly, through the milk supply that it operates. Everybody must know also that, so far as is known, one really good way of killing off tubercle bacilli is by making the material containing them too hot to hold them. Why the two and two of these facts cannot be put together and made into four; and the menace of tuberculosis destroyed, I cannot imagine. Even if it is the case that a vitamin or vitamins are interfered with, they can quite readily be replaced; more readily, certainly, than a child can be brought back to health after attack by tubercle bacilli or any other pathogenic organism. For my own part I feel so very strongly on this subject that I am all for us taking a stand and making a pronouncement in favour of milk pasteurization, going as far even as, according to Dr. Bolduan, they go in New York and as they go to my own knowledge in other parts of the United States. As we never do make pronouncements on anything I know it is quite useless suggesting that we should do it on this, but writing thus I get an opportunity of relieving my feelings. Also I get a chance of telling Dr. Bolduan that in spite of what I have said there are large numbers of health officers here who accept what he states as to the value of pasteurization, and that, more important still, even without any pronouncement by medical officers of health and in the absence of any compulsory requirement with regard to it, it is widely adopted and practised by the milk trade. Throughout the country, in fact, there are milk plants that fill with envy many of his own countrymen who come over believing all the stories current in the States as to the awfulness of our milk supply here and prepared to teach us, only to suffer a rude awakening and to see all their beliefs shattered at their feet.

Regulating the Hairdresser.

I forget where it was that I saw it, but I did see somewhere, in an annual report, I think, a reference to a proposal of a hairdressers' association to issue regulations for the guidance of their members. Also I have frequently heard wonder expressed by overseas visitors that in this country there are no regulations applicable to hairdressing establishments and requiring such things as sterilizers, sterilized towels, combs and so on. These things returned to mind when I came across a note on the administration of the Hairdressers' Shops Regulations in the *Health Bulletin* (No. 21) of the State Depart-

ment of Health for Victoria. The regulations, it appears, have been in operation since 1922, and the note describes what was found on a visit of inspection by Dr. Cole, District Health Officer of the Western area. In general, the results are described as "not altogether encouraging," the total number of saloons visited being 102, of which 52 were classified satisfactory, 31 fair and 19 unsatisfactory. The chief of the criticisms have reference to failure to comply with requirements as to sterilization. The form of apparatus commonly found was a glass-fronted cabinet with the word 'Sterilizer' and a red cross large upon the outside, and inside, to bring about sterilization, a saucer containing weak formalin or perhaps lysol. In more than one-third, dirty brushes were in use and, even as in an unregulated country like this, the barber usually carries his comb in his pocket along with an accumulation of hair clippings and dandruff. Not unnaturally this practice is described as bad, and as having "a bearing on the prevalence of dandruff." As to towels and combs

which are supposed to be sterilized and wrapped, it appears to be true that they are put into paper containers marked "Sterilized," but the envelopes in some saloons were open at one end and the towels and combs, though they may have been cleansed, had never undergone anything in the shape of sterilization at all. From his note, Dr. Cole does not seem to be at all happy about the regulations and the obedience shown to their requirements by hairdressers. Indeed, he shows it in these words: "My impression after making these inspections is that if the general public realized the low standard of cleanliness of many hairdressers they would be reluctant to enter any saloon." All of which does not very much encourage me to make a stunt of regulations for barbers' shops, even if I were so inclined, as I am not, being no great believer in regulations that call for eternal watchfulness over the people to whom they apply in order to secure that they are complied with.

P.

Post-Vaccinal Encephalitis.

By JAMES STIRLING ANDERSON, M.A., M.D., D.P.H., Medical Superintendent, Leeds City Hospitals; Lecturer in Infectious Diseases, University of Leeds.

In this paper, read at a recent meeting of the Yorkshire Branch, Dr. Anderson provides in an attractive form a summary of present-day knowledge on a subject of extreme interest and importance, for which every reader will be grateful.

FROM time to time in the medical world, some new discovery is announced which may mean that one more disease has been conquered. But the field of investigation never appears to grow less. New problems constantly present themselves. Sometimes an old disease in unfamiliar guise appears in our midst. At other times, a disease, apparently new, makes its appearance. As an example of the latter, a form of encephalitis occurring in association with the process of vaccination against smallpox has aroused widespread interest and even alarm.

Since the time of Jenner, disagreeable but fortunately rare sequelæ of vaccination have been made public, frequently through the agency of the coroner's court. These have had almost invariably some natural explana-

tion such as faulty technique, faulty material or faulty treatment. Such accidents—for accidents they are—should not be held to contra-indicate the continuance of vaccination, for the risks incurred in undergoing vaccination are no greater than those incurred in crossing a city street. But the increasing occurrence in recent years of disease of the central nervous system following vaccination gives rise to serious concern and mistrust, and such mistrust will not be dissipated until an explanation of the association is forthcoming. As yet there is no explanation, but in the search for it a clear understanding of facts is essential, and the object of this paper is to summarise information which is available at present on the subject.

Post-vaccinal encephalitis is, by common

consent, the name given to this complication of vaccination. The first reference in medical literature appeared in 1924, when Lucksh in Prague described cases occurring in 1923 of what he took to be encephalitis lethargica following vaccination. The first recognised case in Holland occurred in 1924 and was described in 1925 by Bastiaanse. Some confusion existed in Holland also, as, in 1924, the incidence of epidemic encephalitis was high; but a rapid fall in this incidence soon showed that another disease was present. In the light of these reports, old records indicated that in England in 1922 there were eleven probable cases of post-vaccinal encephalitis. A retrospect by Turnbull and McIntosh revealed an undoubted case in England in 1912, and by Mader in Germany in the same year, but the earliest probable case is one recorded by Comby as having occurred in Paris in 1905. A suggestion has been made that some of the cases of post-vaccinal tetanus in the past have really been cases of post-vaccinal encephalitis.

Although vaccination is practised all over the world, the distribution of post-vaccinal encephalitis is by no means so widespread. Indeed, it is almost confined to the continent of Europe. To the end of 1929, the occurrence of 490 cases has been noted in medical journals and reports, and of these, all but five were reported from European countries. The exceptions were four cases in the United States and one in British Guiana. In Europe, the disease has principally affected England, with 193 known cases; Holland with 146 cases; Germany with 92 cases, and France with 21 cases. It will be noted that these countries are contiguous. No cases have been recorded in the more westerly of the European countries, nor have Italy and Spain been affected.

Actual figures are:—

	Cases.	
England, Dec., 1922-Dec., 1929	193	(Ministry of Health).
Holland, 1923-Jan., 1929	146	(J. D. Rolleston).
Germany, since 1912	92	(Eckstein).
France, Oct., 1926-June, 1929	21	(Netter).
Sweden, 1924-1928	20	(Kling, etc.).
Prague, 1924	8	
United States, 1927	4	
Switzerland, 1924	2	(League of Nations Commission).
Poland, 1927	2	
Portugal, 1922	1	
British Guiana, 1928	1	

Clinically, the disease runs a hyper-acute

course and has a high fatality. The onset is usually acute with headache, vomiting and pyrexia, with some paralysis in addition, this last symptom being dependent upon the part of the nervous system attacked. Paralysis may affect the cranial nerves or the limbs. Convulsions are common in children. Delirium and coma are present in unfavourable cases and death ensues in one to two weeks. In patients running a favourable course, recovery is usually rapid and complete in one to two weeks. At the acute stage, the reflexes tend to disappear, while the plantar reflex is irregular. Retention or incontinence may be noted. Hekman (Holland) states that muscular tone is increased and has noted demographism in all of ten cases examined. The cerebro-spinal fluid shows an increase of pressure, but it is usually normal and sterile in other respects. In severe and fatal cases, a cell and protein increase has been noted. A disquieting feature of the Report of the Rolleston Committee is revealed as a result of a follow-up of 22 recovered cases. After-effects were found in six. Mental changes, fits and a recurrence of symptoms after a year are recorded.

In all reported cases, vaccination appears to have run a normal course.

The pathology of post-vaccinal encephalitis is characteristic. To the naked eye, there is congestion of the meninges and punctiform hæmorrhages and areas of softening are noted in the brain and spinal cord. Microscopically, the characteristic changes are degenerative, exudative and proliferative. The degenerative changes lead to areas of apparent softening in which a process of demyelination has taken place. The exudative and proliferative changes take the form of perivascular infiltration with cells which may be neuroglial, endothelial, plasma and polymorphonuclear. Ganglionic nerve cells proliferate but little. As regards distribution, the leptomeninges are slightly affected. The brain and cord are, on the other hand, diffusely affected, the grey, and especially the white matter, showing changes. The cerebral cortex is often spared, but the basal structures of the brain and the lumbar region of the cord are favourite sites of disease.

The epidemiology has been worked out as far as the somewhat scanty material permits. Flexner, in a recent paper, discusses this at length.

Incubation Period.—An examination of the incubation period shows that there is a remarkable regularity of the time interval. In the majority of Dutch and English cases, the period is ten to thirteen days, the onset being especially liable to occur on the eleventh and twelfth days. J. D. Rolleston states that 70 per cent. of cases develop the disease between the tenth and thirteenth days.

Age.—It is frequently stated that children of school age have been mostly affected, and that the disease seems to be rare in children under two years. Statistics show that this is not a true statement. In Holland, where most vaccinations are performed at the early school period, most of the cases fall in the 3 to 6 age-group, but in England, where infantile vaccination prevails and where permission to defer vaccination is easily obtained, the cases are evenly spread over the age period 1 to 15 years, and are numerous in the first year. In England, 9.8 per cent. of cases occurred in the first year and the youngest was an infant under three months (reported by Turnbull). In Germany, eight cases with four deaths have been reported under one year. Any statement as to age must be qualified by a consideration of the regulations as to vaccination prevalent.

Re-vaccination.—There are records of cases occurring in re-vaccinated individuals, but no case can be accepted unless a primary scar is visible. Two fatal cases in Germany, occurring in 1927-29, fulfil this requirement; in three other cases in the same period, no primary scar was noted. The occurrence of post-vaccinal encephalitis after re-vaccination must be very rare in Germany, as four million re-vaccinations were performed in the period to which reference is made. A disquieting Dutch report in October, 1929, records fourteen cases of encephalitis in re-vaccinated persons, but no mention is made of the result of the primary vaccination.

References:—

Germany: 1927-29, 5 cases—all fatal. Age 12-14. No trace of primary scar in three. Gildemeister, 1929. One case. No primary scar seen.

Holland: Hekman, 1929. Two cases. Scars not mentioned. Kuenen, Kniper & von Loghem. Oct., 1929. 14 cases. Scars not mentioned.

Age Incidence.—The age incidence for

Holland, Sweden and England have been worked out as follows:—

Holland (Terburgh):—

Under one year	...	one case per 27,405 vaccinations.	
2-3 years	...	" "	22,407 "
3-6 years	...	" "	2,586 "
About 6 years	...	" "	2,209 "
All ages	...	" "	5,000 "

Sweden:—

All ages	...	4.7 cases per 100,000	"
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England (Rolleston):—

All ages	...	1 case per 33,000	"
		one death per 60,000	"

Contagion.—This has not been noted to play any part.

Seasonal effects have not been noted in England, but in Germany most cases occurred in May, June and October, and in Holland the highest incidence was in March.

Multiple cases have arisen in households and small communities, but these have usually been of simultaneous occurrence.

As regards **family disposition**, Flexner states there is a record of cases in the same family occurring in 1923 and 1925. Rivers in 1929 notes two instances in which, after vaccination, two children in the same family developed the symptoms of encephalitis on the same day.

Sex.—In England, females have been attacked about twice as often as males (Flexner).

Annual Number of Cases.—The largest number of cases in any country and in any year, occurred in England in 1923 when there were 51 cases. The absence of cases in the following year when their appearance was looked for, is one of the puzzling features to which the Rolleston Commission makes reference.

Some details of cases:—

Holland

1925	...	40 cases
1926	...	35 "
1927	...	50 "

Germany

1927	...	16 cases
1928	...	21 "
1929 (9 mths.)	...	14 "

Fatality.—This must be difficult to estimate as there are probably numerous recovered cases which have been unrecognised and consequently not placed on record. J. D. Rolleston estimates the mortality at 30 to 40 per cent.

Etiology.—As regards the etiology of post-vaccinal encephalitis, much work has been done, and as this work deals largely with

viruses, it is not surprising that there is a lack of unanimity among investigators. Several theories have been put forward:—

1. The hypothesis that the relationship of encephalitis to vaccination is fortuitous, is obviously untenable and need not be discussed further.

2. The hypothesis that the disease is due mainly to the vaccine virus is not readily dismissed. The finding of vaccine virus in the brains of fatal cases (McIntosh in England, Bijl and Fraenkel in Utrecht) lends considerable support, but the interpretation of this finding is not necessarily that of McIntosh and others. As Flexner points out, the mere presence of vaccine virus in an internal organ does not indicate a local pathogenic effect. So far as known data can be interpreted with probability, vaccine is not the specific excitant of the encephalitis that attends vaccination (Flexner).

3. There is the theory that vaccine virus has aroused to activity a second virus latent in the body. This is the view taken in the Report of the Committee on Vaccination, 1928, and finds a good deal of favour. In support of this view, it is now mainly urged that the lesions found in the brain in post-vaccinal encephalitis are similar to those found in a number of other conditions affecting the central nervous system, as, for example, in relation to smallpox, measles and chickenpox. The opponents of this view explain this away by stating that these are all virus diseases and that consequently it is not surprising that they give rise to a similar complication. For this theory to be fully acceptable it is necessary to explain the sudden appearance of encephalitis, its wide dissemination and its capricious activity. Levaditi states that animal experiment lends no support so far.

4. Microbial agents have been suggested, but have found little support.

(Pondman, 1927. Kling, Lonberg & Da Wassen, 1929. Pette, 1928. A neurotoxine produced by *B. bipolaris*.)

5. An ingenious theory put forward by Glantzmann is that vaccinia virus sensitises nervous tissue and, at the height of antibody production, reaction occurs. Encephalitis is, therefore, allergic or anaphylactic in nature. In favour is the incubation period. Overwhelmingly against it is the rarity of encephalitis in spite of the numerous vaccinations, and the rarity in former years when vaccination was practised.

It may, therefore, be said that there is no general agreement as to the cause of post-vaccinal encephalitis.

The appearance in recent years of post-vaccinal encephalitis and the suspicion consequently cast on vaccine lymph, prompts the question as to whether the material now used for inoculation is the same as was formerly used. A brief enquiry into the nature and origin of vaccine virus shows that the first attempt at protection against smallpox was the inoculation of smallpox material, or, as it is called, variolisation. This was introduced into England in 1721 and is credited to Lady Mary Wortley Montagu. Occasional severe results led to the next step, introduced by Sutton about 1764. His procedure consisted in the "arm to arm" inoculation of inoculated smallpox. With the idea of obtaining a milder inoculum, Benjamin Jesty, a farmer of Dorset, inoculated a human being in 1774 with cowpox. In 1789 Jenner inoculated his child with swinepox material. In 1796 he proved the efficacy of cowpox inoculation by using cowpox material from the hand of a dairymaid. In all these methods the material is variolous in origin, as also is the lymph used in modern practice, as the Report of the Committee on Vaccination, 1928, admits. The only real difference, as stated by McIntosh, is that, in modern vaccination, the vaccine lymph has been modified by passage through the rabbit and calf. It is the practice to pass virus through rabbits occasionally to reinforce the activity of calf vaccine and to purify it. By rapid passage from animal to animal, strains of vaccinia of high virulence to the rabbit can be produced. For this passage, Noguchi and Levaditi devised intracerebral and testicular inoculation in the rabbit.

Investigation has shown that no one virus is responsible for the change, since strains of vaccine have been in use for many years. Further, some, including Netter, have cast suspicion on the neuro-testicular vaccine of rabbit origin of Noguchi and Levaditi. This vaccine has been used in Spain in three million persons without giving rise to encephalitis, but when used in Holland it gave rise to cases in the same way as a bovine strain of vaccine (Ledingham & Barratt). Netter states that 40,000 vaccinations gave rise to eleven cases of encephalitis. It has been stated that post-vaccinal encephalitis may occur following the use of lymph which has never been

passed through the rabbit, but this point does not appear to have received full confirmation.

In the Report of the Committee on Vaccination, 1928, in 62 English cases of encephalitis investigated, 53 were found to have been vaccinated with government lymph, which had been obtained from 45 calves. The strain of vaccine virus employed had been in use since 1907 and had been responsible for 15 million vaccinations. At a later date, December, 1929, the Minister of Health, in replying to a question, gave the source of vaccine lymph in 193 cases as follows:—

Government lymph	...	148
Other lymph	...	37
No information	...	8

The undoubted presence of such a serious menace to vaccination calls for action, and in England the preliminary action took the form of the appointment of a Commission to enquire into the subject. The League of Nations also appointed a Commission. Both bodies have issued reports, and although these are inconclusive, the call to action has resulted in the issue of recommendations on somewhat similar lines. The Ministry of Health has acted on these recommendations. It has sometimes been blamed for being dilatory in its action, but it is difficult to see how it could have been otherwise in view of the present state of knowledge.

In the *prevention of encephalitis*, the Vaccination Order plays its part by issuing certain instructions, among which provision is made for:—

1. *The reduction in the number of insertions.*
2. *The vaccination in infancy between the ages of two and six months.*

It is not certain that the reduction in the amount of vaccine used will have the desired effect. Prof. McIntosh, who was responsible for the Minority Report of the Andrewes Commission, is of the opinion that the reduction still means a very large number of infecting doses. The fact that the virus generalises very rapidly also tends to make a reduction of the insertions of doubtful efficacy. As regards the advocacy of infantile vaccination, it is difficult to see how this will completely solve the problem in view of the fact that 9·8 per cent. of the English cases have occurred in the first year. Infantile vaccination, however, is desirable as a general rule (Winkler) because:—

- (a) Infants still have an innate immunity.
- (b) Infants have an immature and less susceptible nervous system.

- (c) Infants are less permeated by all sorts of viruses.

As a prophylactic measure, other modifications of vaccination or of vaccine lymph have been suggested.

3. *A weakening of the power of vaccine by heat or other means.*

Bedson (Freedom Research Fellow, 1929) reports that at the London Hospital, lymph is now used which has been diluted 20 to 50-fold with phosphate solution. This gives reasonable takes, and no excessive reactions have been noted in 700 vaccinations. No cases of encephalitis have occurred. He states that it is impossible to draw conclusions, as the number of primary vaccinations at susceptible ages is small. Saline and sterile water can also be used as diluents.

4. *The use of killed vaccine.*

In this direction there are small grounds for optimism according to Ledingham, because, unfortunately, the immunity so obtained has been found to be negligible. The immunising power of the vaccine depends on its virulence.

(Zehnder, 1929. No specific immunity from heated vaccine. Bland, 1930, Freedom Research Fellow. Virus was killed with formalin, heat and phenol. Rabbits—no immunity whatever route. Guinea-pigs—scanty immunity whatever route. Monkeys—work proceeding).

5. *Avoidance of the use of lymph the virulence of which has been excessively exalted.*

6. *The abolition of vaccination.*

The last is the only sure method in the light of our present knowledge. To quote Prof. Major Greenwood, "If we could be sure that the present type of smallpox would become universal, vaccination as a prophylactic would soon be of purely historical interest, because the risk to the individual of vaccination is probably greater than that of the fashionable smallpox. But even if the prevalent type of smallpox can be trusted to breed true, there still exists side by side, the old dangerous type. If we deliberately abandon the nominally compulsory system, the time will come when we shall experience a reversion to the horrors of the eighteenth century. If, moreover, the prevalent type is not fixed, but cap-

able of breeding classical smallpox, the danger is intensified."

Unfortunately, all these suggestions are based on an uncertain knowledge of the cause of post-vaccinal encephalitis. What appears to be most essential is a speeding up of research on vaccination. McIntosh states that it seems an anachronism that vaccine lymph should not be standardised in accordance with modern therapeutic procedure, and suggests the search for some method of standardising it in terms of infecting doses so that the intradermal inoculation of a definite amount may be possible.

A reference must be made to the occurrence of encephalitis in allied conditions. It has long been known that certain exanthematous diseases are liable to be followed by this complication. Westphal pointed it out in 1872. The bulk of the evidence seems to indicate that this complication is identical with post-vaccinal encephalitis. Most pathologists are agreed on this but the comparative rarity of cases makes it desirable that further investigation should be made.

Examples:—

Measles. Most frequent. Barlow among earliest in 1887.

Chickenpox.

Anti-rabic treatment.

Smallpox. Eichhorst—twice in 904 cases of smallpox,

1884—1912. Troup and Hurst—case in 1930.

Influenza.

Rubella.

Lead poisoning.

Pneumonia.

Bronchitis.

Acute gastro-enteritis.

Quoted by Zinnser in 1928.
(United States.)

Kling	Post-vaccinal encephalitis	...	20 cases
(Sweden)	Measles meningo	..	32 ..
1924-28.	Pertussis	..	12 ..
	Parotitis	..	7 ..
	Epidemic	..	969 ..

Spontaneous encephalo-mylitis—Brain and Hunter, 1920.

Finally, *treatment* may be dealt with briefly. The mortality rate indicates the lack of success that has met all efforts. In the majority of cases, the disease is fulminant and little opportunity is afforded. Yet some success has been obtained by the use of the serum of individuals who have been recently and successfully vaccinated. In most of the recorded cases, the mother of the patient has been the donor. Thus, Sir Thomas Horder in 1929, acting on Dr. Mervyn Gordon's suggestion,

treated successfully a child of 4½ years by the intra-theal administration of 5 c.c. of serum obtained from the mother who was vaccinated at the same time as the child. Hekman in Holland in 1929, treated eight children with one to three doses of 10 c.c. of serum by the intravenous route, and success crowned his efforts in seven. Finally, Bastiaanse in Holland has prepared a serum at the Royal Sero-logical Institute at Utrecht from sheep immunised with vaccine virus, but no details of the results are yet available. Treatment otherwise is symptomatic.

SURGEON-CAPTAIN S. F. DUDLEY, R.N., has been appointed to succeed Surgeon-Captain J. S. Dudding, R.N., as Director of Medical Studies and Professor of Hygiene at the Medical School, R.N. College, Greenwich.

DR. F. W. CAMPBELL BROWN, Medical Officer of Health and School Medical Officer, Heywood, has been appointed Medical Officer of Health and School Medical Officer for the Borough of Hyde, at a salary of £800, rising to £900 per annum.

THE Royal College of Physicians, Edinburgh, have awarded the Victoria Jubilee Cullen Prize for 1930 equally between Dr. George Matthew Robertson, Physician-Superintendent of the Royal Hospital, Morningside, Edinburgh, and Sir Andrew Balfour, Director of the London School of Hygiene and Tropical Medicine.

THE final list of candidates selected for the post of Assistant Medical Officer of Health of the Metropolitan Borough of St. Marylebone included Dr. Cecil Woodroffe Anderson, Assistant Medical Officer of Health, Cardiff; Dr. Henry Allen Bulman, Public Vaccinator, St. Marylebone; Dr. William Douglas Hood, Assistant Medical Officer, Surrey County Council; and Dr. Patrick Joseph O'Connell, Assistant Medical Officer and School Medical Officer, Croydon. At their meeting on July 24th, 1930, the recommendation of the Public Health Committee that Dr. Bulman should be appointed was accepted by the Council. The salary attached to the post is £800 per annum, rising by annual increments of £50 to £1,000 per annum.

The Society.

Reports, Proceedings and Announcements.

THE HOME COUNTIES BRANCH.

President: Dr. E. H. T. Nash, M.O.H., Heston and Isleworth.

Hon. Secretary: Dr. A. A. Turner, M.C., M.O.H., Finchley.

The annual meeting of this Branch was held at the house of the Society on June 6th, 1930. The President occupied the chair, and twelve other members were present. Apologies for absence were submitted from five members.

Consideration of a letter from the Executive Secretary with reference to the handling of foodstuffs was postponed to a future meeting.

A letter was submitted from Dr. Brebner (Richmond) regarding a request from the United Dairies, Ltd., to have new employees examined for tuberculosis. After discussion it was decided that the matter should be referred to the Council of the Society.

Dr. Alfred Greenwood and Dr. A. B. McMaster were appointed representatives of the Branch on the Kent Branch of the British Medical Association for the Session 1930-31.

The election of officers for the session 1930-31, as recommended by the Executive Committee, was approved as follows:—

President.—Dr. K. E. Tapper, Bromley.

Hon. Treasurer.—Dr. A. E. Porter, Reigate.

Hon. Secretary.—Dr. A. A. Turner, Finchley.

The following were elected Branch Representatives on the Council of the Society: Dr. K. E. Tapper (President); Dr. E. H. T. Nash, and Dr. A. A. Turner (Hon. Secretary).

THE YORKSHIRE BRANCH.

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

A meeting of this Branch was held at the Education Offices, Calverley Street, Leeds, on June 20th, 1930, with Dr. J. Mair, Medical Officer of Health, Harrogate, in the chair, owing to the unavoidable absence of the President, who was detained elsewhere, but arrived before the close of the meeting. Dr. J. J. Buchan, President of the Society, and nine members were also present. Apologies for absence were received from nine members.

Letters were considered from:—

(a) Dr. B. G. Forman, Medical Officer of Health, Scalby Urban District, expressing appreciation of the honour the Society had conferred in retaining his name as a life member.

(b) The Executive Secretary respecting the resignation of Dr. J. A. Hargreaves, Medical Officer of Health, Wetherby Rural District. It was agreed that the Hon. Secretary ask Dr. Hargreaves to withdraw his resignation.

(c) Dr. Cox, Medical Secretary, British Medical Association, respecting the application for election to the British Medical Association of a candidate whose professional career had previously been considered by the Branch. The Hon. Secretary was instructed to reply to Dr. Cox in the terms now indicated.

(d) Dr. Jervis saying: "On learning of the honour which His Majesty had conferred upon our colleague, Dr. Eustace Hill, I wrote and congratulated the recipient in the name of the Yorkshire Branch," and enclosing the reply received by Dr. Jervis from Sir Eustace Hill. It was unanimously agreed that the action of the Branch President be endorsed.

An expression of thanks to Dr. James Mair, Medical Officer of Health, Harrogate, for the very successful arrangements made by him on behalf of the Yorkshire Branch for the reception and entertainment of those present at the Annual Provincial Meeting of the Society at Harrogate on May 16th, was heartily approved.

Three nominations had been received in respect of the election by ballot of two representatives of the Branch on the Council of the Society. Dr. W. B. Hill, having expressed a desire that his name should be withdrawn, the President of the Society (Dr. J. J. Buchan) declared Drs. J. Mair and G. H. Pearce duly elected as Branch Representatives for the session 1930-31.

For the second time no nominations had been received for the election of two auditors; therefore none could be elected.

It had been arranged that at this meeting Dr. G. C. F. Roe, Medical Officer of Health, Halifax, would read a paper on "The Preventive Aspect of Psychiatry," but owing to the small attendance and having regard to the

importance of Dr. Roe's paper, it was agreed, with Dr. Roe's concurrence, that the paper be adjourned until the November meeting.

The Council of the Branch and the County District Group met before the meeting of the Branch.

THE SCOTTISH BRANCH.

President: Dr. Thomas Adam, County Medical Officer of Health, Stirling.

Hon. Secretary: Dr. G. V. T. McMichael, Medical Officer of Health, Paisley.

A meeting of the Council of this Branch was held in the Sanitary Chambers, Glasgow, on June 28th, 1930. Ten members were present, and the President occupied the chair. Apologies for absence were intimated from two members.

The proposals of the British Medical Association for a general medical service for the nation gave rise to a full discussion in which all the members took part. Prolonged consideration was given to paragraph 33 of the scheme which lays down that those persons who are so poor that they must be provided for entirely by the community, *i.e.*, those who up to the present time have come under the poor law medical service, should be included in an extended insurance service, their contributions to such a service being met by the local authority through its public assistance committee. Dr. Chalmers pointed out that this proposal really raised the question of whether the indigent poor could be best provided for by a part-time service of practitioners or by a municipal service of whole-time medical officers. Dr. Ritchie, supported by other county medical officers, considered that the problem in rural areas was entirely different from that in urban areas, and that in rural areas it could only be dealt with by the employment of the practitioners in these areas on a part-time basis. It was also pointed out that under the British Medical Association scheme it would be very difficult for the local authority to exercise proper supervision over the work of the practitioners who were chosen to attend the indigent poor. Ultimately, it was agreed that until local authorities had had experience of working the present poor law medical services it was impossible to express any definite opinion on the proposals in paragraph 33.

Paragraph 37, which deals with the provision of an efficient home nursing service, was also discussed at length. The general opinion was that, in view of the present housing conditions in the industrial areas in Scotland, it would be impracticable to provide continuous nursing attendance in the patients' homes, and that cases requiring such attendance could best be dealt with by institutional treatment. Dr. Chalmers pointed out that it would be desirable that the present nursing areas of the Queen's Institute of Jubilee Nurses should be altered so as to correspond with the areas of the new enlarged local authorities.

In connection with paragraph 65, which refers to the maternity service scheme of the British Medical Association, Dr. Chalmers drew attention to certain anomalies of that scheme, when compared with the present regulations and recommendations of the Ministry of Health and the Department of Health for Scotland, more especially in connection with the staffing of ante-natal clinics. It was agreed that Dr. Chalmers should raise this question at an early meeting of the Branch.

It was agreed that the question of the present methods of treatment of venereal diseases and their relation to the question of compulsory notification, which had recently been raised in the *Lancet* by Dr. James H. Sequeira, should be dealt with at the first meeting of the Branch, and that Dr. W. G. Clark, Depute Medical Officer of Health, Glasgow, should open the discussion.

THE MIDLAND BRANCH.

President: Dr. W. D. Carruthers, County M.O.H., Staffordshire.

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

The annual meeting of this Branch was held at Prestwood Sanatorium, near Stourbridge, on July 3rd, 1930. The President and twenty-nine members were present. Apologies for unavoidable absence were received from ten members.

Election of Officers and Council.—The following were elected:—

President.—Dr. P. Stanley Blaker.

President-Elect.—Dr. Wyddham Parker.

Vice-Presidents.—Dr. W. D. Carruthers, Dr. Bostock Hill, Sir John Robertson, Dr. E. H. Snell.

Elected Members of Council.—Dr. G. N. Anderson, Dr. A. Auden, Dr. J. M. Cowie, Dr. B. C. Haller, Dr. H. P. Newsholme, Dr. H. Gibbons Ward, Dr. A. Hamilton Wood.

Hon. Treasurer.—Dr. E. H. Snell.

Hon. Secretary.—Dr. R. H. H. Jolly.

Branch Correspondent.—Dr. G. N. Anderson.

Hon. Auditor.—Dr. W. M. Clendinnen.

Representatives on the Council of the Society.—Dr. R. H. H. Jolly, Dr. H. Gibbons Ward.

The Hon. Secretary reported that the Council of the Society had sanctioned the formation of an East Midland Branch, whose members would be chiefly recruited from Leicestershire, Nottinghamshire, Derbyshire and Lincolnshire. It was pointed out that the old Midland Branch would now be a more compact one, and that members would therefore enjoy better facilities for attending the meetings.

An adjournment was then made, and members and their friends were conducted over the sanatorium buildings and grounds, and afterwards partook of tea, kindly provided by the President.

Dr. D'Arcy Ellis proposed and Dr. Snell seconded a vote of thanks to Dr. Carruthers for his hospitality, and offered him their congratulations on a very successful meeting.

After tea, several members, under the guidance of Dr. Stevenson, visited the X-ray department, the kitchens and the sewage works of the institution.

THE SOUTHERN BRANCH.

President: Dr. H. Gordon Smith, M.O.H., Bournemouth.
Hon. Secretary: Dr. H. D. Kelf, Assist. M.O.H., Hants. County Council.

The annual meeting of this Branch was held at Southampton on July 4th, 1930, thirteen members being present. In the unavoidable absence of the President, Dr. Percy Moxey was voted to the chair.

Sir Eustace Hill, who recently transferred to the Southern Branch on retiring from the area of the Northern Branch, sent an apology for absence from the meeting and also an acknowledgment of the congratulations sent

to him by the Southern Branch on the knighthood conferred upon him.

Election of Officers—Session 1930-31.

The following were unanimously elected:—

President.—Dr. R. H. Wilshaw (M.O.H., Worthing).

Hon. Treasurer.—Dr. H. Leslie Cronk (C.M.O., Hants).

Hon. Secretary.—Dr. Henry D. Kelf (Asst. M.O., Hants).

Representative on Council of Society.—Dr. R. H. Wilshaw.

Executive Committee.—Dr. W. J. Hart (Deputy C.M.O., Hants), Dr. Lockhart Livingstone (M.O.H., Hursley), Dr. W. A. Bruce Young (M.O.H., Winchester).

After notes on several clinical cases were discussed, Mr. K. Eady, L.D.S. (Dental Officer, Southampton), read a very interesting paper on "The Filling of Temporary and Permanent Teeth in School Children." Most members present joined in the discussion which followed, and it was generally agreed that, to get the best out of dental treatment of school children, there should be an annual inspection of each child. This would naturally mean a large increase of the present staff of dental officers in practically all areas.

The following meetings of the Branch have been held recently:—

March 7th, 1930, at Winchester, when a paper on "The Prevention of Dental Caries in Children" was read by Mr. E. J. Taylor, who gave an interesting account of the two schools of thought among the experts as to the causes of caries.

April 4th, 1930. A visit was paid to the Atlantic Park Hostel, near Eastleigh, when Lieut.-Colonel Barbor, the Superintendent, and Dr. McGee, the Medical Officer, very kindly showed the members over the various buildings devoted to the reception of trans-migrants from Western Europe to the United States. Dr. McGee showed several clinical cases of trachoma and ringworm of the nails, with explanations of the diagnosis and treatment.

May 2nd, 1930, at Bournemouth. Papers were read by Dr. J. Maule Horne and Dr. C. Chesney on "Diphtheria Immunisation with special reference to work carried out among 500 School Children in Poole." It was agreed that the papers dealing with such useful work should reach a larger audience, and the writers were asked to submit the paper for publication in PUBLIC HEALTH.

The Literature of Preventive Medicine.

PROPERTIES OF FOOD. A Practical Text-Book for Teachers of Domestic Science. By W. M. CLIFFORD, M.Sc. (LOND.), Assistant Lecturer and Demonstrator in Physiology, King's College of Household and Social Science, London; and V. H. MOTTRAM, M.A., (CANTAB.), Professor of Physiology, University of London, Head of the Department of Physiology, King's College of Household and Social Science. London: University of London Press Ltd., 1929. pp. 128. Price 2s. 6d. net.

The rapid increase in the urban populations of the world, and of those of the British Islands in particular, has caused increasing anxiety as to how the urban millions are to be fed. Consequently, the study not only of food supplies but of the nature and quality of the food itself is becoming of paramount importance.

The unpretentious little book under consideration is an attempt on the part of the authors to give in a few pages "to the average person an account of the way to set about demonstrating the properties of foods in a simple elementary way."

It may be said at once that the book is a practical and accurate handbook, well adapted for the purpose in view, and may be recommended as a sure guide to the most inexperienced demonstrator. Indeed, its very simplicity of treatment may prove a danger as it encourages putting into the hands of the "average person" strong and poisonous chemicals, with all the warnings about their properties at the end of the book rather than in an early section where they would be most readily noted by any careless enthusiast.

Apart from this, there are but few serious criticisms to make. The first is on page 19, where the composition of cane sugar is stated to be "twelve parts of carbon to twenty-two parts of hydrogen and to eleven parts of oxygen." In such an example it would have been far better to make clear that the above were not proportions by weight but were the numbers of the respective atoms present in the molecule.

Amongst the reagents, "aeroplane petrol" is mentioned. In a future edition "ether" might well be added or substituted for this expression.

It would add to the value of the drawings of the starch grains as viewed under the microscope if the magnification were given in each

instance so that the student may have some definite idea of the relative sizes.

There are one or two minor witticisms of lower form type the removal of which would enhance the tone of the book, as would also the removal of the peculiar statement about the glyoxylic test on page 43. Is it meant, in the same local and humorous spirit, to be inferred from the statement referred to that one of the authors may have had difficulties with the test? Surely the distance between the Thames and the Cam is not so great!

Again this little book is cordially recommended, and an eventual second and enlarged edition will be looked forward to and welcomed.

HYGIENE FOR NURSES. By JOHN GUY, M.D., D.P.H. (CAMB.), F.R.F.P. AND S. (GLAS.), F.R.C.P. (EDIN.), Deputy Medical Officer of Health and Tuberculosis Officer, City of Edinburgh; Lecturer on Tuberculosis and Examiner in Public Health, Royal Colleges, Edinburgh; etc.; and G. J. I. LINKLATER, O.B.E., M.D., D.P.H., D.T.M. AND H., M.R.C.P. (EDIN.), Assistant Tuberculosis Officer, City of Edinburgh; Lecturer and Examiner, British Red Cross Society. Edinburgh: E. & S. Livingstone, 1930. pp. 212. Price 5s. net.

Containing as it does references to hygiene, the syllabus of the General Nursing Council has been responsible for the appearance of quite a number of books on the subject for the use of women training for the certificate. In the majority of these, as the authors of this particular volume claim, there has been something of a tendency to stress the communal aspect of hygiene. In an effort to rectify this they have endeavoured to concentrate on the personal aspect of hygiene, emphasising "the hygiene of the newly-born child," and giving the underlying principles of "dietics."

In spite of this, the opening chapters still deal with such subjects as water, with pictures of wells of various kinds; air, and talk of Tobin and Hinckes-Bird; house construction; drainage (not forgetting the pan closet); and so on.

In the part of the volume dealing with personal aspects of hygiene, there are chapters on personal hygiene, food and metabolism, internal parasites, etc. There is also a rather short note on the nurse and her relation to public health.

The communicable diseases are not dealt with in the personal section of the volume, but in that containing the chapters on drainage, etc. Here also is a chapter on the "external parasites," which are classified as wingless and winged. Amongst the latter, pride of place is given to mosquitoes, largely because the female *anopheles* carries the malaria parasite, and the *culex* family transmit tropical sleeping sickness and Mediterranean yellow fever.

The book is sure to be a favourite with Scottish nurses. One of the authors is examiner in hygiene to the General Nursing Council of Scotland.

In the Annual Reports.

OFFICE HYGIENE.—In all towns, and, in fact, wherever large numbers of people live, there are always numbers of premises used as offices. Anyone who has observed such premises in any town, whether they be experts in hygiene or not, will admit that a great number of these are not hygienic. When it is remembered that clerks spend two-thirds of their waking life in these rooms it will be realised that such conditions must have a serious bearing on health. In many cases they are dark, dismal, and dusty rooms with little light and ventilation; very often altogether too small, and in areas congested with buildings making adequate ventilation and light impossible. In these progressive times it is strange that this fault in our hygienic system appears to have been lost sight of, and it is time that control of some sort was brought about by legislation.—*Dr. Henry Whitehead, Wigan.*

VENEREAL DISEASE: EFFECT OF PROPAGANDA.—There is evidence of increased realisation of the dangers of venereal disease among the community, and an increased willingness to come for treatment. It has been noticeable that after each burst of health propaganda in the town, there has been a small spurt of new patients to the clinic, chiefly males who have been exposed to infection, often years previously. The main point requiring further stress is the urgent need for the institution of treatment in all cases at the earliest possible moment.—*Dr. G. A. Dawson, Darlington.*

REGISTRATION OF FOOD PREMISES.—For a variety of reasons the number of premises in the borough in which meals are provided or food sold ready cooked or is prepared for sale is very large. On more than one occasion the borough council, at the suggestion of the public health committee, have directed the attention of the Ministry of Health and the London County Council to the necessity for legislation requiring registration of food premises of this class. Up to the present no step in this direction has been taken by either of the authorities mentioned.—*Dr. Charles Porter, St. Maryabone.*

HEALTH OR LEARNING?—The majority of children attending elementary schools depend in after life far more on their physical fitness for their livelihood

than on their mental agility, yet they are trained rather in the latter than how to maintain the former. If the average citizen loses his health he loses also his means of sustenance. When once sound habits of physical culture and of the maintenance of health have been assimilated and are being practised, then a child is ready to receive the fuller education which leads outside the humdrum of existence. The ultimate test of man's domination is a physical one.—*Dr. Oscar M. Holden, Croydon.*

"BETTER HEALTH."—One hundred and thirty-two thousand copies of our monthly magazine, *Better Health*, were distributed in 1928. Very large numbers of these have been sold, which proves how highly it is valued by the public. A special effort has been made to reach the uneducated and thoughtless, who most need instruction, by writing in an entertaining manner and by pictures and humorous illustrations; but care has to be exercised not to lower the standard of authoritative instruction. One or more pages of local notes were added, and a special children's corner story was commenced in February. This story is a mixture of nature study, health suggestions, humour and adventure, making a special appeal to the child mind. It is so much more easy to influence the child mind to form health habits than to alter the settled habits of the adult.—*Dr. A. T. Nankivell, Plymouth.*

STERILIZATION OF DAIRYING UTENSILS.—Great difficulty and opposition have been experienced—particularly with the large producers and retailers—in the carrying out of Article 21 (1) which provides that every utensil shall be thoroughly washed and cleansed with boiling water or steam. While some producers have shewn enterprise and made satisfactory provision for the steam sterilization of their utensils, those who are established ask why they should incur the extra expense, and what they have to gain by doing so? Farmers and retailers have adopted modern amenities of life such as motor transport and wireless, yet they are unwilling to apply the same progressive knowledge in dairying by adopting modern methods and equipment, of which steam sterilization is the greatest factor, as well as a real labour saving proposition.—*Dr. George C. F. Roe, Halifax.*

VACCINATION.—There is, in fact, nothing in the report of the Committee which would tend in any way to lessen one's faith in efficient vaccination as a complete protection against smallpox. Thanks to the perfect protection afforded by successful vaccination, smallpox stands alone among infectious diseases as being the only one which is absolutely safe for a doctor to attend or for a person to nurse. The smallpox nurse does not regard herself as a heroine exposed to grave risk by virtue of her continued exposure to infection. She knows that recent successful vaccination confers complete protection.—*Dr. Andrew W. Forrest, Leyton.*

DR. JOHN RENNIE, Medical Officer of Health for Sheffield, has been appointed Professor of Public Health by the Sheffield University Council, in succession to the late Professor F. E. Wynne.

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Editorial.

The Local Government Act, 1929—Circular 1129.

THE changes introduced by the Local Government Act, 1929, including the greater freedom of action now given to local authorities in the administration of maternity and child welfare, tuberculosis, and venereal diseases services; the transfer to local authorities of the local supervision of the maternity and child welfare work of voluntary associations, and the transfer of poor law institutions to the county and county borough councils, render it necessary to obtain annually certain additional particulars as to the administration and progress of these services, and as to the work performed for the treatment of the sick

in the transferred institutions and other hospitals. In a circular (1129) dated July 25th, 1930, the nature of the information required is indicated and the new forms are described.

In regard to maternity and child welfare there is required an annual return on Form M.C.W. 96 (revised) (superseding the present Form M.C.W. 96), and a separate return on Form M.C.W. 96A relating to any maternity home or hospital provided or subsidised by the local authority, and to the maternity wards in institutions transferred to county and county borough councils under Part I of the Local Government Act, 1929. As the previous exchequer grants to voluntary associations have been replaced by annual contributions from the appropriate local authorities, it will be

necessary for the returns furnished by local authorities to include the maternity and child welfare work of these associations.

In respect of venereal diseases an annual return is to be made by medical officers of treatment centres on Form V.D. (R), and an annual return on Form V.R.5 from pathological laboratories which are approved under the Public Health (Venereal Diseases) Regulations, 1916.

The tuberculosis annual returns are to be of notifications, and of cases remaining on the registers of notifications at the end of each year, and the returns required under Memorandum 37/T. For the present year, the additional information required is to be provided in a new form (T. 54A). The Minister has decided to modify the requirements of memorandum 37/T as from January 1st, 1931, and a further communication on this subject will be addressed to tuberculosis authorities in due course.

In regard to hospital treatment the Minister will require from each county and county borough council an annual return on a form (Hosp. 6) showing (i) the amount and nature of the accommodation available for the treatment of the sick in institutions transferred to the councils under Part I of the Local Government Act, 1929, and in general hospitals provided under the Public Health Acts or the Local Government Acts; and (ii) the use made of the accommodation during the year. For the present year, Part II of this return is limited to the period of nine months commencing on April 1st.

It is requested that each local authority will arrange for the returns for which they are responsible to be furnished to the Minister not later than February 28th in the year following the period to which the returns relate. Copies of the new forms accompany the circular, and a supply will be forwarded to each local authority during the latter part of each year.

To make way for the new returns, certain others are to be dispensed with. These include:—

(i) Annual returns giving detailed statistics of the work of homes for mothers and babies, infants and children's hospitals, and convalescent homes for mothers and children.

(ii) Annual returns (a) on form V.D. (R), (Preliminary), giving summary information as to the work performed at treatment centres for venereal diseases; (b) on form V.R. 11, relat-

ing to the treatment of these diseases in certain poor law institutions; and (c) on form V.R. 12, relating to the treatment in hostels of women suffering from these diseases.

(iii) Monthly returns on form T. 29 (revised) giving the numbers of patients in residential institutions approved for the treatment of tuberculosis, and the numbers of empty beds, on the first day of each month. The return from each tuberculosis authority of the number of cases receiving or awaiting residential treatment (form T. 52c), which is at present a monthly return, will in future be required only at the beginning of each quarter.

* * * * *

The Public Health (Tuberculosis) Regulations, 1930.

THE need for consolidation of the several regulations relating to tuberculosis had long been felt, and the new set which replaces those of 1912, 1921 and 1924, are very welcome. Due to come into operation on January 1st, 1931, the 1930 regulations* are of considerable importance to the administrator as well as to the clinical officer. The circular (1107) accompanying the regulations is explanatory and shows that while there are no revolutionary changes, there are many improvements which experience has shown to be wise.

One of the most important amendments is a change in the wording of the first proviso to Article V of the 1912 regulations, making it clear that previous notification in another sanitary district does not relieve a practitioner from the duty of notifying. A case should be notified unless the practitioner has reasonable grounds for believing that it has already been notified to the medical officer of health of the district in which he is then residing.

It has been found that the previous arrangement for notification by school medical officers has been unsatisfactory, and they have now to use the form prescribed for other primary notifications.

The forms of notification required from medical officers of poor law institutions and sanatoria have also been amended so as to make it clear that the responsibility for the original diagnosis does not rest with the medical officer of the Institution, and to meet the view that the word "cured" in circular 549 has had attached to it too arbitrary a meaning, the word "recovered" is substituted.

* Statutory Rules and Orders, 1930, No. 572.

The regulation that a notification must be sent in a sealed envelope is expanded by an explanatory note that it is sufficient if the notification is folded and sealed so that particulars cannot be observed during transmission.

The relevant provisions of the Sanitary Officers Order, 1926, have been applied to action taken by a medical officer of health under these regulations.

It is considered that an ideal notification register should be a record of persons actually suffering from tuberculosis. Cards are therefore preferred to a book and should be kept up to date; and it is emphasised that, while the responsibility for the conduct of schemes for institutional treatment rests with the councils of counties and county boroughs, this in no way affects the duty of district councils to take steps to prevent infection.

The circular closes with some remarks on notification. It is not considered that a serious proportion of unnotified cases can be ascribed to deliberate neglect by practitioners, the two chief causes being (i) a failure to recognise the disease; and (ii) that a tuberculous person may not consult a practitioner until the disease is already advanced. It is suggested that practitioners should avail themselves more freely of the specialist service provided to assist them in this respect, and that medical officers of health should make use of every opportunity to remind practitioners of the special facilities which exist. It may be remarked that the greatest use is made of these special facilities in districts where the clinical officer is personally known to, and has won the respect of, the local practitioners.

To meet the difficulty of delay in consulting a doctor, further development of the educational side of anti-tuberculosis work is recommended. Here again it may be said that better than propaganda is the reputation of the tuberculosis officer; where he is well-known the public will frequently ask their doctor to arrange a consultation.

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Local Authorities and Cancer Investigations.

CIRCULAR 1136 (Cancer—VII) and the memorandum which accompanies it, recently issued by the Ministry of Health, differ from those previously published. Those that appeared earlier sought merely to offer information obtained in various ways with regard to the disease and contained little in the

way of indication as to action that might be taken. In this new memorandum the attention of local authorities is directed to fields of investigation that appear to be open to them, and they are invited to undertake work in these fields both in the hope that advantage may come to sufferers from the condition and that assistance may be rendered to the Departmental Committee on Cancer in the labours in which they are engaged. Broadly, in the view of the Committee, the aim of the local authority would be to ascertain whether, and, if so, in what ways, the environmental, economic, social or other conditions of cancer patients affect their chances of cure or relief from suffering, and generally to survey the local means of controlling the disease.

The first step is to devise means for establishing contact with patients, and at the outset probably the field will be limited to patients seeking treatment in hospitals. In the case of municipal hospitals there will be no difficulty, and in that of the voluntary hospitals little, since friendly co-operation with the medical staffs should be readily established. In order to assist local authorities so far as the lines of enquiry are concerned, the Committee have drafted a questionnaire which in most cases would be suitable and that can be appropriately used by non-medical members of the health department staff working under supervision of a medical officer. As a matter of fact, in the case of hospital patients the actual number of histories to be collected would be small, even though the questionnaire as it is set out in the appendix to the memorandum appears somewhat formidable. As it stands, the questionnaire, which is to be used in all cases, consists of four sections. The first of these is designed to find out how the fact of the existence of the disease was ascertained—as a result of application for treatment at hospital or attendance at a clinic or otherwise. Section II (history before coming under observation of local authority) is probably the most important, since it seeks to elicit information as to any delay in obtaining early treatment. With section I this may be filled up either at home or in hospital, and in connection with it some arrangement will be necessary by which the hospital authority would inform the local authority of the existence of the case; an arrangement which, in fact, will amount to a form of notification, though it is noteworthy that throughout the memorandum the utmost pains have been

taken to avoid the use of the words "notify" and "notification." Section III seeks information with regard to the history of the patient after coming under the observation of the local authority. Normally it would be completed at the time of discharge from hospital, and again the need for co-operation with the hospital authority arises, since intimation that the patient is about to be discharged will be necessary. Section IV deals with the subsequent history of the patient and is divided into two parts. The first part is used in cases where radical treatment was undertaken, and the second if no such treatment was attempted.

As a result of the bringing of the health department into contact with sufferers, and of the information obtained following the enquiries made, it is hoped that local authorities may be induced and put into a position not only to help individual cases but to do something on a collective scale for the condition as a whole. The collective action that might be taken includes the augmentation of existing or the provision of new public facilities for dealing with the disease along such lines as improved education of the public, increased facilities for diagnosis or treatment (particularly radium treatment), for transport, for following up and recording of cases, etc.

The memorandum is a most useful and suggestive publication and, if the work it outlines is undertaken, should help greatly to lessen suffering, if not indeed lead to some amelioration of the cancer problem. As a fact, it seems strange that some scheme of this sort was not suggested before, more particularly as in places in which a follow-up system has been in vogue for some time, Brussels, for example, the results obtained have given those concerned in them cause for real satisfaction.

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Gas Poisoning—Circular 1133.

IN the report of the Departmental Committee on Deaths from Gas Poisoning, to which very full reference was made in the June issue of PUBLIC HEALTH, one of the main recommendations was that provision should be made, by bye-law or otherwise, to guard against the passage of gas into buildings by requiring that any hole made underground through the wall of a building, new or existing, should be properly stopped up, that geysers should be properly fixed and adjusted and that steps should be taken to ensure adequate

and efficient ventilation both of the apparatus itself and the room in which it is fixed.

Believing that most local authorities will desire to act upon this recommendation of the Committee at least, the Ministry of Health, in this circular on gas poisoning, discuss at some length the methods that may be adopted to this end. A few authorities, it appears, have already made bye-laws for carrying out not only this but other recommendations of the Committee, having secured power to do so by local acts. For the majority of the others the only possible source of power is section 157 of the Public Health Act, 1875, relating to bye-laws as to buildings. Unfortunately, the provisions of this section apply only to new buildings, and any requirements introduced into bye-laws relating certainly to the stopping of holes in walls and possibly also to the ventilation of rooms in which geysers are fixed will be *ultra vires* if made applicable to existing buildings. Legally so also would any provision requiring ventilation of the heating apparatus itself. Anxious to be as helpful as possible the Ministry have provided, in the appendices to the circular, draft clauses showing just how far certain local authorities have gone and others may go in making bye-laws with regard to the fixing of geysers and the provision of flues. Actually these give little assistance in cases where the strict letter of the law is regarded in respect of existing houses, but according to the circular, though it does not say why, "so far as the legal position is concerned," it is open to a local authority to make a similar bye-law applicable to existing buildings "if they consider it reasonable to do so." Before formal steps are taken to adopt the proposal, they should be forwarded in draft to the Ministry. Extreme readiness is expressed to render any assistance possible in drafting bye-laws as also in the preparation of clauses in any local bill proposed to be promoted with a view to enabling the making of bye-laws to deal with parts of the Departmental Committee's recommendations which are outside the scope of bye-laws under the general law.

In the absence of legal powers, since there is always a possibility that a great deal can be gained by means of persuasion and by co-operation between local authorities and the bodies responsible for the supply of gas, in the view of the Ministry, as set forth in the circular, everything possible along such lines should be done.

The Admission of Trade Effluents Into Sewers.

EARLY in 1927 a deputation representing many interests concerned with the purity of rivers waited on Lord Balfour, then Lord President of the Council, and pressed for the establishment of rivers boards throughout the country. He received them with sympathy, but instead of promoting legislation for the formation of rivers boards, the Government set up a Joint Advisory Committee on River Pollution. This Committee, as may be gathered from their reports, the second of which has recently appeared,* are doing excellent work, but their terms of reference are merely "to consider and report."

Meanwhile, disastrous floods have occurred in various parts of the country, and with a view to their prevention the Government have introduced a Land Drainage Bill which aimed at the setting up of a catchment board in every watershed. It was hoped that these boards would be given power to deal with all the questions affecting the rivers and their tributaries, but the bill contained no reference whatever to river pollution.

Accordingly on April 29th, 1930, a deputation from the newly-formed Central Council for Rivers Protection, which represents the fishery and waterworks interests and others concerned with maintaining the purity of our rivers, waited on Dr. Addison, Parliamentary Secretary to the Ministry of Agriculture and Fisheries, and urged that the proposed boards should be given power to deal with river pollution. Dr. Addison, while expressing the fear that such an enlargement of the scope of the board's duties would imperil the bill, promised to insert a clause empowering the Minister of Health on his own initiative to set up prevention of pollution authorities for catchment areas. The clause was duly inserted, and the bill as amended received the Royal Assent on August 1st, 1930.

The law defining the right of a manufacturer to discharge his waste water into the sewers of the local authority is confused and uncertain. The Public Health Act, 1875, empowers the owners and occupiers of property to cause their drains to empty into the sewers, and the

* SECOND REPORT OF THE JOINT ADVISORY COMMITTEE ON RIVER POLLUTION. The Reception of Trade Effluents into the Sewers of the Local Sanitary Authorities. Ministry of Health. H.M. Stationery Office, 1930. pp. 29. Price 6d. net.

Rivers Pollution Prevention Act of the following year enacts that every sanitary authority having sewers under their control shall afford facilities to manufacturers within their district to discharge their waste liquids into such sewers. But this obligation was made subject to several important limitations. The local authorities were not to be compelled to admit liquids which would prejudicially affect the sewers or the disposal of the sewage or be injurious from a sanitary point of view, nor were they required to give such facilities if their sewers were only sufficient for the requirements of their district.

In view of the uncertainty of the position under the general law, seven authorities in Lancashire and Yorkshire have obtained local acts defining the conditions under which trade wastes shall be admitted into their sewers, and other authorities have entered into agreements with manufacturers within their districts for the admission of such wastes.

The Joint Advisory Committee on River Pollution have examined in detail the scope and operation of the general law and the effect of the various local acts, and in their recently issued second report they set out their conclusions and recommendations.

They recommend that section 7 of the Rivers Pollution Prevention Act, 1876, be repealed and the general law so amended as to make it the duty of the local sanitary authorities to receive and dispose of the trade effluents of their districts, and that for this purpose they should have the same powers and duties as they have already for the disposal of ordinary sewage under the Public Health Acts. The local authorities should be empowered to make general regulations governing the exercise by the trader of the right so conferred and imposing the necessary safeguards and conditions with which he must comply, the terms of such regulations to be settled by agreement with representatives of the traders. Where agreement cannot be arrived at, the questions in dispute should be determined by the Ministry of Health. The local authority should be empowered by means of these regulations to call for the necessary preliminary treatment of the trade wastes and the removal of objectionable substances, to regulate the rate and volume of the discharge, to inspect the effluents and take samples, and to impose reasonable charges for their treatment.

They should be enabled, should they so desire, to construct separate sewers or works

for the reception and disposal of trade wastes or to combine for the purpose with the local authority of any other district. They should also be empowered to execute works on the manufacturer's behalf and at his expense, and to enter into special agreements with individual traders. Existing agreements for the treatment of trade wastes should be safeguarded.

The Joint Advisory Committee are convinced that legislation on these lines is not only desirable but urgently necessary.

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Cancer of the Lip, Tongue and Skin.

IN her report on cancer of the lip, tongue and skin, Dr. Janet E. Lane-Claypon has made an analysis of the literature, from a statistical standpoint, with special reference to the results of treatment, and the extensive survey carried out has undoubtedly involved a vast amount of work. The report* fills a long felt want, both from the point of view of the clinician and the research worker, and the result is encouraging to all concerned, with its promise of a cure if treatment is undertaken in the early stages. Sir George Newman, in his prefatory note, lays emphasis on this point and indicates that the medical profession, more particularly those members concerned with public health, can perform a useful service by making the fact generally known: as also by urging the need and importance of an early diagnosis. The report in its main divisions deals with cancer of the lip, cancer of the tongue, and cancer of the skin.

Cancer of the lower lip, it is shown, is many times more frequent than cancer of the upper lip, the incidence being approximately 95 per cent. and 5 per cent. respectively. Hitherto it has been generally believed that smoking had some influence in the causation of cancer in this situation, but though the evidence does not incriminate the habit there is some reason for believing that the old clay pipe, and other methods of smoking liable to cause burns and damage to the epithelium, may have an effect by acting as chronic irritants. The commonest lesions which have been shown to be precursory to the supervention of cancer are blebs and ulcers, whilst nodules, fissures, scabs and warts, leucoplakia or previous injury all appear to have a more or less definite relationship to the later occurrence of cancer of the

lip. The mean alleged duration of the symptoms among those patients who sought treatment within three years of noticing the symptoms was just under one year, thus showing that the natural course of the disease is a slow one. The success of treatment depends on the removal or treatment of glands in the neck; if they are removed on both sides at the same time as the growth the survival rate at five years after the operation is approximately 62-69 per cent. Early cases treated by local excision only give varying results: taken as a whole 55.6 per cent. survive at three years after operation. On the other hand, early cases treated by removal of the glands on both sides and excision of the growth show a survival rate of 80 per cent. or more at five and at three years after operation. For radiology the available results for all stages of the disease and for all methods of radio-therapy give a survival rate of 76.1 per cent. at three years after treatment.

The literature on cancer of the tongue was found to give unsatisfactory data for the report, and results are only to be considered as relatively accurate. The literature on the antecedent conditions is discussed in detail, and the closest association found is with syphilis, sometimes accompanied by some other cause of chronic irritation. There is also a close association with leucoplakia either with or without previous syphilis. No data were available which would enable the frequency of supervention of cancer of the tongue in syphilitic subjects to be ascertained. Also, the data in respect of smoking are unreliable, but as far as they go do not suggest an association with cancer in this situation. There are cases reported in the literature where irritation due to the sharp edge of a tooth appears to have been the exciting cause of cancer; they are, however, not numerous. The mean age of patients suffering from cancer of the tongue was found to be approximately 54 years, whilst the mean age of deaths was 61 years, and the disease is roughly ten times as common among men as among women. Patients usually apply for treatment seven to eight months after the appearance of symptoms, and the disease on the whole has a short natural duration (about sixteen months), reaching the glands of the neck in the early stages. From the massed results of treatment by operation it appears that from 20-25 per cent. of all patients operated upon are alive and well at three years from operation. The operative

mortality is fairly high—approximately from 7-12 per cent. In respect of radiology the results available suggest that treatment by this method shows a better survival rate than operation, namely, 37.8 per cent. at three years. In a recent small series of cases from the Radiumhemmet at Stockholm the rate was 59.1 per cent.

Under the heading "Cancer of the Skin," cancer of the external genital organs is dealt with in a special section, note being made that they do not appear to be frequently affected by the disease. With regard to the skin in general, the precursors appear in the form of blebs, crusts, warts, pimples, scabs, nodules or injuries, and it seems reasonably certain that a high percentage of cases, if not all, develop on a previously existing lesion, and that many of them are caused by frequent irritation. The relationship of occupation to cutaneous cancer has been exhaustively investigated, showing chimney-sweeping and mule-spinning to be the two occupations which reveal a high percentage of deaths from cancer of the scrotum. The period of development is usually a long one, many developing the disease after the occupation has been abandoned. In cancer of the skin generally, it is shown that most of the cases occur in the upper part of the head and face. The difference in incidence between men and women, so marked in cancer of the lip and tongue, is not found in cancer of the skin, although there is a slight preponderance among the men. The mean age of the patients varies between 55 and 58 years, whilst the mean age of death is 66 years for men and 68.7 years for women. The natural duration is a long one, the average period between the appearance of the symptoms and application for treatment being ten years. Results of operation show a wide variation in terminal rates, but as a whole it appears that from 40-50 per cent. of all cases treated are alive and well three years after operation. Adequate radio-therapy, there seems to be little doubt, gives results which are definitely superior to surgery, the survival rate at three years being from 80-90 per cent. of all cases treated.

In discussing the occurrence of cancer of the external genitalia, it is noted that phimosis seems to be a common antecedent of cancer of the penis, and that venereal disease was present in 28.4 per cent. of the cases. Quite definitely the disease is less frequent among the circumcised. There appears to be no definite or frequent precursor of cancer of

the vulva. The average period between the onset of symptoms and the application of treatment is fourteen months; the interval is often extended to two years by preliminary ineffective treatment at home. The mean age of incidence is between 52 and 54 years. In cancer of the penis the results obtained by treatment are very satisfactory; the crude survival rate after three years is 47.4 per cent., and after five years, 41.1 per cent. It is probable that the results of radio-therapy are as favourable as those of surgery, but no large series of cases has been published. The results of local removal of cancer of the scrotum are also satisfactory; no series treated by radio-therapy is on record. The only large series of cases of cancer of the vulva is that published by the Radiumhemmet, in which of 60 cases treated, 19 were alive and well three years later, the treatment employed being electro-coagulation combined with distant radium.

The list of publications appended to the report forms a very valuable source of information to those who wish to examine the subject in detail.

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Public Health in Tanganyika.

THE reports of colleagues working in the outlying parts of the Empire always engender feelings of admiration for the courage and perseverance shown under difficult and trying conditions. These feelings are especially emphasised on reading the report of Dr. J. O. Shircore, Director of the Sanitary Services of Tanganyika Territory.* This vast country extends from the Indian Ocean westwards to the great Lakes Tanganyika and Nyassa, with Kenya on the north and Rhodesia on the south-east. It comprises some 365,000 square miles, mostly covered with forest, with a population estimated at about five millions. The climate varies from the moist heat of the tropics to the coldness and bleakness of the slopes of Kilimanjaro. Consequently the range of conditions and the health problems resulting therefrom are extremely varied.

Hygienic work started first and is consequently most advanced in the seaport districts of which Dar-es-Salaam is the chief. Here are to be found all modern developments,

* Ministry of Health Reports on Public Health and Medical Subjects, No. 59. H.M. Stationery Office, 1930. pp. 121. Price 2s. net.

* TANGANYIKA TERRITORY. Annual Medical and Sanitary Report for the year ending December 31st, 1928. Published by the Crown Agents for the Colonies, 4, Millbank, London, S.W.1. pp. 272, illustrated, Price 5s.

even including town planning, hospitals, maternity and child welfare and school clinics, bacteriological and chemical laboratories. Anti-malarial measures are in force, and there are inspection and licensing of places where food and drink are prepared and sold, of milk-sheds and shops, and eating houses. Animals are examined before and after slaughter.

It is more difficult in the interior, as can readily be understood, to carry forward the work which is of such value to the native, especially as the people are under the influence of the witch doctors, who play upon their ignorance, credulity and superstition. To counteract this a process of education is being promoted through the activities of the members of several departments. Besides the European staff there are a number of officials of Indian origin and a growing staff of African sanitary inspectors (at present 185) and of tribal dressers employed at dispensaries beyond the effective radius of the regular medical service. These act as health missionaries in their areas.

A mass of information relative to the life-history of the native has been collected, and an extremely interesting chapter is written round the superstitions and customs which have a bearing on pregnancy and childbirth, and on the incidence of several of the more prevalent diseases.

The Prevention of Blindness.

THE prevention of blindness should need no eloquent advocate to plead its essential and urgent cause; but it would seem that this is a case where the application of available knowledge has lagged behind the timely discoveries of science. Perhaps it is the magnitude of the task; but in these days Leviathan holds no terrors for commerce or science, and when things done on the gigantic scale are a matter of national prowess, it would rather appear to be apathy to answer the very old question: "Who is my neighbour?" It is disconcerting and sad to read of the deplorable amount of blind populations in the world; half a million are in China, there are a million and a half in India, some 76,000 in the United States, 53,000 in Great Britain, 36,000 in Germany. And immediately the reader is prompted to ask: "How can prevention stop this appalling toll?"

The answer is contained in a very interesting report published in English by the International Association for the Prevention of

Blindness,* a body constituted at the Thirteenth International Ophthalmological Congress held at Scheveningen. This Association intends in the first place to unite the efforts of all who are willing to help in preventing accidents and disease from making new victims, in decreasing the number of the blind—in short, in protecting and preserving eyesight. The report contains an excellent account of the present situation; reference is made to the amount of blindness and its geographical distribution, the causes of blindness, accidents, seriously defective vision, together with the need and possible functions of an international organisation.

The inclusion on the executive committee of the leading ophthalmologists of every country suffices to show the very favourable reception of the new association by the scientific world, and on all sides there will be unanimous and hearty welcome. Inaugurated under such happy conditions it may reasonably be hoped that its activities will have excellent results in rescuing countless individuals from darkness.

The Lowestoft Meeting.

THE full programme of the provincial meeting of the Society to be held at Lowestoft on September 19th and 20th appears in the agenda paper enclosed with this issue of PUBLIC HEALTH. On the first day, Dr. Astley Clarke, Senior Physician of Leicester Royal Infirmary; Dr. C. E. S. Flemming, for some years representative of the British Medical Association on the Council of the Society; Dr. H. P. Newsholme, Medical Officer of Health, Birmingham; and Dr. A. M. N. Pringle, Medical Officer of Health, Ipswich, will open the discussion on "The Public Health Significance of General Medical Service Schemes," a subject which seems likely to come into the field of practical politics in the near future. There are also matters of some urgency to be dealt with by the Council on the following morning.

In addition to the hospitality offered by the Mayor and Corporation of Lowestoft, the Eastern Branch of the Society are inviting members for a trip on Oulton Broad on September 20th. Altogether the Lowestoft meeting promises to afford a very profitable and enjoyable week-end, and it may be hoped that a large number of members will find it possible to attend.

* THE PREVENTION OF BLINDNESS. Report published by the League of Red Cross Societies. Paris: 2, Avenue Velasquez, 1929.

Rheumatism in its Public Health Aspects.

By SINCLAIR MILLER, D.S.O., M.C., M.A., M.D., M.R.C.P. (Lond.), D.P.H., Honorary Clinical Pathologist, Royal Bath Hospital, Harrogate; MATTHEW B. RAY, D.S.O., M.D. (Edin.), Senior Honorary Physician, British Red Cross Central Clinic for Rheumatism; and GEOFFREY HOLMES, M.B., B.CH., Honorary Physician, Royal Bath Hospital and Rawson Convalescent Home, Harrogate.

These three papers, read at the Annual Provincial Meeting of the Society, held at the Harrogate Royal Bath Hospital on May 16th, 1930, coming from experts, made a most attractive opening to a discussion on a subject of growing importance to health officers.

DR. SINCLAIR MILLER.

IT is my privilege in the first place to offer you a very hearty welcome to Harrogate and to tell you with what pleasure we have looked forward to your visit. It is to you as a body that we look for practical methods of application of such ideas as we hold for the prevention of chronic rheumatism; also, each year it is becoming more and more manifest that the work of the medical officer of health should be closely associated with general medicine. In no disease is there greater scope for the close association of preventive and curative medicine than in chronic rheumatism.

It is most appropriate, I think, that the subject chosen for discussion on this occasion should be chronic rheumatism, for Harrogate is well known as a centre specially adapted for the investigation and treatment of the disease.

Enough has been said and written on the subject of invalidity caused by chronic rheumatism to impress upon everyone the extreme importance of the disease. The burden it throws on industry by incapacitating workers is great, not to speak of the disabling and crippling effects in individuals. The disease offers a wide field for preventive medicine, for it is largely on the preventive side that hope of amelioration or even elimination of the disease can be founded. Once the disease has become firmly implanted the cure is prolonged and difficult.

Chronic rheumatism is not a definite morbid entity, but rather a conglomeration of pathological processes arising from a variety of causes. Its aetiology is still imperfectly understood and mainly for this reason the classification and terminology alike are confusing.

In the investigation of chronic rheumatism it is advantageous to dwell on three main factors in the production of the disease, namely,

the soil, the seed and the environment. All these factors play an important part, but it is with the first two only, namely, the soil and the seed, I propose to deal to-day.

Undoubtedly, the "soil" plays a big part as a predisposing factor, and it is only by the analysis of the "soil" in a large series of cases that definite conclusions can be reached. In the routine investigation of chronic rheumatism I have had an opportunity of examining fractional test meals on a somewhat extensive scale. In this hospital there are between one and two hundred fractional test meals done annually, and I get about half as many cases from my private clinic. In a recent paper in the *Quarterly Journal of Medicine*, Dr. Smith and I summarised our findings in a series of 250 cases. In the rheumatoid group of chronic arthritis and in cases of fibrositis we found that more than 20 per cent. of the cases showed achlorhydria, that is, no free hydrochloric acid in the stomach at any time during the test meal. According to Bennett and Ryle's figures there is only 4 per cent. of cases of achlorhydria amongst normal individuals.

Again, in the osteo-arthritic group, 27 per cent. of our cases showed hyperchlorhydria in contrast to 8 per cent. amongst normal individuals. Thus gastric acidity has some association with the type of rheumatism that is likely to develop.

Again, the type of build of the patient is somehow associated with the disease, as well as the fitness or otherwise of the subject. In this way many factors in the individual can be assessed, and by their integration another step in the advancement of our knowledge of the disease attained. The investigation of the disease is often long and arduous, and, if it is to be undertaken under the most favourable conditions, it requires considerable "team

work " between the clinician, radiologist, bio-chemist and bacteriologist.

Turning now to the question of " seed," the greater proportion of cases of chronic rheumatism is associated somehow or other with sepsis, though often the location of the focus of infection is difficult. There are many sites of infection associated with the disease, the more important being the teeth, tonsils, maxillary antrum, nasal sinuses, genito-urinary tract, prostate gland, uterus and uterine appendages, and alimentary tract. The prostate gland, uterus and uterine appendages are foci that are often overlooked, but they are, nevertheless, important. I shall always remember a case of rheumatoid arthritis seen by me in consultation about three years ago; the tonsils were obviously badly infected and were wholeheartedly condemned by the throat surgeon; after their removal recovery of the patient was unsatisfactory and the patient returned for further investigation; the condition of the blood suggested that there was still present an undetected focus of infection; finally, it was found that the uterine appendages were unhealthy; after their removal the patient made an uneventful recovery.

The organism most often found in focal sepsis associated with chronic arthritis is the so-called streptococcus viridans. This is a streptococcus, which, though non-hæmolytic, produces a greenish colouration on certain types of blood culture media. This organism is found in upwards of 90 per cent. of cultures from teeth showing apical infections, often several strains being present together. On the other hand, the streptococcus hæmolyticus is only rarely found in teeth cultures, being present in 4 per cent. only in a series of cases recently investigated by me. Nevertheless, we have yet no reliable method of assessing the pathogenic properties of bacteria, and hence we have no direct proof that will with certainty incriminate the streptococcus viridans. Indeed, many cases of chronic rheumatism are associated with intestinal and genito-urinary infections where the isolation of a streptococcus viridans is a rarity.

As will be shown by the other speakers, the causation of chronic rheumatism is protean in nature, and in its prevention, as well as in its alleviation and cure, the closest co-operation of all branches of medicine is required. Units for the closer study of the disease are being formed in several centres in England. In this way more organised and comprehensive in-

vestigations, including not only work in the laboratory, but at the bedside and even in the factory and workshop, can be undertaken. Much research into all aspects of the disease is needed, with the pooling of the knowledge acquired.

I heartily endorse the statement of Sir George Newman in his presidential address at the Bath Conference on Rheumatic Diseases to the effect that " the whole medical profession should cease to work in water-tight compartments in the investigation and treatment of chronic rheumatism; the consultant and the specialist should be invaluable to the public medical services, as they in their turn should serve him."

The time has come when there should be unification of efforts in combating the disease. Those in control of the special services, like the school medical service, the maternity and infant welfare services, hospitals in general, and especially rheumatic hospitals like the Royal Bath Hospital, Harrogate, might well have some common meeting ground where schemes for the co-ordination of investigation into chronic rheumatism might be discussed and plans laid for the integration and interpretation of results obtained. Such a scheme may appear grandiose and impracticable, but, nevertheless, I feel that a strong lead by this Society, sponsored also, if possible, by the Ministry of Health, would produce profitable and far-reaching results. Up and down the country much valuable work has been, and is being, done on chronic rheumatism by individuals or groups of individuals, but, unfortunately, much effort is wasted because we have had no common sorting-house where facts might be tabulated, schemes discussed and plans of attack formulated.

DR. RAY.

The measure of success that has crowned the efforts of local authorities in dealing with the ravages of tuberculosis and venereal disease is surely sufficient encouragement to further activities with regard to a disease which has devastating effects on the public health and industrial efficiency.

Statistics bearing upon the incidence of the rheumatic diseases are set forth in various publications by the Ministry of Health, and as most speakers and writers on this subject are in the habit of making free quotations from them, it is hardly necessary to repeat an " oft told tale." My remarks will lead up to the

question of what public authorities can do for the chronic rheumatic by way of treatment, and so lessen the severe tax on industrial efficiency consequent on the prevalence of those diseases grouped under the somewhat vague term of " chronic rheumatism."

In doing so, I more or less limit their ambit to the problem as it affects treatment in the large towns and centres of population, while Dr. Geoffrey Holmes will deal more particularly with treatment at the spas. Dr. Sinclair Miller has discussed the question of ætiology in its various aspects.

The question of juvenile rheumatism is not included in the scope of the present discussion, not from any lack of appreciation of its importance, but from the fact that we are meeting at a spa that affords a more fitting background for a consideration of the disease as it affects adults.

Our discussion will be still further limited by not paying more than a passing attention to the acute forms of the disease which confine a patient to bed—(a) rheumatic fever; (b) acute rheumatoid arthritis, and (c) the more acute forms of inflammation of fibrous tissue. All these conditions are best treated at home or at a general hospital. For the kind of treatment we propose to outline, the patient must be able to walk or, at any rate, be fit to be brought to an institution. It will include, therefore, the sub-acute and more chronic forms of the disease as well as mechanical impediments which follow acute or sub-acute attacks.

A useful purpose will, no doubt, be served by a brief reference to the varieties of chronic rheumatism that are continuously being met with. In doing this, I cannot do better than follow the classification laid down by the Ministry of Health.

The Ministry recognises three groups:—A, B, and C. The first group, A, includes two categories (1) rheumatic fever and (2) sub-acute articular rheumatism. Groups B and C comprise all the chronic forms of the disease. Group B includes all the various non-articular manifestations such as myalgia, fibrositis, pleurodynia, torticollis, lumbago, sciatica and brachial neuritis. For statistical purposes a separate category is assigned to lumbago, sciatica and brachial neuritis, thus forming three sub-groups or categories.

The other main group, C, includes all the chronic joint changes which are further divided into four sub-groups as follows:—

Rheumatoid arthritis (6), also known as in-

fective peri-arthritis or " atrophic " arthritis. Dr. Glover points out in his Milroy Lectures this year that there are really two different conditions included in this category:—

(a) Rheumatoid arthritis proper, which usually affects females and begins with an acute initial attack of pyrexia. Many smaller joints are affected, especially the first and second phalangeal as well as the temporomaxillary joints. Changes are mostly peri-articular, accompanied by much fibrositis with spindle-shaped joints. The lesions are often bilaterally symmetrical and the nutrition of the patient is almost invariably bad. Llewellyn many years ago drew attention to certain premonitory symptoms which may be vaso-motor, motor or sensory and not necessarily arthritic. A recognisable focus of infection is rarely seen in this type and very little is known of its ætiology.

(b) A type of peri-arthritis or atrophic arthritis very like the preceding so far as the actual joint changes are concerned, but it is more often non-articular and generally implicates larger joints. It may affect either sex and a careful search will often reveal a definite focus of infection which may be situated in the teeth, tonsils, nasal sinuses, antrum, intestinal tract or genito-urinary organs. The removal of such a focus is generally attended by a cure or a marked alleviation of the symptoms. There is not usually any initial pyrexia in these cases to speak of, neither are there any premonitory symptoms as described by Llewellyn in true rheumatoid arthritis. The particular type just referred to is sometimes known as a " focal " arthritis. (Thomson and Gordon.)

Other authorities say there are more types; Strangeways described six.

Osteo-arthritis (7).—This is usually afebrile and begins gradually. Larger joints are affected and the condition is generally non-articular at first. The knees and hips are especially liable to be attacked. It is characterised by grating, lipping, eburation and the formation of osteophytes. The lesions are often asymmetrical and the patient older than the foregoing types and is generally well nourished. The condition is often preceded by a strain or an injury to the joint or it may be associated with degenerative changes consequent on advancing age. Its relationship with a local infection is not by any means well defined.

Gout (8).—In the list of chronic joint

changes, gout is included. The acute variety is somewhat rarely seen these days but its manifestations are well recognised. The chronic form is characterised by polyarthritis with acute exacerbations at intervals with the presence of tophi.

Chronic joint changes, unclassifiable (9).—These include all types that cannot be allocated to any of the foregoing categories.

Factors in Causation.—These have a very important bearing on the rationale of hydrological and other methods of physical treatment. As Dr. Sinclair Miller has dealt with some special features in ætiology, I shall only make a very brief reference to some points which are specially connected with treatment.

Infective Foci.—The protean character of the manifestations of chronic rheumatic disease has hitherto resisted all attempts on the part of the bacteriologist to identify an organism which fulfils the requirements laid down in Koch's postulates. This is not to suggest that this present ignorance as to the identity of possible infective organisms should in any way preclude the careful search for, and if found the removal of, septic foci as an ordinary hygienic measure. Many people suffer from decayed teeth, diseased tonsils, inflamed gall bladders and infected appendices who never have any symptoms of rheumatism. All that can be really substantiated is that the presence of these foci of infection invokes a chronic state of ill-health in consequence of which the rheumatic condition is more readily brought about in the type of individual particularly liable to the affection.

Digestive Disorders.—These are probably just as fruitful a source of rheumatic conditions as infective foci. It is more than likely that infective foci act through the digestive tract. As a result of disturbances thus set up, fermentative changes are induced which give rise to toxins which enter the circulation. It will be remembered that achlorhydria is specially common in rheumatoid arthritis and is known to precede the condition.

The Influence of Heredity.—It is difficult to find anyone who cannot give a history of rheumatism in some members of his or her family. There is, however, every reason to assume that many people are born with a distinct tendency to the development of rheumatic symptoms on the slightest provocation. By many authorities a distinct type of individual or diathesis is recognised. Such an assumption is the only possible explanation of the reason why some

people can sit around in damp clothes for hours and nothing special happens, while the mere suggestion of a damp bed without the experience will bring on an attack of lumbago in others. Then again, if all flesh were alike, septic tooth sockets and decadent tonsils would cause rheumatism in each instance.

Failure in Adaptation.—Rheumatic disease is undoubtedly more prevalent in damp, cold climates. Certain industrial conditions predispose to attacks of lumbago and fibrositis. Van Breemen, of Amsterdam, considers that each trade has its own particular variety of rheumatism. The organ of the body most concerned with environmental conditions is, of course, the skin. By means of the cutaneous nerve endings, a contact or awareness of environmental conditions is brought about. Besides the ordinary nerves of tactile sensibility which run in the cerebro-spinal system, the skin, like every other organ in the body—glands, heart, blood vessels and the hollow viscera—has a double innervation from the autonomic nervous system. One division, from the ganglionated cords of the sympathetic, through their grey rami, supply efferent involuntary fibres whose functions are vaso-motor, vaso-inhibitory, excito-glandular or secretory. The other division includes in its distribution, branches from the three great plexuses—cardiac, solar and hypogastric. These two divisions, being antagonistic in their action, their equilibrium keeps the body in a state of health. In close relationship with the autonomic system are the ductless glands belonging to the endocrine system. They are also arranged as antagonising elements. As an example, it will be remembered that the pituitary and adrenals are in opposition to the pancreas in metabolism and to the pineal gland as regards development. The skin functions are largely under the control of the thyroid, pituitary and adrenals.

The Skin Circulation.—Practically two-thirds of the entire blood supply of the body can be contained in the vessels of the skin. In other words, it is possible to bleed a person into his skin. As the blood vessels of the skin are mainly under the control of the autonomic system and its related endocrine glands, alterations in the size of these vessels can be brought about quite independently of the heart. In this sense, some observers speak about a "skin heart" from the fact that the peripheral circulation has a certain measure of autonomy.

Pemberton has pointed out that there is

strong evidence that at least part of the pathological change in the rheumatic syndrome consists of interference with, or obstruction to, the flow of blood in the finer capillary beds. Schulhof further corroborates this observation by stating that the essential cause of rheumatic symptoms is a trouble in the capillary circulation in the organs of locomotion. He suggests that cold or climatic irritation sets up an autonomic capillary spasm, followed by stasis in the capillaries and subsequently in the lymph spaces. If the skin cannot adequately protect the body from the effects of changes of temperature, relative humidity, etc., it is not carrying out its functions properly. In directing treatment towards the skin, an endeavour is made to increase its powers of resistance and thus afford a more adequate protection.

Excretory Functions.—In health, under ordinary conditions, of the total loss of water by the body, respiration accounts for about 30 per cent., the kidneys 50 per cent., and the skin 17 per cent. It has been repeatedly noted that the sweating functions of the skin are deficient in most chronic rheumatics. In many cases of lumbago or fibrositis a marked amelioration of the symptoms can be induced by the promotion of free perspiration.

Heat Regulation.—Heat, produced by internal metabolic processes, is radiated chiefly from the surface of the body. The skin acts as a casing or jacket does to a boiler or machine. It keeps the heat from being dissipated too freely, and at the same time maintains an even temperature at which the internal organs can best carry on their work. The body is, of course, cooled by the free evaporation of perspiration. If this is interfered with or the compensatory loss of heat impeded, a rise in temperature immediately follows. Such an artificial pyrexia is always induced by a prolonged bath at a temperature at or above that of the skin.

Besides having a deficient action of the skin, most chronic rheumatics have a persistent sub-normal temperature. It may quite well be that the toxic agent, whatever its nature, can only exercise its optimum effect at a temperature below that of the normal. Any rise of internal temperature may interfere with its activity and possibly cause its excretion by the increased flow of sweat. Whether this is a valid explanation or not remains to be proved, but it is supported by the undoubted clinical fact that a rise of internal temperature

always brings about an improvement in the rheumatic condition, whether articular or non-articular.

After this cursory glance at some of the main principles underlying treatment by physical methods, we are now in a position to consider in more detail their application and also what facilities for this kind of treatment can be supplied by local authorities.

This question can best be studied under three headings, viz.:—

1. The class of case to be treated.
2. The kind of baths and appliances to be provided.
3. Whether a special building is needed for the purpose.

1. The Class of Case to be Treated.—Sub-acute and chronic forms of rheumatism, both articular and non-articular. The timely application of soothing hydrological methods may cut short the malady and save the patient weeks or months of invalidity. The earlier stages of arthritis are particularly amenable to treatment by baths and physical measures. The same applies to non-articular forms of rheumatism, where perhaps the results are more dramatic. It is well known that many troublesome cases of sciatica originate as lumbago or fibrositis of the lumbar muscles. If this lumbar fibrositis can be treated by suitable measures at its inception, the probability is that it will never develop into sciatica at all. Fibrositis of the various muscular planes and of the supporting structures of the nerve fibres is extremely common in industry, and many weeks' or months' work are lost simply because no provision exists for the readiest and most effectual treatment. A great many cases of chronic rheumatism are suffering from the effects of an acute attack. Exudations and adhesions have formed and the patient's working capacity is seriously impaired by reason of his stiffened joints and muscles. Much can be done by way of resolving these exudations and breaking down adhesions and thus restoring the joints to their former usefulness.

Many conditions, both articular and non-articular, are in such an advanced stage that no hope of cure can be held out. There is, however, one benefit that the majority of them obtain by recourse to baths and physical methods of treatment, and that is relief of their pain. Many patients suffering from swollen and more or less stiffened articulations find after a few weeks treatment that their pain is less, their nights are more tranquil and their

bodily condition improves in consequence.

The great advantage of having a centre for physical treatment within easy access of populous districts is that patients are able to carry on with their occupation whilst having treatment or, at any rate, their sick absence need not necessarily be so prolonged as would otherwise occur. In establishing such centres for treatment, provision should always be made for treatment to be obtained after working hours. There will, however, still remain a large number of cases for whom something more is required than is obtainable at a town clinic. Such an institution can only deal with patients who come under the category of "out-patients." Many forms of arthritis require the skilled investigation of a team of experts. Prolonged observation in an in-patient institution is urgently needed in that class of case. Glover, in his Milroy Lectures this year, foreshadows the provision of "arthritis" units where the necessary skilled investigation would be forthcoming. At the present time this kind of work is being admirably carried on at the great spa hospitals. No doubt Dr. Holmes will have something to tell us about that side of the question. All I would say here is to emphasise the prime importance of the closest relationship between the town clinics, the spa hospitals and the arthritis units when formed.

2. *The Kind of Baths and Appliances to be Provided.*—I propose to state what I think to be the irreducible minimum of requirements in any establishment that purports to supply physical treatment. This can best be accomplished by first setting forth the effects that such treatment can be expected to produce in a rheumatic subject.

It will be remembered that some reference was made earlier on to certain anatomical changes more or less constantly found in the syndrome of chronic rheumatism. These were :—

- (a) Deficient sweat secretion.
- (b) Persistent low temperature.
- (c) Stasis in capillary beds.

Besides remedying these defects there are other objects to be attained :—

(d) Restoration of movement in stiffened joints and muscles.

(e) Resolution of old inflammatory effusions.

(f) The relief of pain.

We shall now consider the various kinds of baths and other methods of treatment which can be directed towards the relief of these conditions.

(a) *Deficient Sweat Secretion.*—Obviously the provision of sweating baths. The choice lies between the hot air room and the cabinet vapour bath. The vapour room is apt to cause faintness and patients therein require constant supervision. For practical purposes when a large number of patients have to be put through, the hot air room is the simplest. Besides promoting free perspiration, ten minutes or so in the hot room is a very useful prelude to massage.

(b) *Persistent Low Temperature.*—A rise of internal temperature can be brought about by a simple reclining bath at a temperature slightly above that of the skin. By its use the loss of heat is prevented with a consequent accumulation of heat within the tissues. A similar effect can be obtained by the addition of some medicament to the water, brine for example. This serves a double purpose in that it raises the temperature of internal parts and promotes very free perspiration after the patient is removed from the bath. If brine is used at all extensively, the bath tubs should be of teak.

(c) *Stasis in Capillary Beds.*—The best form of treatment for this is undoubtedly the manipulative douche. It consists essentially of massage under a constantly flowing stream of hot water. Where a great number of patients have to be treated in the shortest possible time, probably the "Aix" system is best. In this, the patient is seated on a chair or lying on a board, under a stream of water which is delivered by means of a hose over the masseur's shoulder. All the time a vigorous massage to the part affected is kept up by the assistant. The patient should spend about ten minutes in the hot air room before the massage. There are various other douches without massage: hot, cold and neutral as well as needle and shower baths. The hot douche when alternating with a cold application is known as the Scotch douche and is a most valuable measure for treating cases of sluggish circulation. In this form of treatment two hose pipes are used, one delivering very hot water and the other very cold. The blood vessels of the skin are thus alternately contracted and relaxed. It is extensively employed in cases of muscular rheumatism, lumbago and sciatica, also in strains of joints.

(d) *Restoration of Movement in Stiffened Joints and Muscles.*—For this purpose, for use on a large scale, the pool bath is by far the

best. It should be of sufficient size to permit the patient to stand upright, sit and walk a step or two. If practicable, several pools of small size, suitable for one patient, are preferable to one or two large ones, to obviate the disadvantage of several patients bathing in a comparatively small space. Different temperatures are employed, varying from 98° to 104°. The lower temperatures are used in sub-acute cases where sedative treatment is indicated. Those at a higher temperature are more stimulating in chronic cases. Combined with the pool bath is an "under-water douche" at high pressure and at a temperature ten degrees above that of the bath. This has a very powerful effect on the skin circulation and in itself constitutes a very efficient form of massage. The pool bath is most effectual in the treatment of stiffened joints and muscles. The water supports the limbs and permits movements to be performed that would be impossible otherwise. The importance of getting a patient to move his joints at the earliest possible moment cannot be too strongly insisted upon. No joint can ever attain a healthy state unless it exercises its proper function of movement. The too frequent immobilisation of joints for extended periods is responsible for much permanent stiffness and consequent invalidity. Along with the movement of the joint, the muscles that control it must also receive treatment by massage and, if necessary, faradisation. Besides permitting freer joint movements, the pressure of the water tends to empty the cutaneous veins and thus improve the peripheral circulation.

(e) *Resolution of Old Inflammatory Effusions.*—This is brought about by either the hot douche, Scotch douche, hot immersion baths or the manipulation douche.

(f) *The Relief of Pain.*—Heat is a sovereign remedy in the relief of pain. It may be applied in many ways; the hot immersion bath for generalised pain, locally by the hot douche or hot pack. The pain of brachial neuritis or sciatica can often be greatly relieved by the Scotch or alternating douche. In the case of painful joints, immersion in a pool bath with the under-water douche affords great relief. In painful neuritis it is a favourable sign when the patient breaks out into a perspiration as the result of some hot application.

The various bath treatments required are then as follows :—

- (i) Hot air room.

(ii) A room fitted with douches, both simple and manipulative.

(iii) A series of ordinary reclining baths; a few of teak.

(iv) Several pool baths fitted with the apparatus for giving underwater douches.

Along with these, provision for dressing, room accommodation must be made and a spacious rest room is necessary. No patient should leave the establishment under about an hour after finishing his treatment. This time is spent in "cooling off."

With regard to the so-called "dry" treatments, the various electrical appliances in common use should be included, also the services of a staff of trained masseurs and masseuses. It is advisable to have all these "dry" treatments collected in one or two rooms instead of having separate rooms for each kind of treatment.

3. *Whether a Special Building is Needed for the Purpose.*—Where a comparatively small installation, on the lines that I have tried to indicate, is contemplated, there would appear to be no reason why attempts should not be made to utilise existing public baths. On the Continent there are many well-equipped establishments where special wings of the buildings are given over to medical baths. I have seen several of these, and it appeared to me that such an example might quite well be copied in this country.

DR. GEOFFREY HOLMES.

I wish first of all on behalf of my colleagues on the staff of the Harrogate Royal Bath Hospital to assure you that you are very welcome visitors.

It is not unfitting that a discussion on rheumatism should be held in this Institution. The Hospital was founded in the year 1824 for the relief of poor persons from all parts of Great Britain and Ireland whose cases require the use of the various mineral waters and baths of Harrogate. Of the 1,577 patients admitted last year, 1,431, that is 91 per cent., were of the rheumatic group, and I think these figures indicate that the Hospital has established a reputation as a good place for the treatment of rheumatism. Whilst there are several accessory factors that have played an important part in the establishment of this reputation, the fundamental one is the benefit derived by our patients from drinking and bathing in the local waters. Dr. Mair, Medical Officer of Health of Harrogate, has asked me to give you a

short paper on the spa treatment of rheumatism.

Some four years ago a meeting was held at the headquarters of the British Medical Association to discuss the spa treatment of rheumatism amongst the insured population.

The night before the spa representatives met, it occurred to me that there was no generally accepted definition of spa treatment and I drafted the following one which has since been officially adopted, practically as it stood:—

"Spa treatment is treatment at a place possessing natural waters of distinctive therapeutic value and facilities for their application. This implies the existence of bath houses, apparatus and trained personnel for work in bath houses and other physiotherapeutic departments. Drinking and bathing in such fresh natural waters form the basis of all genuine spa treatment." Later the following rider was added: "The term fresh natural waters includes waters of either high or low mineralisation when used at their source, but in this connection is employed as distinctive from sea water and sweet drinking water—the so-called tap water of common domestic use."

Shortly after this meeting a Spa Practitioners Group was formed within the British Medical Association, thus creating a representative body with whom the Ministry of Health and the approved societies could consult and negotiate whenever a serious national attempt is made to deal with the rheumatic problem.

We come now to the nature of spa treatment and its application to rheumatism. A course of spa treatment commonly known as a "cure" is a régime whereby the whole activities of the patient are regulated with the object of restoring bodily and mental health. As already indicated, its essential feature and that which distinguishes it from other health régimes is the administration internally and externally of fresh natural waters at or near their source. Hydrotherapy is one of the oldest known forms of treatment and all water properly applied has therapeutic value, but it is the discovery that natural waters in certain localities possess distinctive medicinal properties which has led to the establishment of spas in these places. Most forms of physiotherapy—for example, massage, electrotherapy and heliotherapy—are employed in spas as auxiliary treatments, but, valuable as they are, regulated drinking and bathing form the basis of the treatment.

The word "regulated" is used advisedly as it must be emphasised that the haphazard drinking of water and the spasmodic trial of various baths is not only useless but may be harmful; and further, it is not only the taking of this and that water, or the use of any special bath, but the cumulative effect of the whole that determines the success or failure of spa treatment.

Now rheumatism manifests itself by pain and disordered functioning of the structures affected.

Spa treatment corrects this disordered functioning where possible by:—

1. The removal of waste products due to faulty metabolic or infective processes, through the bowels, kidneys and skin.
2. The acceleration of the interchanges between blood and tissue fluids by stimulating the circulation of blood and lymph.
3. Improving metabolism so as to secure increased resistance to infection.
4. Breaking down fibrous adhesions and nodules and dispersing thickenings in muscles, tendons and joints.
5. Placing the patient in the most favourable environment for treatment and counteracting adverse psychological influences.

To attain success by spa treatment, as by other methods, it is not sufficient to treat symptoms only. The necessity of restoring the whole body to health must be borne in mind. Now rheumatism occurs in many forms; it attacks people of widely differing constitutions and it comes under treatment at different stages.

* In general terms the appropriate form of treatment may be anabolic, metabolic or katabolic.

1. Anabolic where the aim is to build up a deficient metabolism by increasing the intake, by promoting assimilation, and by avoiding the production of excessive output. This type of treatment is suitable for rheumatism associated with anæmia and general debility, and for the chronic infective type.

2. The metabolic type of treatment for cases in which metabolism is not necessarily deficient or excessive but is faulty and requires "alterative" treatment as in the gouty, those lacking exercise and a large proportion of the chronic fibrosities.

* Vide W. Edgecombe; Proceedings, Royal Society of Medicine, January, 1925.

3. The katabolic type of treatment where the aim is to promote over-stimulation of the metabolic processes, and allow tissue waste to overbalance tissue regeneration, as in the obese and overfed.

In Harrogate we are fortunate in the possession of a range of strong and mild sulphur, saline and iron waters suitable for all these types of treatment. Buxton and Bath have thermal radio-active waters; Cheltenham, Leamington, Woodhall Spa and Llandrindod a variety of saline waters; Trefriw, strong iron waters; Strathpeffer, sulphur waters; Droitwich, strong brine baths; in fact, the British spas have a selection of waters suitable for the treatment of all types and stages of rheumatism and gout.

The chemical components of spa waters are in a state of ionic dissociation or exist as colloids. They must be regarded as compound drugs rather than as solutions of individual salts, and their pharmacological action is that of the whole rather than of its component parts.

Some waters act mainly on the bowels, some on the kidneys and some on the liver, and it is in this sense that they may be said to have a specific pharmacological action as contrasted with the specific action of certain drugs for certain diseases.

But apart from the effects of drinking the waters, any rheumatic subject can find convincing proof of the special properties of such a water as the Buxton water, by taking a half-hour immersion bath. The initial effect is to stir up all one's aches and pains, but it is reassuring to know that tissues showing their sensitiveness to the waters in this way are most quickly restored to health.

Again, an immersion bath in sulphur water, as compared with a bath in tap water at the same temperature, produces much more hyperæmia and sweating and they continue for a longer time after the bath.

The physiology of bathing is extremely complicated and there is certainly no time to discuss it now, but any who are interested in the effect of warm immersion baths on pulse rate and pressure, circulation rate and respiratory interchange, may find reference to the subject in an article published by Professor H. Whitridge Davies and myself in *The Quarterly Journal of Medicine* (Vol. 23, No. 91, April, 1930, p. 327).

Physiotherapy in all forms is becoming increasingly popular, and whilst this is partly

due to a reaction against the excessive use of drugs, it may be fairly claimed that the results of so-called natural treatments at the spas has not been without influence in this direction. On the other hand, the more general knowledge of electro-therapy has done much to increase the efficiency of the auxiliary treatments at the spas. The use of auxiliary treatments not only increases the range of diseases which can be treated at a spa but often shortens the length of a cure. But Dr. Ray has already described the principal accessory treatments and it would be merely redundant for me to discuss them again.

The spa practitioner certainly does not belittle the uses of general physiotherapy, but as Dr. Edgecombe remarks in the May, 1930, number of the *British Journal of Actinotherapy and Physiotherapy*: "In the main, physiotherapy attacks from without. To sum up in a sentence: The treatment of chronic dysfunction or disease by physiotherapy alone may be likened to the attempt to rehabilitate a decayed township without paying the smallest attention to the water supply and the sewerage."

Accurate diagnosis is as important for prescribing spa treatment as for other forms of treatment, and as it is not always possible for an obscure case to be fully investigated in home surroundings it is desirable that a spa should have not only physicians familiar with the use of baths and water and other physical treatments, but also specialists in bacteriology and bio-chemistry, radiology, general surgery, otology and ophthalmology. Investigation can be abused, and whilst special investigations are unnecessary in many cases, it is only when the facilities for complete investigation are available that a spa can be regarded as a perfectly equipped health centre.

It is only during the past ten years that the services of specialists in all these departments have been available at this Hospital and there is not the slightest doubt that they have increased the efficiency of the treatment and enhanced the reputation of the Hospital for the successful treatment of rheumatism.

It is putting the cart before the horse to give a patient a course of spa treatment before dealing with any removable septic focus.

Time permits only the mention of the advantages to the spa patient obtained by change of diet and climate, regulated rest and exercise, absence from business and domestic cares

and removal to surroundings favourable to restoration of health, but there is no doubt that a visit to a spa is often the turning point in chronic illness.

The suitable housing and feeding of patients undergoing spa treatment is of the very greatest importance. They cannot all be accommodated in spa hospitals, and for the insured patients I am certain that the next best thing is for them to be accommodated in hostels, preferably owned and managed by their approved societies. I have visited some twenty German spas and bathing centres since the war and collected a good deal of information on this point, and I am satisfied that the hostel system is the best both on economic and health grounds.

Now it is obvious that only a small proportion of sick persons, rheumatic or otherwise, can be sent to spas. There is ample scope for the provision of physiotherapeutic establishments as described by Dr. Ray, but in my opinion they should be run in close co-operation with the general hospitals. Rheumatic and kindred ailments are very much in the limelight at the moment owing to the heavy drain they are causing on the insurance funds, but it should be remembered that various circulatory and digestive disorders and injuries, particularly sprains and fractures, benefit by appropriate physiotherapy, and the efficiency of the out-patients' departments of our general hospitals would be tremendously increased if both physicians and surgeons could refer their cases to a physiotherapeutic department without losing touch with them, and no such department should be considered complete which has not got a properly equipped bath house.

On the other hand, as experience in the spas has shown, the efficiency of physiotherapeutic and balneological centres is greatly increased when worked in co-operation with the special departments necessary for complete investigation of cases.

The construction of independent balneological units up and down the country for the treatment of rheumatism, if divorced from the general hospitals, would mean either decreased usefulness or expensive duplication of other departments.

Finally, whenever bath treatments are used they should be under the control of a physician cognisant of the theory and practice of balneology.

DISCUSSION.

Professor J. Johnstone Jervis (Medical Officer of Health, Leeds), said that the Society had been honoured in having papers from three such eminent men concerned with rheumatism, and Harrogate was to be congratulated on the successful part it had played in connection with the elucidation of a difficult problem—the treatment of this very elusive disease. While as medical officers of health they were concerned more with the preventive than with the curative side, it was recognised that the two aspects were bound up together and could not very well be separated. The public health service was concerned also in the enormous amount of inefficiency and damage, not to say death, that resulted from rheumatic conditions. Every year there appeared an immense figure of death resulting from cardiac disease which was largely caused by rheumatism. Therefore, if the problem of rheumatism could be solved it would be possible undoubtedly to reduce to a great extent that enormous amount of wastage of life. The speakers that afternoon had dealt more with adult rheumatism than with child rheumatism. It was with rheumatism as it affected the child that the public health service was most concerned, because most of the work of a health department was amongst the child population, and whether acting as medical officers of maternity and child welfare centres or as school medical officers they were confronted with the problem every day. Children were seen suffering from heart affections and rheumatic conditions for which very little alleviation, much less cure, could be found. It was quite useless to ask many of the parents who attended the welfare centres to give their children even hot baths, but it might be possible to do something in the direction of arranging for special baths to be provided in connection with the ordinary municipal bath establishments, as suggested by Dr. Ray in his paper.

Dr. James Fenton (Medical Officer of Health, Kensington), also congratulated the members on having heard three such excellent papers. While they had dealt with the chronic form of rheumatism, he desired to speak of the acute type. Several years ago he had wondered if there were, in connection with acute rheumatism, a sphere of usefulness for local authorities, and had come to the conclusion that there was. In framing a scheme it was realized that the co-operation of the general medical practitioner was essential. The Kensington scheme, established in October, 1927, had four main points. First, notification. Under the Kensington (Acute Rheumatism) Regulations, 1927, acute rheumatism was made a notifiable disease for three years, and denoted the following conditions, occurring separately and together in a child under the age of sixteen years—rheumatic pains and arthritis, if accompanied by a rise of temperature; rheumatic chorea; and rheumatic carditis. Secondly, the rheumatism supervisory centre. This was established at a general hospital in the district, and staffed by a physician of the hospital. In the centre no treatment whatever was undertaken. It had been found that good results accrued by supervision of the children during their quiescent periods, and by impressing upon the parents the necessity for treatment by their own doctor when such was found

to be indicated. Thirdly, observation beds for children suffering from rheumatism. Fourteen beds in two hospitals had been retained for observation of cases, and private practitioners had frequently taken advantage of the facilities provided. Fourthly, convalescence. Arrangements in this direction had been made, and later it was hoped that the Borough would possess its own convalescent home. As regards notification, Dr. Fenton said that he was not satisfied that it was essential in the working of the scheme. It was found that doctors who, in the first place, notified cases were now sending their patients along to the centre for observation. There were some eight or nine rheumatism supervisory centres established in London and elsewhere, and they had proved their value. In Dr. Fenton's view, the centre had come to stay, and in Kensington they were perfectly satisfied that it was performing a useful work, mostly from the educational point of view during quiescent periods of the disease.

Dr. R. H. Wilshaw (Medical Officer of Health, Worthing), said that if there was any direct connection between rheumatism and the teeth, tonsils and adenoids, the amount of work carried out by the school medical service in the treatment of these conditions must play some part in the prevention of rheumatism.

Dr. A. Stuart Hebblethwaite, M.C. (Medical Officer of Health, Sunderland), enquired the value of ultra-violet ray treatment in rheumatism.

Dr. Williamson said that the public health department, having control of child welfare and various other centres, was in a strong position to ascertain the conditions in the early stages of the disease, the real cause of which was not known. The treatment of rheumatism was discouraging, and the number of centres available for the purpose totally inadequate. Why should not public health officers embark on a scheme whereby they could ascertain, in the very early stages, the people suffering from chronic rheumatism, and investigate the conditions that predisposed towards the disease? Then it might be possible to set up treatment centres in connection with the public baths. In Leeds some work along those lines had been carried out, and the facilities had been well patronised by the local medical practitioners. Dr. Williamson enquired if there was any relationship between rheumatism in children and the ordinary chronic rheumatism.

The President (Dr. John J. Buchan) said that the papers submitted had impressed upon the minds of those who had been privileged to hear them the fact that the public health service must take a greater part in endeavouring to reduce the ravages of chronic rheumatism as well as acute rheumatism. For some years past the need for such work had been evident on account of the grave incapacity caused among the working classes of the country. Medical officers of health were not anxious to add rheumatism clinics to the already enlarged structure of municipal medical works, but they wished to see facilities for the investigation and treatment of chronic rheumatism so that illness might be prevented or alleviated and a useful working life secured to more and more men and

women. That was the essence of the endeavour of the public health service; in this matter, as in others, the seeking of the public good. The papers had shown that a vast amount might be done in the localities by the provision of expert facilities for the proper investigation of the conditions. Those facilities must clearly be linked up with the general practitioner, and ought also to be associated with the spa and bath medical workers. In short, some great co-operative scheme for dealing with chronic rheumatism amongst the people was needed.

Professor W. W. Jameson (London School of Hygiene and Tropical Medicine), in proposing a vote of thanks to the readers of the papers, referred to the extent to which advantage had been taken of hydrotherapeutic measures in regard to insured workers in Germany. Under the Local Government Act local authorities had taken over various types of institutions, including those into which the chronic rheumatics found their way, and there appeared to be no reason, therefore, why work along those lines should not be extended in this country.

Dr. E. H. Snell (Medical Officer of Health, Coventry), formally seconded the vote of thanks.

Dr. Ray, in reply, expressed his appreciation and that of Dr. Sinclair Miller and Dr. Geoffrey Holmes for the way in which the papers had been received. Referring to the new clinic for rheumatism, recently established by the British Red Cross Society in Peto Place, Marylebone Road, London, N.W.1, for which £40,000 was subscribed, Dr. Ray said there was a possibility that facilities for treatment on somewhat similar lines might be installed in ordinary bathing establishments, where the cost of running would be considerably less owing to certain machinery, water supply, etc. being already there. As to the use of ultra-violet radiation, Dr. Ray considered it an excellent means for raising the general resistance of children, but of its value in chronic rheumatism he was uncertain. Though there was such a thing as a rheumatic condition which would manifest itself in the heart in a child and later on in life in the joints, the connection between rheumatism in childhood and rheumatism in adults had not yet been thoroughly worked out.

DR. BULLOUGH, the County Medical Officer, is to be congratulated on the production of a Compendium of Health Services in Essex. In fifty pages he sets out clearly and concisely particulars of the various public health services available in the county, and shows how they may be made use of by the general public. The Compendium should be of value to all medical practitioners, health visitors and social workers. It is published with the approval of the Public Health and Housing Committee of the Essex County Council. Dr. Bullough's example might be followed with advantage in other counties and county boroughs.

Petroleum in the Destruction of Insect Carriers of Disease.

By J. S. PURDY, D.S.O., M.D., C.M. (Aberd.), D.P.H. (Camb.), F.R.S. (Edin.),
Metropolitan Medical Officer of Health, Sydney.

This paper was read by Dr. Purdy, a Fellow of the Society, at the recently held British Medical Association Australasian Congress, and the facts which it contains with regard to the use of petroleum in connection with the insect problem are certain to be found of value more particularly by members engaged in the health service in the warmer countries.

WHILST a Medical Officer in the Egyptian Quarantine Service I was associated with Dr. E. J. Ross in 1906, in Port Said, in an extension of the initial campaign for the extermination of mosquitoes at Ismailia in 1903, suggested by his better-known elder brother, Sir Ronald Ross.

How successful the campaign at Ismailia was, as carried out under the supervision and personal direction of Dr. Pressat, of the Suez Canal Co., is shown by the fact that whereas in 1902 there were 1,990 cases of malaria at Ismailia, the incidence fell to 37 in 1905, and in 1906 there was not a single case of malaria at Ismailia, where, as a matter of actual fact, Dr. E. J. Ross in that year was unable to obtain for examination a single specimen of anopheles.

As far as Port Said was concerned, after public interest had been aroused by popular lectures and articles in the "*Egyptian Gazette*," financial assistance was obtained to the extent of £600 from the Suez Canal Co. and the Government, and a careful survey by a house-to-house inspection located the breeding places of mosquitoes.

After a short time, to the many interesting sights at Port Said was added the procession of a native sanitary gang with their donkey cart and petroleum barrel. Every house was visited once a week, and down the water closet there was poured petroleum sufficient in quantity to spread over the fosse; stagnant pools were drained; wet cellars filled in with sand, and refuse regularly removed.

Within a few months even the most sceptical were convinced. The only people dissatisfied were a few drapers who no longer had any sale for mosquito netting.

Dr. Andrew Balfour was equally successful at Khartoum, where, as in Port Said, it was found that crude petroleum was more efficacious and cheaper than refined, as it formed a denser film, and one which lasted longer. In the case of wells with an average surface area of 12 to

13 square feet, one pint of crude petroleum per well secured a reliable film killing all larvæ and pupæ in from four to six hours. The water was not disturbed, however, for forty-eight hours, as it was shown that although mosquito eggs may be laid on oiled waters, they will not undergo further development. Later all unused wells were closed, and wherever possible covers were fixed on those in use, and pumps introduced.

Whilst on duty at the Suez Canal in 1906, I met the medical officers accompanying the flotilla taking out the American Floating Dock to the Philippines, and with them, as well as with their colleagues attached to the American Fleet during its visit to Auckland in 1908, discussed the procedure as to mosquito extermination in Panama as contrasted with the Egyptian methods.

In America the crusade against mosquitoes is summed up thus—"A slap at the mosquito for the moment, kerosene for the week, ditching for a season, but reclamation for all time."

Visits to Freetown, Sierra Leone, in 1918, to Kuala Lumpur in 1920, and to Sandakan in British North Borneo in 1923, demonstrated the greater difficulties of the problem of mosquito extermination where the rainfall is greater and more distributed throughout the year than in Egypt and the Sudan.

The adoption of the excellently designed houses with well overhanging roofs and no rain water spouting built on the Panama Canal would, if electric fans could be introduced to counteract the stagnation of air from enclosure in mosquito-proof wire, at least protect the white residents.

On visiting Manila in 1923, I found on enquiry that practically the only innovation in dealing with the mosquito pest was the use on stagnant water of bags of sawdust saturated with petroleum. The bags slowly and continuously release the oil from the sawdust which keeps the surface of the water always covered with oil, giving the larvæ either no chance to

breathè or actually poisoning them, and consequently they speedily die.

At Rabaul, in the Mandatory Territory, formerly German New Guinea, which I visited at Christmas, 1927, I found that Drs. Carlove and Brennan (the latter having now succeeded Dr. Cilento as Principal Medical Officer), after locating the areas where different varieties of mosquitoes bred, were able to keep down malaria, although one found at Madang there were occasional cases, some of a malignant type.

On arriving at Brisbane on January 9th, 1929, en route to Singapore, in spite of the measures which had been carried out for the reduction of mosquitoes against the *Culex fatigans*, or as it is now known *quinquefasciatus* (five spot), whose favourite habitat is the waste sardine tin or jam tin, or other discarded receptacle or tank, or dilapidated spouting, and the *Aedes argenteus*, formerly known as *stegomyia fasciata* (the carrier of dengue fever, which infects the people of Brisbane, and down as far south as Gosford, south of Newcastle on the Hunter River in New South Wales) one found that the city had been invaded by myriads of *Culex vigilax*, the habitant of marine mangrove swamps and foreshores. Although this species is not known to carry any actual disease, it is a source of serious annoyance, and can only be controlled by extensive reclamation, getting rid of all rock pools and by the use of mosquito-eating fish.

On arrival at Singapore, I proceeded by sea to Port Swettenham, where Sir Malcolm Watson was so successful in overcoming the mosquito menace and reducing malaria. It was interesting to note the work which had been done by making a bund, reclaiming swamps, sub-soil draining and regular oiling.

I also passed through Klang, where the large rubber estate owners had combined with Sir Malcolm Watson's crusade in successfully reducing malaria. It was at Kuala Lumpur, visited nine years previously, where one was impressed by the enormous improvements which had been made and the obvious success which had attended the sub-soil draining of all ravines, reclamation and constant weekly oiling.

At Singapore I met Dr. P. S. Hunter, Health Officer for the Municipal Commission, who has made a reputation not only as a hygienist, but in engineering circles for reclamation and drainage. He has been remarkably successful in practically stamping out malaria right throughout Gunong Pulai Water Works, South Johore, and has

shown how by draining it was possible to reclaim large areas of ground. There is a reasonable prospect of his attaining his objective—the complete extermination of malaria in Singapore.

I am indebted to Dr. Hunter not only for much useful information, but for a series of fifty-five lantern slides, which he specially prepared for the British Medical Association Australasian Congress.

Remembering my regret on returning to Egypt with the A.I.F. at the end of 1914 at finding a few mosquitoes in the town, as after Dr. Ross left, evidently the same enthusiastic crusade had not been maintained against mosquitoes as obtained up to 1909, one could re-echo Dr. Hunter's extract from Sir Malcolm Watson's report on Gunong, submitted to the Singapore Commissioners:—

"It must never be forgotten that when the mosquito malaria chain is broken, results are brilliant, almost beyond belief; the mosquito and the parasite are ever vigilant and neglect of precaution is promptly punished."

Dr. Hunter adds:—

"It must not be imagined that though this work is completed, much of it in a permanent manner, we can afford to relax our efforts. Little break-downs and defects are bound to appear from time to time and a constant look-out for them must be kept, and when found they must not be treated lightly, so that it is essential that the control should remain in expert hands."

At Tanjong Priok in Batavia, one found that following the anti-mosquito campaign, the incidence of malaria had been reduced from 200 per 1,000, as it was on the occasion of my previous visit in 1919, to 22 per 1,000 in 1928.

The director of the anti-mosquito campaign at Veltevreden, at considerable inconvenience, sent to the M.S. Malabar, a consignment of special mosquito larvæ-eating fish, which breed in both brackish and fresh waters. Unfortunately, a Chinese steward thought the tub had been placed in my cabin for ablution purposes, and threw out the contents.

Dr. Mackerras, of the Commonwealth Entomological staff, who visited Java during the recent Pan-Pacific Congress, will probably bring a fresh consignment of fish back with him.

At Darwin we found that little had been done to reduce the mosquito nuisance. As a matter of fact, during a concert by the Gonzalez Italian Opera Company, the polyglot audience was considerably inconvenienced by mosquitoes, probably with the exception of myself, who was protected, at least as to the ankles, by mosquito boots, which I would recommend everyone

should wear in the East wherever mosquitoes abound. One found them more effective than the practice at Sourabaya, where a host and his family use newspapers sprinkled with kerosene.

As far as Sydney is concerned, we are endeavouring to arouse the sanitary conscience of the people to the need for reducing domestic mosquitoes. We have had our Clean-up Weeks, and in season and out of season preached the fact that domestic mosquitoes, like chickens, come home to roost, and that like most of our sins are of our own making.

The presence of mosquitoes about houses is usually due to the sin of omission, to not changing water in flower vases, not screening tanks, not removing waste tins, not repairing spouting, and not seeing that there is no opportunity for water to collect, which breedeth the pestilence which stalketh by night.

The modern idea is, of course, to know your enemy—the variety of mosquito with which you have to deal.

In Sydney we have some amateur aquarium enthusiasts:

Mr. Royce, who presented to the Lord Mayor in 1926 some *Gambusia Levis*, mosquito larvæ-eating fish, which were placed in Kippax Lake.

Later, Mr. Vogwell, Chief Health Inspector of the City Council, who, after his tour to America and Europe, brought a further consignment from Italy. These have been reared in the Botanic Gardens by Dr. Darnell Smith. Consignments have been distributed to various parts of New South Wales, and as far afield as New Zealand.

On returning from Malaya, I obtained some Barbadoes Top-Feeding Minnows from Dr. Hamlyn Harris, Entomologist for Greater Brisbane, who has done fine work in that city.

As the result of much agitation by the Town Planning Association and the local authorities concerned, there is a big scheme now to reclaim the mangrove swamps, mud flats and foreshores of the Parramatta River, Cooks River and other breeding places for mosquitoes in the metropolitan area.

FLEAS.

It has been recognised for some years that the chief objective in the attack against plague should be the elimination of the agents of dissemination—rats and rat fleas.

Experience has shown, even in San Francisco and Sydney, where wholesale destruction of rats has been carried out, in the case of

the latter as far as the city proper is concerned for the last 29 years, how difficult and, as a matter of fact up to the present, impossible, it has been to exterminate rodents, owing to their prolific breeding.

It is not practicable in a large city to attempt the interesting biological experiment of exterminating rats by the Rodier system of sexual repression, killing the does and releasing the bucks until the latter exterminate the remnants of their species.

In the ninth and last Sydney outbreak, 1922-1923, there were 35 cases with eight deaths during seven months previous to the middle of June, 1923, in the metropolitan area of Sydney, with a population at that time of 1,046,980 in contrast to the first outbreak in the first eight months in 1900, when in practically the same area, with a population of 461,335, there were 303 cases, with 103 deaths.

The most striking change in procedure in dealing with the last outbreak was that whereas in 1900 strong disinfectants, such as 1 in 500 acid corrosive sublimate and a 2 per cent. solution of formic aldehyde, were freely used—as also was the routine practice in Port Said in 1905-1907—practically no disinfection was carried out in the last Sydney outbreak. Instead, all premises with infected rats were fumigated with hydrocyanic acid gas. We also had considerable success in ridding premises of fleas by using an emulsion of kerosene 82 parts, liquid soap 15 parts, and water 3 parts (1 in 20, an ounce to the pint).

In this regard, my advocacy in 1906 in Port Said, and at the Hedjaz Pilgrimage Quarantine Camp at El Tor, Sinai Peninsula, of the use of crude petroleum as an insecticide, suggested by reading an extract in *Le Matin*, a French journal, which awarded a prize to the man who suggested la schiste (crude petroleum), as an insecticide, was supplemented by actual experience in Auckland, New Zealand, in 1908, in limiting an outbreak of plague to two cases, both unfortunately fatal—two girls employed on different floors at different occupations in the same building in the chief street of the city.

I was of the opinion that the swabbing of the whole of the floors and other woodwork of this building with six 3½-gallon tins of kerosene, in addition to ridding the premises of rats, curtailed what otherwise promised to be a serious outbreak. There was not another case of plague in Auckland for six years.

In 1914, in the Summary on Plague Prevention issued by the United States Public Health

Service; it is stated that whilst formalin, phenol, mercuric chloride and trikresol in the strengths used as disinfectants were of little use in killing fleas, kerosene and miscible oil were extremely efficient as flea destroyers.

Preparations of kerosene emulsion were freely used in Brisbane and Sydney during the last plague outbreak, in theatres, public halls, trains, trams, shops and private houses.

The infestation of a portion of the Sydney Town Hall with pigeon lice afforded an opportunity of dramatically demonstrating the efficiency of the emulsion as an insecticide.

The use of benzine, petrol and other hydrocarbons, although excellent flea destroyers, was not encouraged owing to their inflammability.

In the *British Medical Journal* for November 19th, 1921, in an article on wood tar oils for the destruction of lice, the late A. Bacot, of the Lister Institute, whose death from typhus, whilst experimenting with infected lice, was another sacrifice in the interests of Science, stated that the objectionable odour of paraffin can be covered by the addition of a small quantity of an essential oil or other scent such as oil of mirbane (nitrobenzol) or camphor.

Locally, oil of eucalyptus and sassafras, especially the latter, has been effective in this regard, whilst the addition of a disinfectant of the phenol series, when freshly prepared, has given the emulsion more efficacy as a germicide, and has certainly had the effect of reassuring the public that the solution was something more than kerosene, soap and water. I have long believed that any benefit which accrued from the old-fashioned method of fumigating with sulphur must have been due to the value of sulphur dioxide as an insecticide.

Most modern sanitarians recognise that disinfection of premises as usually carried out even with formalin is useless except in so far as the mess made entails the premises afterwards being cleaned, and that the psychological effect on people in lessening the fear of infection is beneficial. Recently I have considered the advisability of introducing, instead of disinfection, vacuum dust extraction cleansing into houses from which infectious cases have been removed. We have been delayed, however, in the city by the fact that not all houses are provided yet with electric light or power, and we are waiting for the equipment of a small motor outfit.

It may be, however, as suggested by the *Journal of Tropical Medicine and Hygiene*, December, 1909, "that those in charge of

municipal sanitation are open to severe criticism, if not condemnation, who neglect the general use of kerosene emulsion or a good pulicide if possible in association with a germicide in combating a plague outbreak." It has been pointed out that kerosene emulsion with its strong pulicidal properties, although effective against the pest of the virus, being a weak bactericide, is not effective against the virus itself, or, in other words, that it will kill the flea, but not the bacillus pestis.

Thus Dr. W. Hossack, Plague Officer, Calcutta, claimed: "There are many modes of plague infection, but the rat-flea even in a state of starvation rarely attacks man."

Dr. F. E. Taylor (*Journal of Tropical Medicine and Hygiene*, February 15th, 1909), stated that the harmlessness of the excreta of plague-infected men and animals has not been completely established. In this regard it is interesting to note that as recently as 1918, on the Western Front it was found that trench fever was spread by the excreta of lice. P.U.O. (pyrexia of uncertain, not unknown, origin), probably also often emanated from this source.

It has been shown that the excreta of plague-infected animals does contain plague bacilli. However, as pointed out in the *Journal of Tropical Medicine*, December 1st, 1908:—"Natural disinfection is accomplished either by exposure of the plague bacilli to desiccation, or, in moist conditions, is brought about by saprophytic bacteria, which are inimical to the existence of plague bacilli."

In places not reached by direct sunlight, one sees, therefore, undoubted possibilities for a preparation which would combine both the virtues of an insecticide and a germicide.

FLIES.

In this regard, whilst in Tasmania in 1911, after repeating experiments with a preparation containing petrol with a good phenol disinfectant, I suggested that a strong insecticide with kerosene as a base might be useful in combating the blow fly pest in sheep. Unfortunately, it is difficult to retain the repellent effect of the kerosene fumes for more than 12 hours after application.

In 1925, Mr. Penfold, at the Sydney Technical College, obtained a residue from the fractional distillation of eucalyptus oil which Mr. R. Grant, of the Microbiological Laboratory of the New South Wales Department of Public Health, has shown to have a disinfecting co-efficient of 22.5, which suggests a possible combination with

kerosene emulsion as an insecticide and germicide.

During the Great War, after giving a demonstration at Mex, Alexandria, and after many interviews with Colonel Sexton, A.D.M.S., Mediterranean Expeditionary Force, and with the late Lieut.-General Baptie, V.C., the P.D.M.S., one was successful in securing an issue of two gallons of crude petroleum per 500 men per day in all camps in Egypt for the swabbing inside and outside of nightsoil buckets, thus mitigating the fly nuisance in latrines.

Although at the B.M.A. Congress at Napier, New Zealand, in 1909, an elder brother described my voice as the Apostle of Petroleum for Pediculi (lice), crying in the wilderness, one cannot claim any originality with regard thereto, but merely to have been a pioneer in recent years in the advocacy of its use as an insecticide.

As a matter of fact, its use in this respect was known to the Ancients: thus Lucian of Samosata, a contemporary of Trajan, wrote in 75 B.C. in his enconium of the fly: "The fly is in man's company as long as it lives, and takes the freedom to taste of all his food, oil only excepted, which is poisonous to him." The old engravers in England also made a practice of smearing the gilt frames of their pictures with oil as a fly deterrent.

An interesting fact that I came across in Egypt whilst in the Quarantine Service, carrying on propaganda for the extermination of mosquitoes, was that Dr. Clot Bey, the founder of the Medical School, Cairo, in the forties of last century, recorded the fact that there never was a case of plague in an oil store in Alexandria.

The explanation hitherto of the wonderful and almost instantaneous effect of the slightest film of kerosene applied to an insect is the closing of the stomata or breathing spaces in the skin to the escape of the vitiated air, and the closing of the breathing tubes to respiration. If one watches a fly, one notices its habit of rubbing its legs together, and with them its wings, apparently with an exaggerated sense of the importance of cleanliness. These movements are connected with the fact that the fly does not breathe through its mouth, but through stomata or holes in the sides of its body. These holes are the entrances to tubes, conveying the air through the body to the blood, which does not circulate as is the case with us. These tubes are something like indiarubber pipes, so soft and pliable that they would easily close, and the fly be suffocated; were it not for the fact that they are, so to speak, reinforced with rings of a horny

substance which prevent them from being accidentally closed. At intervals along the tube are valves similar to those in our veins, which permit the air to pass forward, but prevent its return, and so, under constant pressure by a wonderful provision at the entrance to each tube of a pumping chamber the air is drawn in from the outside and forced into the tube and thence to smaller tubes ramifying through the body. Surrounding the air tubes are the blood vessels, the walls of both being very thin; the air escapes through them into the blood, and, being pumped, it escapes through the insect's skin.

It can now be understood why a fly is so particular as to its cleanliness, sometimes at our expense. It has to be clean and to remove at once foreign matter from its body or these breathing holes become clogged, and it dies.

Prof. Shoda Toza, Director of Municipal Hygiene, Tokyo, after an address by myself at the Pan-Pacific Congress at Sydney University in 1924, showed that the old dictum of Samosata, that oil was poisonous to flies was true at least as far as kerosene was concerned. Experiments in Japan demonstrated that the fumes did not act mechanically, but as a direct poison.

Prof. Nutall had previously pointed out to me at Cambridge in 1918 that experiments of mine in Egypt in killing lice with kerosene really had not been effective, as lice often showed "sham death," and had the specimens been examined some hours later, it would probably have been found that some had survived.

DURHAM County Council have appointed Dr. George Wilson to the post of Deputy School Medical Officer, at a salary of £800 per annum.

A SESSIONAL Meeting of the Royal Sanitary Institute will be held in the Guildhall, Nottingham, on Friday, October 10th, 1930, when discussions will take place on "River Pollution" (to be opened by Alderman A. R. Atkey, J.P.) and "Industrial Medicine in relation to Public Health" (to be opened by Dr. L. P. Lockhart, Medical Officer to Messrs. Boots Pure Drug Co., Ltd.). The chair will be taken at 4.30 p.m. by Dr. Charles Porter (Member of the Council of the Institute), Medical Officer of Health, St. Marylebone. On Saturday, October 11th, visits will be paid to institutions of public health interest in Nottingham.

Ut Ita Dicam.

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

Dr. Ernest Ward on "General Practice."

Dr. Ernest Ward having gone to Canada with the Tuberculosis Officers, this appears to be the correct moment for dealing with his recently published book "General Practice."* He alleges in his preface that he wrote it because he was encouraged to do so by the reception of his previous effort, "Medical Adventure," and by an invitation to speak on general practice at his old medical school. Everybody should be glad that the encouragement came and had the effect that is usual upon persons who succumb to the temptation to write books. "General Practice" is better than "Medical Adventure" and I enjoyed that immensely. It is wittier and chock-full of wisdom. The number of matters upon which wise advice is offered, as a fact, is astonishing. Even about choosing a wife the reader is told, and how to read an article in a professional journal. Also he is told how he is to regard colleagues, and in the chapter dealing with these there is reference to public health authorities and medical officers of health.

The Practitioner and the Health Officer.

Probably it is because he is of the service himself that Dr. Ward gets rid of these in about a page and with the statement that with the "customary courtesy and tact there need be no friction" though "there are, here and there, public health Mussolinis with whom intercourse is very difficult, and there are irritable and intolerant practitioners who would make thorny the path of the best medical officer of health." It seems to me a little unfortunate that Dr. Ward did not go into the matter in a little more detail than this. Nobody, probably, knows more health officers than he, and nobody knows them better. Perhaps, however, as I have suggested, that is why he did not discuss this question of relationship more fully. Or it may have been because it did not lend itself to entertaining consideration; as did nurses for example. To these he gives over three pages, finishing up with a disquisition on lying and liars. Of liars, by the way, he recognises three types: pathological, involuntary and voluntary. A third reason why there is so little said about relationships with the health service is because, after all, contacts between practitioners and medical officers are comparatively

few and slight, and though those of us who are engaged in public health work think it would be better if the individual in general practice knew more about us and the work that is being done in health departments, there are many other matters of greater and graver moment to him than we and the things that are our concern.

The Medical Curriculum and Instruction on Practice.

There is the management of the business of the practice, the management of patients and the day's work amongst them; there are therapeutics; there are difficult cases and finance and unorthodox treatments like Christian science and homœopathy and cheiropraxy, all of them threatening the practitioner and robbing him of bread and butter to an even greater extent than the medical officer of health, his department and his medical myrmidons. Dr. Ward has chapters on all of these things; the unorthodox treatments as well as patients and difficult cases. The wise hints and guidance he has to offer in such a pleasant and entertaining manner about them all he has drawn from an experience of some twenty-five or thirty years in practices of all sorts. It was an excellent idea on the part of the London Hospital Medical School to have talks on general practice. In the curriculum of every medical school there should be lectures on this subject and the students should receive instruction on all of the matters dealt with by Dr. Ward. As a student I should have appreciated it, and, as a fact, almost the first book I bought after I qualified was one purporting to tell all about medical practice and young practitioners. Its chief effect, I am bound (and happy) to say, was to frighten me off general practice. I am not sure, much as I have enjoyed reading it and strongly as I commend and recommend it not only to medical students about to qualify or who have recently qualified, for whom it is primarily intended, but to everyone in the profession, that Dr. Ward's book would have had an effect any more encouraging. Well and wittily and wisely as it is written, it shows medical practice as I have always suspected, to involve problems and difficulties, endlessly recurring, that appear neither to promise anything of exhilaration if they are solved or overcome nor to justify any feeling of real defeat in the event of failure.

* London: John Bale, Sons and Danielsson, Ltd., 1930. Price 3s. 6d. net.

Sir Alexander Houston's Report.

I hope Dr. Ward will not mind that I speak thus of general practice. But, indeed, he does not tell much of it that suggests there is much joy to be got from following it. Still there must be, I suppose, since not all the practitioners in my own district go about with the air of melancholy Jacques or present the appearance of persons whose life is made up exclusively of one damn thing after another. It was one of them, for example, who said to me that general practice would be all right if there were more than twenty-four hours in the day. This I took to mean that he enjoyed every minute of his work. All the same there are many other things I would rather be than a general practitioner. Having just gone through Sir Alexander Houston's twenty-fourth annual report on the results of the chemical and bacteriological examination of the London waters for the twelve months ended December 31st, 1929,* I think I should like to be the director of water examination to the Metropolitan Water Board. Like all the others of Houston's reports, this simply bubbles with enthusiasm for and joy in the work done and to be done. This time, in addition to describing the activities of the department of which he has charge, Houston pursues his aim of making clear to the consumer all the steps taken and the provisions made with the object of ensuring the complete purity, safety and palatability of the water supplied to the consumer. Visiting brewers, I have been impressed by the care taken to secure that the beer provided for the drinker shall be entirely delectable. In the case of London water the precautions adopted are infinitely greater; the Water Board, and those who work for them, appear to have no other concern than to satisfy the consumer. Houston and all the other officers certainly have no other aim than the service of the consumer. In a brewery, those engaged in the preparation and distribution of the beverage talk of "the beer" in a sort of hushed whisper. Houston talks of "the water" heartily and sweetly, as if it were a solution of all the rural beauties of romance and of poetry. Since so very much of it is from the Thames, this is not to be wondered at. Even medical officers of health of hustling and bustling and so intensely serious provincial centres, who affect to despise the metropolis, will not wonder at it since that old river cannot possibly share the contempt they feel for all

* London: P. S. King & Son, Ltd., 2 and 4 Great Smith Street, Westminster, S.W.1. Price 21s.

that is done in London, and those who do it. If they should happen to wonder what reason there could be for enthusing over the Thames and the waters of London let them read Sir Alexander Houston's reports of the last few years.

Sentinels of Water London.

If they like, let them begin on this one, in which they will find, in addition to all the serious and statistical material that, of course, the width of their brow bids them demand, a wonderful, even enthralling, description of the service reservoirs of London; ninety-three of them there are, and they hold enough water to give ten days' supply to Birmingham at 35 gallons per head per day. Houston calls these reservoirs the "Sentinels of Water London," and to make clear to the London consumer what they stand for, and what they mean to him, he takes him a round of them; tells him all about them; shows him the country round and about them, where the water comes from and where it goes to from them; points out the choicest views, and, best of all, speaks of the history and the greatness and the romance of the land. At times even he declaims poetry and now and then makes a picture for inclusion in the report. The affection that Houston has for London and his wide knowledge of her and her history he has made manifest in every one of his reports and in none of them more than in this. If it is his object, in addition to arousing in users of London waters an appreciation of the efforts that are made by his Board and its officers to render them full and proper service, to make them sharers in that affection, he could not have set about doing so in a better way. Attractively and simply written in a kindly vein, illustrated with perfect photographs and with diagrams that are easy to follow and understand, the report is a delight to read. With those that have gone before it makes up a collection that very many will treasure, and that is certain to become increasingly valuable as the years go by.

Dr. W. G. Willoughby, President of the British Medical Association.

The fact that Dr. W. G. Willoughby of Eastbourne has been elected President of the British Medical Association for the session 1930-1931 is one that has been noted already with the greatest pleasure by all of his colleagues throughout the health service. The honour is one recognised as great by the medical profession not alone in this country and the dominions

overseas, but in other lands as well, and it is gratifying that it should have come at last to a medical officer of health. Like everybody else in the Society, I want to congratulate Dr. Willoughby that the choice should have fallen upon him. At the same time, however, I would offer the Association congratulation on the wisdom they have shown in choosing as they have done. Than Dr. Willoughby no one is more highly esteemed and admired amongst his fellows, all of whom are convinced that the high position he is called upon to take he will fill with dignity and distinction, with credit to himself, to the profession as a whole, and to members of his own service in particular. Of this I am all the more convinced, remembering as I do very well how admirably he performed all the functions and duties of President of the Society of Medical Officers of Health during his year of office, even though this was so long

ago as 1910. Dr. Willoughby has always been a keen Society man, and equally as keen an Association man; keen also for close co-operation between the two bodies. Having regard to the changes that are taking place and that are likely still to occur as the result of the operation of the Local Government Act, the probability is that there may be a necessity for even closer linking together of the Society and the Association. As an augury for the future there could be nothing better than that the Association should have looked at this time for a President in the ranks of medical officers of health, and should have made their choice Dr. Willoughby of Eastbourne. He may be assured of the support of his colleagues throughout his year of office, and all their sincere good wishes that it may be happy and successful.

P.

The Society.

Reports, Proceedings and Announcements.

THE WELSH BRANCH.

President: Dr. R. M. F. Picken, M.O.H., Cardiff.

Hon. Secretary: Dr. D. J. Thomas, Deputy M.O.H., Rhondda.

A meeting of this Branch was held at the Shropshire Orthopædic Hospital, Gobowen, on July 5th, 1930. The President occupied the chair, and nine members and visitors were present.

The principal item in the correspondence dealt with the suggested formation of a sub-branch amongst the North Wales members of the Branch. After a thorough discussion it was decided that the establishment of such a sub-branch was not desirable, and that further efforts be made to arrange meetings of the Branch at centres which would prove more accessible to North Wales members.

Election of Officers for the Session 1930-31.—The following officers were elected:—

President:—Dr. E. Ll. Parry-Edwards, Carnarvon.

Hon. Secretary and Treasurer:—Dr. D. J. Thomas, Rhondda.

Branch Council:—The President, and Drs. Picken, Howard-Jones, Colston Williams, T. Evans, T. Roberts, and E. W. Richards.

Subsequently the meeting had the pleasure of listening to addresses on "Orthopædic Clinics," by Mr. A. O. Parker, F.R.C.S., Surgeon

to the Hospital, and to the Prince of Wales Hospital, Cardiff, and on "The Training of Cripples," by Dame Agnes Hunt.

Mr. Parker stressed the fact that an orthopædic clinic was not essentially a place for the inspection of cripples by a visiting surgeon, on one or more occasions during the course of twelve months, but that a true clinic consisted of one or more rooms in which there was regular attendance by a competent after-care staff and in which the physically defective were regularly taken care of, treated and fitted with appliances where considered necessary, whilst the visit of the surgeon was a necessary adjunct for the purpose of inspecting new cases, reviewing old cases, advising as to their treatment and assisting the permanent staff in the carrying out of all the principles that the scheme stood for. Local authorities were urged to establish orthopædic schemes in accordance with the methods established by Dame Agnes Hunt, and Miss Sankey, of the Shropshire Orthopædic Hospital, which embrace consultations between the county medical officer and the central hospital, the geographical organisation of centres or clinics in the area involved, and the equipment and after-care staffing thereof. Authorities who had definitely allotted an experienced assistant medical officer to do orthopædic work had an infinitely more efficient service than those who had not. Amongst authorities who

had provided complete schemes it was satisfactory to note that one county authority in Wales was setting aside departments for orthopaedic work in three of the county hospitals taken over from the poor law authorities and in one hospital a department was being inaugurated wherein adult cripples and fracture cases would come under the review and treatment of an orthopaedic surgeon. The supervision of splints and appliances was best solved by using the workshops equipped at the central hospitals, and from the training college established by Dame Agnes Hunt it was possible to obtain the services of trained cripples for this work.

Dame Agnes Hunt, in her address, made special reference to the psychological and educational conditions which had to be overcome. The average cripple suffered from an inferiority complex largely attributable to having been regarded as a "poor little cripple" from an early age, and this attitude towards the cripple should cease. The aggregation of cripples in colonies or training centres served to overcome this inferiority complex, and cripples, of all people, should receive an adequate education. In settlements, built on the lines of garden cities, with a good business man in charge, it was possible to train cripples to earn their own living in the open market, especially if no interest was payable in respect of the original outlay involved. Settlements for the training and occupation of cripples should be more widely developed; remarkable results had been obtained in the training of "spastic" cases as they could be trained into good craftsmen in certain trades, and the psychological effect resulting from their aggregation into a settlement was very beneficial.

In the ensuing discussion, the President, Drs. T. Evans, T. Roberts, Powell, Betenson, and the opening speakers took part.

Subsequently the members visited the Derwen Cripples' Training College, and, though, unfortunately, the visit was paid on a Saturday afternoon when the normal activities of the College were in abeyance, ample evidence was obtained of the methods and contrivances which have been utilised to enable cripples to undertake trades and partake of amusements and exercises which, in the past, have been regarded as the perquisites of normally developed persons; whilst the visitors saw a game of football being played by cripples with the skill and swiftness one usually sees in games played amongst the average boys' clubs.

At the conclusion of the visit tea was kindly provided at the Hospital, and a hearty vote of thanks, proposed by the President, was accorded to Dame Agnes Hunt, and her staff, and to Mr. Parker for the stimulating addresses and demonstration of the work carried on at the Derwen Cripples' Training College.

A meeting confined to junior members of the Branch was held at the Lord Pontypridd Hospital (Dulwich House), Cardiff, on June 30th, 1930. Sixteen assistant medical officers and dental surgeons attended, and Dr. Picken (President of the Branch) occupied the chair at the commencement of the meeting. The President informed the meeting that the Branch Council had decided to permit the formation of a Sub-Group confined to assistant medical officers and dental officers within the area of the Branch, subject to certain conditions which had been drafted by the Council. After wishing success to the newly-formed Sub-Group, Dr. Picken vacated the chair and under the temporary chairmanship of the Hon. Secretary of the Branch, Dr. Cris. J. McSweeney, Deputy Medical Officer of Health, Cardiff, was elected first President of the Sub-Group. Subsequently, Dr. W. E. Crosbie, Assistant Medical Officer of Health, Glamorgan, was elected Hon. Secretary and a committee of four was appointed.

Dr. McSweeney then read a very interesting paper on "The Prevention of Rheumatic Heart Disease." The address dealt mainly with the work done at the Lord Pontypridd Hospital, which had been appropriated by the Cardiff Education Authority for the treatment of juvenile rheumatism with the object of preventing the development of permanent valvular disease of the heart. Prior to the commencement of the meeting, Dr. McSweeney had demonstrated the cases in the Hospital to those attending, and a short summary of the paper will hardly do justice to the large amount of detail given, but a few points may be noted. The selection of cases was mainly undertaken by the school medical staff whilst as the facilities were becoming known, the Hospital having been opened for this purpose for only fifteen months, the number referred by private practitioners was steadily increasing. Early carditis was considered a sufficient reason to warrant admission, and abnormality of the first sound at the mitral area had been looked upon as the most reliable sign of early cardiac involvement

and the modification of the first sound was usually accompanied by enlargement of the area of cardiac dullness. The occurrence of pains in and around joints, especially if accompanied by stiffness, had been the commonest single manifestation of rheumatism, whilst, short of chorea, restlessness had been the most common nervous symptom. The hospital régime provided the necessary rest during the acute stages and enabled the gradual resumption of normal activities under medical supervision when the disease became quiescent. It was observed that children with sleeping pulse rates of over 90 required very careful supervision and daily notes on the findings of percussion and auscultation of the cardiac area during the acute stages were most useful. The drug treatment had been limited to the administration of salicylates for the relief of pain and iron tonics for combating the anæmia. Amongst cases treated to a conclusion in 1929 the average length of stay in hospital was 84 days. After discharge, patients were instructed to rest at home for a month, after which period they were again examined at the rheumatism clinic, when they were usually fit to return to school. The effect of hospital treatment in bringing about a speedy subsidence of the acute and sub-acute rheumatic manifestations presented a sharp contrast to the protracted nature of the cases treated at home. Though it has been generally accepted that rheumatic children did not, as a rule, do well in open-air schools, a group of children who had been discharged from the hospital and whose general condition seemed to demand more fresh air, sunlight and nourishing food, had recently been admitted to the authority's open-air school.

Mr. Kevern Batten, Dental Surgeon, Rhondda, in reviewing the dental aspects of the prevention of rheumatism, entered a plea in favour of the dental supervision of the mother in the ante-natal period in order to safeguard the eruption of a sound temporary dentition and regular attention to the dental condition of children during the pre-school age.

In the discussion which followed, Drs. Teghe, Betenson, Harries, Anderson, Gibbs, Crosbie, and Mrs. Tiplady took part, the topics raised including the value of tonsillectomy as a preventive measure, the administration of aspirin for choreic manifestations and evidence of food idiosyncrasies amongst rheumatic children. Dr. McSweeney replied to numerous questions.

THE WEST OF ENGLAND BRANCH.

President: Dr. E. Ward, T.O., South Devon.

Hon. Secretary: Dr. P. H. Stirk, M.O.H., Exeter.

A meeting of this Branch was held at Didworthy Sanatorium, near South Brent, Devon, on June 27th, 1930.

After lunch at the Sanatorium, the members were shown over the institution by Drs. Nankivell and Bettison.

A business meeting followed at which the President and seven members were present.

Dr. Ward explained that, after consultation with Dr. Stirk, he had withdrawn his candidature for the Presidency of the Society in favour of Dr. Kerr.

It was proposed by Dr. Crossley, seconded by Dr. Nankivell, and carried unanimously, that Dr. Ward be nominated as President for the Session 1931-32, and the Hon. Secretary was asked early to solicit the support of other Branches and of the Groups for Dr. Ward.

Officers elected for next session:—

President: Dr. A. H. Wilson, Salisbury.

Vice-President: Dr. A. T. Nankivell, Plymouth.

Hon. Secretary: Dr. P. H. Stirk, Exeter.

Hon. Treasurer: Dr. J. F. Blackett, Bath.

Journal Correspondents: Drs. Blackett and Stirk.

Representative on Council of Society: Dr. Stirk.

The meeting closed with a hearty vote of thanks to Drs. Nankivell and Bettison for their courtesy and kindly hospitality.

It was arranged that the next meeting should be held in October at Bristol, the exact date and detailed arrangements to be left to the President and Hon. Secretary.

DR. ELEANOR B. BONE has been appointed Assistant Medical Officer for Oldbury, at a salary of £600 per annum.

WITH great regret the death of Dr. William Henry Rees-Thomas, Medical Officer of Health for Basingstoke, is recorded. Dr. Rees-Thomas qualified M.R.C.S., L.R.C.P. from the London Hospital in 1893 and two years later graduated M.D. at Brussels University. Apart from his public health work, he was a busy practitioner, and surgeon of the Basingstoke Cottage Hospital. Dr. Rees-Thomas was a Fellow of the Society of Medical Officers of Health, attached to the Southern Branch.

The Literature of Preventive Medicine.

A TEXT-BOOK OF HYGIENE. By J. R. CURRIE, M.A. (Oxon.), M.D. (Glas.), D.P.H. (Birm.), M.A., M.R.C.P. (Edin.), Professor of Public Health, University of Glasgow, etc., etc. Edinburgh: E. & S. Livingstone, 1930. pp. 844. 110 illustrations. Price 27s. net.

Professor Currie is to be congratulated on having produced a most excellent text-book on hygiene. Prepared primarily, apparently, to meet the requirements of students of medicine studying hygiene or public health under the medical curriculum, the detail given certainly fits it to fulfil what the author seems to regard as only its secondary rôle and to prove of service to candidates for the higher public health qualifications. Though he recognises that hygiene and preventive medicine are altering greatly in scope, that views with regard to the relative importance of various matters are changing, Professor Currie has chosen to plan his book rather on the lines of the older fashioned text-books on the subject. In opening with chapters treating of air, soil, water and drainage, it is possible that he may have had in mind the examination needs of the more advanced students rather than those of the undergraduate. Not that it matters very much where a beginning is made; but of late it has become the fashion in the teaching of medical students to try to secure their interest and attention by laying greater stress on the disease prevention aspects of the subject, leaving discussion of the more sanitary matters till later. That such a method of treatment makes much difference is difficult to say. In this book, containing as it does, sound teaching on the wide variety of topics that fall to be discussed in a volume on hygiene, it makes no difference at all. Professor Currie has had a wide experience in public health and preventive medicine as an officer and a teacher, and just as the views he expresses may be accepted without hesitation, so may his decision to plan the book in the manner he has chosen.

It is needless to say that the writing is pleasant and interesting, and equally needless to state that the book itself is one that may be recommended not only to students of medicine and public health, but to all concerned in the execution and administration of public health.

PIONEERS OF PUBLIC HEALTH. The Story of Some Benefactors of the Human Race. By M. E. M. WALKER. Edinburgh: Oliver & Boyd, 1930. pp. 269, illustrated. Price 12s. 6d. net.

Mrs. Walker, who wrote this book, set out to write a series of notes or essays on the people who have laboured in the field of public health, whose names are engraved on the outer walls of the London School of Hygiene and Tropical Medicine; the names of Sydenham, Jenner, Chadwick, Lister, Gorgas, Koch, Manson and many more, placed there as a tribute, as a reminder and as a stimulus.

The sketches are admirably done and provide interesting biographical information with regard to the life and work of each of the subjects. Mrs. Walker does not herself claim much for the essays, but there can be no doubt whatever of the value of the book she has prepared. It is immensely valuable to have particulars of all these pioneers in a single volume, so attractively and readably put together.

The work has been done carefully and lovingly, and the book is one to read and to treasure.

THE INSPECTION OF FISH, GAME, FRUIT, NUTS AND VEGETABLES. By A. HORACE WALKER, Sanitary Inspector, Metropolitan Borough of St. Pancras. London: Baillière, Tindall & Cox, 1930. pp. 253, illustrated. Price 12s. 6d. net.

By those who know this book of Mr. Walker's, the only wonder on seeing this second edition will be that its appearance has been so long delayed. Amongst the members of the health service whose duty includes the inspection of food, the volume enjoys a high reputation. This it deserves. It is full of the most useful information on matters of everyday importance that can only be found, if at all, after search in numberless places; it is written interestingly and well, and amongst the illustrations there are few that are not helpful. The second edition is sure of a warm welcome by those who knew the book in its original form. To those who do not know it, particularly such as are engaged in health work, it is without hesitation commended.

ESSAYS AND ADDRESSES—Sociological, Biological and Psychological. By A SURGEON. London: H. K. Lewis & Co., Ltd., 1930. pp. 277. Price 10s. 6d. net.

Many centuries ago a wise man said of his predecessors that they had much knowledge but no sense; and it is no doubt to try and avoid this accusation being brought by posterity against the generation of to-day that much of this book by "A Surgeon" is written. For there is an unusual breadth of wisdom in what the author puts forward; and it is evident that the mind of much more than a surgeon is behind it. Research worker, laboratory enthusiast, scientist, artist, writer, all are revealed in the personality of Mr. C. J. Bond, of Leicester; for no author writes a series of essays like this without revealing his complete self.

The work covers a period of some twenty years, and the different addresses vary in certain ways; but throughout there is the insistence for a fuller recognition of the part played by evolution, there is the stressing of the fundamental importance of heredity and of innate capacity, and there is the urgent need put forward for a deeper appreciation of biological principles in our social legislation and in our national life. For if the best results of preventive medicine are to be obtained, the State must widen its outlook and be interested in the life of the citizen as a whole.

Of racial decay, Mr. Bond has much to say, and he insists on the hope of success being not in a return to the old method of natural selection, but in an extension of the newer ways of environmental control. Whatever opinions may be held, there certainly is need for a full enquiry on a national scale, a census of the quality as well as the quantity of the population; even the most conservative and reserved would find it difficult to refuse this request. If everything proves well, then there is little need for further action; but if, as is probable, unpleasant facts present themselves, some sort of eugenic ideals must be established and "a racial conscience awakened in the mind of every citizen." This, as the author states, will not be easy, for the "natural conscience" is a very heavy sleeper, and, moreover, humanity is neither scientific nor logical, but rather a bizarre mixture of habit, custom and bias.

This book is to be very heartily commended to all who are interested in the broad view and wide vista of what eventually must be the real

public health—a much more complete entity than is at present appreciated. If the style does not quite attain that charm and grace which are evident in some of the brilliant writings of the one or two outstanding physicians, like an Osler or a Newman, it has the directness and forcible appeal of the surgeon. And the earnestness of purpose and sincerity of zeal are indeed worthy of every praise. Truly the work has the inspiration of the artist; and doubtless the joy of writing, the interest in the completed task, will have given great satisfaction to the author, and will more than outshine the most favourable comments of a reviewer.

MODERN INFANT FEEDING. By BERNARD MYERS, C.M.G., M.D., M.R.C.P., Physician to In-Patients, Royal Waterloo Hospital for Children and Women, London; Physician and Administrator, Children's Clinic, Marylebone Road, London; etc. London: Jonathan Cape, 1930. pp. 160. Price 5s. net.

The opening chapters of this book deal with the anatomy and physiology of the gastrointestinal tract in the infant. The biochemistry of digestion, whilst somewhat sketchily disposed of in six brief pages, is sufficiently well summarised to provide a satisfactory chemical explanation for the harmful effects of excess, deficiency, or incorrect blending of proteins, fats, carbohydrates and salts.

The section on breast feeding is, on the whole, well arranged, although there is noticeable repetition of certain points, particularly with regard to the care of the breasts, which might have been avoided. The author has wisely noticed the importance of heredity as a governing factor in the faculty of infant suckling; his suggestion, however, that a neurotic inheritance may be responsible for an infant's difficulty in taking the breast appears to be distinctly far fetched.

Many experienced clinicians will disagree with the suggestion that "if able to suckle, the infant should be put to the breast every four hours for the remainder of the first twenty-four hours, five-hourly feeds during the second twenty-four hours, and then starting the six three-hourly feeds in the third twenty-four hours."

In considering the supply of breast milk, the value of such vaunted galactagogues as corpus luteum extract is very correctly discounted, but insufficient mention is made of