at all or partially deaf, like the older children in the war nurseries, learnt quickly to respond to loud or fairly loud pure-tone stimuli, but that they were not interested in listening to such meaningless sounds. The audiometer in itself roused little or no interest and the children's attention was apt to wander. Our experiments showed that except in three or four cases of very intelligent partially deaf children it was not possible to obtain threshold readings."

Pure-tone audiometry accurately applied as by the peep-show procedure certainly yields a quantitative assessment of hearing which is considerably more accurate than anything which can be achieved by means of pitch-pipes, drums, or the spoken voice. In addition, these latter tests also demand for their successful application the services of testers of high skill and long experience. Furthermore, it would seem inevitable that the test procedures must extend, not infrequently, beyond the scope of a single interview.

In contrast, it can be said of the peep-show procedure that great skill and experience are not required. The apparatus itself is simple, and the observational conditions for the tester very good. The responses of the child, too, are quite straightforward and can be inculcated by anyone able to secure his co-operation in simple play. As stated, too, the total time for the test procedure seldom exceeds fifteen minutes, while its results are, with very few exceptions, decisive.

From the administrative point of view there seems good ground for expecting that the peep-show test will prove of considerable value. According to the Education Act of 1944 the Ministry of Education is now called upon to provide special educational facilities for deaf children under the age of 5 years. Children are, of course, not infrequently sent to day schools at the age of 3 or 4 years, and an increasing interest is being taken by teachers and parents in the need for the early recognition of deafness. Young children are therefore likely to be referred in increasing numbers to otologists for confirmation and quantitative assessment of their deafness. No procedure at present in use would appear to possess the accuracy and ease of application of the peep-show test, and in this respect, therefore, we hope that its value will prove to be considerable.

Summary

A new technique is described which greatly increases the efficiency of pure-tone audiometric tests in young children. By its means reliable threshold curves can be obtained in deaf young children of average intelligence down to the age of 3 years.

The equipment is simple and robust and the test procedure is rapid and easily applied.

Grateful acknowledgments are made to our colleagues at the National Hospital and to others who have referred patients to us for examination.

REFERENCES

- Ewing, A. W. G. (1930). *Aphasia in Children*, Oxford Med. Publ.
— and Ewing, I. R. (1944). *J. Laryng.*, 59, 309.

The Medical Sciences Committee of the Association of Scientific Workers has issued a memorandum on pathology in the National Health Service. It envisages a service covering the whole country, able to perform routine pathological examinations when demanded by medical practitioners and to provide consultants to visit patients in their homes. The service could be extended to more remote parts by means of mobile laboratories. Five to six years' hospital training is suggested for the specialist in pathology, during which time he would take a university diploma or higher degree. The report suggests that academic societies might admit to their membership laboratory technicians who had done good original work. The report concludes by saying that "quite large numbers" of demobilized medical men are being trained as pathologists in a somewhat haphazard way, and that there is a need for the Ministry of Health to indicate the likely demand for pathologists and to establish criteria for their training.

SOCIAL SURVEYS MEDICAL AND PSYCHIATRIC ASPECTS*

BY

C. P. BLACKER, D.M., F.R.C.P.

Social surveys make a difficult subject to discuss interestingly and profitably. Descriptions of individual surveys, which perforce deal with problems of sampling and of method, with figures, and with the interpretation of findings, are apt to be difficult to follow, and general principles and conclusions are easily lost in mazes of detail. On the other hand our subject is a large one, extending into many spheres other than the medical. We are here concerned with social medicine and psychiatry. Where is the common ground between these subjects? How is our knowledge of their joint problems furthered by social surveys? How can we discuss this matter most usefully at an international conference?

I shall begin with a word about the evolution of social surveys; I will then pass on to something about medical terminology, which must be internationally intelligible for surveys in different countries to be comparable; and I will conclude with some remarks about the objectives of those surveys which are primarily concerned with problems of health.

History of Surveys

Medicine and psychiatry are by no means necessarily a primary concern of social surveys in general, though they enter prominently into many and are tacitly recognized as important in most. In their valuable *Bibliography of Social Surveys*,† to which I am much indebted for what follows, Allen Eaton and Shelby M. Harrison bring out the fact that social surveys are essentially developments of the twentieth century. The earliest surveys figure as delayed expressions of a growing awareness of the evils of urbanization. Social surveys in general are attempts at social self-assessment whose beginnings were delayed because, like the individual's strivings towards self-knowledge, they mark the transition from boisterous adolescence to critical maturity.

Throughout the nineteenth century the populations of the United States and of most European countries were rapidly expanding. American towns were extending their range and attracting immigrants from Europe as well as many people from the countryside. The first surveys were inspired by the deplorable conditions which prevailed in towns. An early indication of this awareness in the United States was a book on slum conditions entitled *How the Other Half Lives*, by Jacob Riis, published in 1890, wherein is depicted from first-hand experience the insanitary conditions which prevailed in the most crowded sections of New York; other American works were Lincoln Steffens's *The Shame of the Cities* (1904), the Hull House Maps and Papers concerned with Chicago, and the report of the New York State Tenement House Commission, appointed in 1900 by Theodore Roosevelt. Early and important studies in this country, inspired by a similar concern about how the poor were living in big cities, were Charles Booth's *Life and Labour of the People in London* (1902) and Seebohm Rowntree's *Poverty: A Study of Town Life*, of the year before.

Noteworthy in the history of surveys for its breadth of conception and thoroughness of execution was the survey

*Read at a joint meeting of Sections of Social Medicine and Psychiatry of the International Conference of Physicians on Sept. 11, 1947, at the London School of Hygiene and Tropical Medicine.

†Russell Sage Foundation, 1930, New York.

of Pittsburgh, the centre of the western Pennsylvanian steel district. This enterprise was directed by Mr. Paul Kellogg and financed by the Russell Sage Foundation, always a patron of social surveys. The subject matter of this comprehensive inquiry, in Eaton and Harrison's words, "included the study of wages, hours of work, work accidents, and other questions of industrial relations and conditions for both men and women workers; of family budgets and home conditions among steel workers; typhoid fever and other problems related to health and sanitation; housing of the working population; the local system of taxation; the public schools; city planning and civic improvement possibilities; the hospital and other institutional needs of the city; certain phases of the crime situation and the administration of justice; playgrounds and recreation; dependent children in institutions; and a number of other related questions."

The large range of subjects will be noted. Together with industrial conditions, town planning, and housing, the survey comprised sanitary, fiscal, educational, medical, criminological, legal, and charitable activities. Because the survey was planned to effect social improvements which would concern every inhabitant of the town, much attention was given to a matter which tends to be ignored in purely medical surveys—namely, publicity. The chief findings were graphically presented in a public exhibition, and summaries of the various reports, eventually embodied in six volumes, were published in newspapers and magazines; full use was also made of addresses, discussions, and meetings—in short, of both the written and the spoken word.

The idea of turning the social survey into a communal enterprise wherein everyone can participate was carried a stage further in the survey of Springfield, Illinois, carried out in 1914. At that time Springfield contained about 60,000 people and, because of the wide diversity in its economic and social activities, had much in common not only with the other 47 State capitals but also with many other American cities. The enthusiasm which was awakened may be inferred from the fact that seventeen agencies—national and State, public and private—collaborated in the enterprise, a large proportion of the cost of which was born by the locality. Over 900 citizens participated as volunteer workers, taking part in the field investigations or in the preparation of the Survey Exhibition. An elaborate educational campaign, outdoing in this respect Pittsburgh's exhibition, was also organized. "Those familiar with publicity work," write Eaton and Harrison, "will recognize the value of such things as the invitations sent out by a hospitality committee to mayors throughout the State; exhibit models . . . displayed in public places; unexplained cartoons posted in the windows at Exhibition headquarters; the street railway company's offer to transport school-children free to the Exhibition." Prizes were also offered for the best grammar-school essays on "What I saw at the Springfield Survey Exhibition"; special days were assigned to societies and organizations; and a daily newspaper gave a column entitled "The Survey Question Box."

The Springfield Survey took place in 1914. Looking back over the past 33 years, we discern a civic enthusiasm in these early American surveys which reflects the dynamic quality of these vigorously growing cities. A continent had been subdued by the initiative and faith of early pioneers; vast natural resources lay to hand, waiting to be developed; an abounding spirit of enterprise saw no limits to the perfectibility of the New World. Throughout these early surveys the stress was on the environment of the New World's cities, and it was hoped that the New World's citizens would become perfected with its cities.

Let us not underrate the value of the exhibitions, the publicity, and the advertisement given to these geographically restricted surveys. Such surveys are being promoted in England to-day, though for reasons somewhat different from those which prompted the Pittsburgh and Springfield surveys. Here we are now confronted with the many problems of an increasingly congested population endowed with new powers of locomotion. Much excellent publicity was organized for the recent surveys of London. Luton and other provincial towns have held well-publicized surveys. Many of these surveys—that of London for example—are more concerned with problems of town-planning and housing and less with sanitary, medical, educational, and psychiatric matters than were the American cities of a generation ago. The medical surveys tend, in this small country, to be centrally organized, and in consequence receive little of the publicity which is accorded to geographically restricted enterprises by the civic zeal which has local roots. Indeed the absence of publicity accorded to, and the general indifference to the recommendations contained in, many excellent medical surveys and reports recently produced in this country have been the subject of comment by at least one experienced outside observer.

An International Medical Terminology

I have already remarked that psychiatric terminology must be internationally intelligible for the results of psychiatric surveys in different countries to be comparable. The movement towards international understanding has borne fruit in medicine in the "International Statistical Classification of Diseases, Injuries and Causes of Death" which is now in preparation. This joint enterprise should be specially welcomed by psychiatrists because of the confusion of the diagnostic nomenclature of psychiatry. There is no sphere where terms become more rapidly pejorated and obsolescent. In 1890 the Lunacy Act was passed in this country; but now the word "lunacy" is banned. The word "asylum," French *asile* (an appropriate word meaning a place of refuge), is now so charged with sinister implications that it too is banned. Euphonious terms with impressive roots in Greek and absurd connotations—melancholia, hypochondria, hysteria, etc.—have dubious reputations and short lives not only because they become pejorated through their association with the feared condition of lunacy, they are also found wanting by advancing knowledge. It was because of clinical experience that "dementia praecox" yielded place to schizophrenia. Other terms, now reputable, may be thrown overboard, especially those with wide meanings covering diverse syndromes which may respond differently to new treatments. I may be wrong, but I give a short life to a term like hysteria, which embraces heterogeneous clinical conditions and is likely to be broken up as further knowledge is gained.

In the stresses of war, moreover, new euphemisms, such as shell-shock (1914–18), are invented to facilitate the honourable disposal of good men who have broken down under severe strain. But when the wars are over these words come to be applied to men who have never experienced any but the most commonplace stresses; the words become abused, lose their original meanings, and are banned. The same is now happening to terms like "battle exhaustion" and "flying stress" (1939–45). The innocent word "mental" (from *mens*, the mind) is acquiring unpleasant connotations; so is the awkward word "psychiatrist," about which there are unkind jokes. It would be interesting to know if in other countries and other languages the useful lives of psychiatric terms are as short as they are here.

The attempt to assimilate the conditions of hospitals for mental with those for physical illnesses may reduce the still widespread fear of mental diseases and therefore retard the turnover of psychiatric terms. The international classification may also give to these better prospects of life.

If, moreover, psychiatrists in one country are to profit from surveys conducted in other countries the question of terminology becomes important. This fact became clear to me when, fourteen years ago, I was asked to prepare a report for the Brock Committee on Voluntary Sterilization. How much mental defect, I had been asked, would be preventable if all defectives ceased to have children? There were several relevant investigations reported in German and English. It became clear, however, that the terms used in the two languages ("Oligophrenia" in German and "mental defect" in English, as well as some of the terms denoting grades of defect) covered different ranges of abnormality. Since the milder forms of defect are the most strongly familial, and since the German term "Oligophrenia" has a wider upward range than the term "mental deficiency" as interpreted under our Mental Deficiency Acts, the German literature gave a somewhat different impression from the British of how far mental deficiency would be reduced if all defectives ceased to reproduce. Prof. Strömberg has drawn attention to how the proportions of abnormal persons found in regional surveys of mental abnormalities vary with the latitude accorded to certain diagnostic terms; and in his survey of the island of Bornholm he drew comparisons between his own figures for hospital cases and those of New York and Sweden.

If, therefore, an international classification is to serve the purpose for which it is devised, two things are necessary: first, that the list of approved terms should be subjected to revision at regular intervals, and, secondly, that where the terms are ambiguous some description should be given of the clinical conditions they are intended to cover. Arrangements have been made for meeting the first of these needs. The World Health Organization has appointed an Interim Commission to which suggestions for improvement of the "list of categories" can be sent at any time. Indeed, the Interim Commission will at regular intervals ask for such suggestions. The second of the above-mentioned needs—that ambiguous terms should be supplemented by brief clinical descriptions—has been partly met by a decision to assemble many of the psychiatric terms in general or occasional use in an alphabetical index that would show under which number in the approved classification each of the terms should be listed. Such an arrangement would go far to meet difficulties arising in countries speaking the language in which the approved classification and the alphabetical index was prepared. But I doubt if it would be helpful to countries speaking other languages. The psychiatric idioms of English-speaking countries included in the alphabetical list might be difficult to translate into Russian, Hungarian, and Chinese. I see only two ways out of the difficulty. The first is that medical committees in countries speaking other languages than English—the language of the International Classification—should prepare their own alphabetical lists of current diagnostic idioms to fit in with a translated version of the International Classification. The second, and surely simpler, way out of the difficulty is to append to certain key terms in the International Classification short and succinct descriptions, readily translatable into other languages, of the clinical conditions which the terms are intended to denote. In the light of these short descriptions, idiomatic terms in different languages would then be assigned to their appropriate heading and number in the international list.

I have it in mind that the international list might be reproduced in a series of separate pamphlets corresponding to the different sections or specialties, and that in these pamphlets the key diagnostic terms should, where appropriate, be elaborated as suggested above. The International Classification of 1947, which by design can be further differentiated, is a somewhat massive document. It has room in all for 10,000 diagnostic items, not all of which have in fact been formulated. Numbers 3,000 to 3,300 are reserved for the psychiatric classification. These three hundred or so psychiatric terms, together with an alphabetical index of other currently used terms not included in the classification or in a supplementary "Tabular List," might be published as a pamphlet to be used by psychiatrists. The same could be done for neurology, cardiology, dermatology, etc. Armed with translations of such a (comparatively speaking) wieldy document, specialists in different countries could be assured of some common understanding as to usages. I wish to thank Dr. Percy Stocks for information on some of the matters mentioned above, though he is not to be associated with any of the conclusions reached or suggestions put forward.

Objectives of Surveys

I now turn to my third theme—namely, the objectives of surveys concerned with health. Such surveys may be of local origin and circumscription, or they may be centrally initiated and designed to cover the whole country. It is probably true to say that most local surveys are indirectly concerned with health. Every town-planning and housing scheme has as an objective a healthier population. But the concern with health may be direct, as in surveys initiated by medical officers of health. Centrally initiated surveys are more likely to be organized in a small country like Great Britain than in large ones like the U.S.A. or the U.S.S.R. We can also distinguish between single, periodic, and continuous surveys. Prof. Strömberg's survey is an example of the first kind; a decennial census is an example of a periodic survey, and so perhaps is Dr. E. O. Lewis's in that a survey bearing comparison with his was made twenty years previously; and the process of notification of diseases, admitting of the publication of regular periodic returns covering the whole country, involves a continuous survey.

Most social surveys carried out in the territories common to social medicine and psychiatry have somewhere in the background a utilitarian aim: their results are expected to point the way towards social improvements. There are three possible objectives, which present themselves in a certain order, like lines of trenches to be captured. The first is the ascertainment of the gross *incidence* of the condition under investigation, or of its differential incidence, or, if possible, its trend. Thus Dr. Lewis was concerned with the gross incidence of mental defect in England and Wales, with its differential incidence in town and country, and with trends during the preceding twenty years. Prof. Strömberg was concerned with the total incidence of psychiatric abnormalities in Bornholm, and with the average expectation there of various forms of mental illness. His survey has something in common with that instituted in an area of South-West Scotland by Dr. Mayer Gross. The second possible objective of social research is the *cause or causes* of the condition under investigation. The Mental Deficiency Committee, to which Dr. Lewis made his report, had something to say about the familial incidence of the higher grades of defect; and Prof. Strömberg was concerned with the genetical character of some of the disorders he surveyed. The third objective is *remedial*: it supplies an answer to the questions, Up to what limits can improvements be made? and, How much can we reasonably expect to do?

An answer to the question, How much can we reasonably expect to do? can be gained from inquiries into differential incidence. Thus the fact that rheumatic fever, infantile deaths, and stillbirths are of relatively scarce incidence among people living in socially favoured conditions provides us with a vision of a goal which could be attained by social policy. The same can be said for the experiences of other countries. The fact that in 1939 the infant mortality rate for New Zealand was 31 while that for Malta was 227 provides for the Maltese and the rest of us a standard to which we can reasonably aspire. By such comparisons we can also learn something about the causes of infant mortality and also about remedies. When diagnostic terms used in different countries can be matched with each other as closely as can figures for infant deaths, then we shall be better placed than we are to-day to profit from the findings of other countries' surveys.

We in this country are surely on the threshold of a period when the social survey, the pilot inquiry, can be more usefully employed than ever before. The value of pilot investigations was well appreciated by the Nuffield Foundation when this body was concerned with exploring the possibilities of co-operation between the voluntary and municipal systems of hospital administration. How much greater can be their usefulness in the future when the structure of our medical services will be more uniform. Indeed, many will base their judgment of centralized medical services on the extent that universities and other unofficial organizations are encouraged to make pilot investigations. Unofficial bodies have in the past played the part of advance guards, reconnoitring new territories into which, when positions are established, the ponderous main body moves into occupation. The main body has now become large and ponderous: all the more need for scouts, patrols, and guides.

Conclusion

I began this paper by commenting on how the early American social surveys and our own—the Booth and Rowntree surveys—were concerned with the effects of inequalities in the environment. If hopes are fulfilled by the new order we will witness a narrowing of the gap which separates the over-opulent from the slum home. There will be a general equalizing of those features of the environment which influence health. Differences between human beings will then be better recognized as being partly determined by innate qualities. For man is not only the product of his environment; he is also largely its architect.

Speaking at the Silver Jubilee National Safety Congress organized by the Royal Society for the Prevention of Accidents and held at Brighton from Oct. 6 to 10, Mr. Duguid said that only a few American States—notably New York and California—had safety legislation comparable to that in Great Britain. Other States either had very little legislation or else had laws which were not well enforced. America had nothing to teach us about the fencing of machinery. Dust and fume removal in American factories was good, but general factory ventilation was not. Mr. Tugman said that he went to America to learn what he could about safety methods and therefore visited only the best factories. What he had seen was not necessarily typical of American industry as a whole, but he was satisfied that the best results achieved in America were better than the best results achieved in Great Britain. Making all allowances for different methods of calculation, he had come to the conclusion that in the best American works the accident rate was only one-quarter of the lowest figures recorded in this country. One reason for this was that, in the best firms, the drive from the top was more apparent than in Great Britain, and there seemed to be a greater emphasis on managerial responsibility for accident prevention. More staff was employed to encourage, co-ordinate, and advise on safety at all levels of management. On the subject of protective clothing we did not have much to learn from the U.S.A., and guarding of machinery was not practised to nearly the same extent as in this country.

CHILD-BEARING AND PULMONARY TUBERCULOSIS

BY

CHARLES J. STEWART, M.D., D.R.C.O.G.

Assistant Physician, Uxbridge Chest Clinic

AND

F. A. H. SIMMONDS, M.A., M.D., D.P.H.

Medical Director, Clare Hall County Sanatorium, Middlesex

Just how commonly do pregnancy and tuberculosis occur together? Routine radiography and screening of women attending antenatal clinics show that the rate of incidence of pulmonary tuberculosis is no greater among pregnant women than among others in the same age group (Nicol Roe, 1946; Jacobs, 1946; Dawson, 1945).

Rich (1944) estimates that in America one woman in eight of those aged between 15 and 30 years is pregnant at any given moment. A similar estimate for the population of Middlesex for the years 1943-4 shows that of women of child-bearing age (15 to 45) 1 in 12 to 1 in 16 were delivered of children in each year. The peak incidence of tuberculosis in females occurs during the same age period, hence it is clear that chance alone will ensure that a considerable number of women will be pregnant in a reasonably close time-relationship to the onset or course of a tuberculous illness. It is therefore wise to admit an aetiological association only if it is established that tuberculous disease is more frequent in women who have gone through pregnancy than in an otherwise comparable group. Such a comparison is in practice extremely difficult.

If the estimates given above hold for the whole of Britain it would seem that 2,000 to 3,000 tuberculous women become pregnant each year. The only large series of cases reported recently in this country is from the special unit for pregnant tuberculous women at Black Notley (Cohen, 1946). Because of the paucity of reliable information on the subject it was decided at a meeting of the Middlesex Tuberculosis Association in January, 1944, to keep a central register of pregnancies occurring in women attending chest clinics in the county. It was from this register that the present series of cases was obtained, and from the records of the clinics that the information regarding the patients was collected.

No attempt will be made here to review the extensive literature, as several recent summaries and reviews are available (Friedman and Garber, 1946; Cohen, 1946; Oxenham, 1941; and Brooks, 1940).

Object of Investigation

Our aim was to determine what influence, if any, "child-bearing" has upon the course of pulmonary tuberculous disease in patients already diagnosed as suffering from pulmonary tuberculosis and those whose disease was found during the early months of pregnancy.

A deliberate distinction is made between "child-bearing" and "infant-rearing." By the former is understood the physiological process of conception, maturation of the foetus, and parturition, with the associated metabolic, endocrine, and mechanical changes in the mother. Rearing of an infant includes its care and nutrition. The early months after the birth of the child call for much effort from the average mother—extra washing, preparation of feeds, and sleepless nights often causing a state of tension and anxiety. Common to both these periods for most women are the normal household duties, including shopping; for the period surveyed here these were even more arduous than in peacetime. No attempt is made here to assess the