

out—and we think justly—that this was the natural consequence of patients having been saved from the local recurrences, and the still earlier death which would have been caused by them.

There was much difference of opinion as to the extent of operation which ought to be undertaken, and as to the comparative advantages of the "old" and the Heidenhain-Stiles operation; and, in view of the apparent capriciousness of the progress of cancer, and the strikingly good results which sometimes follow much smaller operations than those which are now so commonly advocated, several surgeons expressed the feeling that as time went on the new operation would take a less prominent place. There is one point, however, in regard to which all the speakers were agreed—viz., the necessity of early removal, and this is what should be firmly and persistently impressed, not only on general practitioners, but perhaps even on the public; for the greater the chance of our being able to give permanent relief—whether we call it cure or not—the greater is the urgency of not losing a moment in submitting the patient to operation, for literally every moment is of importance. Perhaps we may without offence also suggest that another fact worthy of being remembered is that the modern extensions of the operation have entirely removed amputation of the breast from the category of small operations. It is a large operation in every sense, and not only the ultimate success, but the life of the patient at the time, depend on the perfect carrying out of many details which are not always easy of arrangement, except to those who are constantly engaged in surgical work. "Specialism again!" some will say; but it cannot be helped.

ZYMOTIC DEATH-RATES IN 1897.

The vital statistics for the year 1897 of the 33 large towns dealt with by the Registrar-General show certain changes in the incidence of various zymotic diseases which are worthy of note. Thus the small-pox deaths, which had diminished in the provincial towns, had increased in London. Measles was almost stationary in the provincial towns, although even in them it had diminished a little, viz., from 4,142 deaths in 1896, to 4,120 deaths in 1897. But in London the deaths had gone down enormously in the same time, viz., from 3,697 to 1,929. The deaths from scarlet fever in the provincial towns fell from 1,464 to 1,187, and in London from 942 to 780. Again, in the provincial towns, the deaths from diphtheria fell from 1,519 to 1,156, and in London from 2,683 to 2,261. In whooping-cough, also, the deaths in the provincial towns fell from 3,308 to 2,611, and in London from 2,937 to 1,842. It is the habit of all these diseases to vary in prevalence from year to year, but the length of the oscillation varies with the disease; in the one case a high mortality will occur every alternate year, in another perhaps every third or fourth year; but, curiously, last year there was a diminished mortality from all these diseases at the same time, a diminution which was sufficient to account for a saving of 3,447 lives, as compared with the preceding year, in London alone from these four diseases—measles, scarlet fever, diphtheria, and whooping-cough. Lest, however, we should be too elated by this diminution in one class of zymotic diseases, it should be mentioned that diarrhoea took just the oppo-

site turn, the deaths caused by it having increased between 1896 and 1897 from 3,223 to 4,104 in London, and from 5,537 to 9,513 in the provincial towns.

THE MENTAL SIDE OF THE SENSE OF HEARING.

The *Laryngoscope* draws attention to the great difference which exists between the capacity of different individuals for appreciating the various qualities of sound, as shown by the tests applied to telephone operators. It has been found that quantitative tests alone are illusory since the inability of the operator to detect the quality of sound is often the cause of delay and confusion. The difference between two operators may in fact be essentially a psychological one, for although the acuteness of hearing of each may be equal the mental processes of one operator may be infinitely more rapid and accurate than those of the other. A simple test sometimes applied is as follows: The superintendent has his own telephone connected simultaneously with those of a number of operators, and calls out, at shorter or longer intervals between each, a written series of numbers, without repetition. These the operators record on paper and the lists are then compared with the original. This is a criterion which clearly tests the various faculties involved. Unfortunately it would seem to complicate the personal factor of the individual with that of the instrument engaged.

RELAPSE IN TYPHOID FEVER.

In a paper in the *Practitioner* for this month Dr. Bertram Hunt states that of 71 cases of typhoid fever recently treated in University College Hospital, no less than 28—i.e., 40 per cent.—underwent a relapse. This proportion is greatly in excess of the usual frequency, which Murchison gives as 3 per cent. No cause could be discovered for this frequency of relapse, although, as negating certain assumed causes, the cases were of much interest. For example, much has been said about relapse following cold, exposure, fatigue, or errors in diet; but nearly all these cases occurred while the patients were still in bed, and while they were taking strict typhoid diet; while no relapse was seen in several cases which were tentatively treated on the lines advocated by Barrs, by giving solid food immediately the temperature fell. This shows the small importance of these factors in the production of a true relapse, although they might undoubtedly produce a false relapse or after-fever, which has often been confused with the true condition. Again, these cases were not treated by cold baths, a method which has often been observed to be followed by a greater frequency of relapse.

With but one or two exceptions also the relapses were not seen in the mildest cases, nor was relapse associated with constipation, as has been asserted to be the case, the relapses among the diarrhoea cases being three times as numerous as among those which were the constipated cases, the total number of patients in each group being the same. Dr. Hunt finally points out that, whatever the cause of the reinfection, it would be obviously inoperative unless the immunity produced by the first attack was either incomplete or was produced more slowly in these cases.

Unfortunately, he says, we cannot estimate clinically the grade of the immunity that exists. In many cases which ultimately relapsed the blood serum gave a well-marked agglutinative reaction early in the attack; but this cannot be taken as showing a high degree of immunity, since Widal and others hold that it is not a reaction of immunity. The cause of relapse at present remains a mystery.

HEREDITY IN REGARD TO LENGTH OF LIFE.

The great tendency displayed by modern clinical teachers to lay emphasis upon physical and demonstrable evidences of disease undoubtedly leads men to accept with far too great readiness the absence of such evidence of disease as proof of health.

This is a matter which is of great importance in regard to life insurance. The tendency of the inexperienced is to trust to what is visible and capable of investigation; but the medical advisers of the great insurance companies, who in many cases are able to trace long family histories in a way that is impossible even to that rapidly vanishing genus the old-fashioned family practitioner, know better, and, however satisfactorily a budding physician may report on a life, after the most complete investigation by aid of the most elaborate and modern instruments of precision, that life will not pass if the office finds that there is a bad family history. Hence, great interest attaches to the remarks made by Dr. Hermann Weber at a recent meeting of the Life Assurance Medical Officers' Association in regard to heredity in relation to life assurance.

He dealt with many diseases which need not concern us here, since if these diseases exist, or have existed, ordinary care will find out all about them. But he laid especial stress on conditions which are undiscoverable by physical research, namely, hereditary tendencies to certain groups of diseases and certain modes of degeneration, and, more particularly, the tendency to long life which is so manifest in some families, and the tendency to premature decay which is equally manifest in others. Putting on one side the majority of families, in which the average duration of life prevails—that is, in which those who reach adult age die between 60 and 72, unless some infectious disease or other unfavourable influence intervenes—he spoke (a) of long-lived, and (b) of short-lived families.

(a) The long-life tendency must not be regarded as consisting merely of a tendency to live on for a long time under ordinary circumstances. There seems to be in these families a greater vital resistance to evil influences, so that, even if accidents and illnesses happen, the patients make a better fight for life than people of a less fortunate and less hardy stock. This is a matter of great importance, because a careful recognition of the long-life tendency often enables insurance companies to accept lives with flaws which otherwise would be rejected. For example, if there is no other cause against it, gout inherited or acquired may in some such cases be accepted at ordinary rates. In certain cases of heart disease also it is possible to accept with a moderate addition to the premium cases which in average families could not be accepted at all, and the same is markedly the case in regard to phthisis, in which a recognition of the long-life tendency

is a most important factor in the arriving at a correct estimation of the value of the life. A very interesting remark made by Dr. Weber is the following "A peculiarity occasionally observed in these long-lived families is, that not all the organs and functions retain their vigour in an equal degree, that old age shows itself occasionally even early in the hair, the teeth, the senses, the generative organs, and even in memory and the higher functions of the brain; but as these organs and functions are not vital, insurance officers need not mind very much."

(b) Short-lived tendencies are of even greater importance in life assurance than their opposites, for any failure to recognise the existence of this essential instability of constitution may lead to great loss. Dr. Weber says: "Although all offices recognise this tendency to early death, I venture to state that the disadvantages are not so generally recognised as they ought to be. I infer this from reports of country cases, and especially from the answers often given by the examiners to the question—is the family history good?" The short-lived tendency is not shown merely by a tendency to die at an early age from ill-defined conditions coming under the head of general breakdown, but by a lack of resisting power, a tendency to die from ordinary ailments through which other people pass without much danger.

The following case given by Dr. Weber is a striking instance of short-lived tendency showing itself in various members of a family: A man of 36, without occupation, without any organic disease, "healthy, but not vigorous," and "looking a little older." Father died at 51, pneumonia; mother at 48, change of life; 1 brother at 38, Bright's disease; 1 at 28, rheumatic fever; 1 died in infancy; 2 brothers living, 25 and 27; 1 sister died at 18, diphtheria; 1 at 24, diarrhoea; 1 at 32, in Australia, from exhaustion after sea voyage; 3 are living under 30, healthy. The history of uncles and aunts and of grandparents is not given. The answer to the ordinary question about good family history is "yes."

This life was recommended at ordinary rates, but, as is pointed out, the family history pointed to early death, and showed that the proposer was not an average life, notwithstanding the absence of obvious disease. It is a curious thing that, in these short-lived families, premature senility of one or several vital organs may be observed in successive generations. Thus, says Dr. Weber, "I sometimes see at present a man whose age is only 45, but who is in reality an old man in all his tissues and organs. He is grey, he has lost all his teeth, he is deaf, he has had to use glasses for more than six years, he has no memory, he has lost the control of the bladder, and he has been without sexual power for more than eight years. I have seen his father die under similar circumstances from general decay at the age of 49; and the late Dr. Addison, with whom I had attended the case, told me that exactly the same had happened with the grandfather. Insurance offices have to be very careful with such families. The man whom I have described just now has been insured at the age of 21 as an average life at two offices. With due attention to the family history, viz., to the tendency to premature decay and early death, this would not have happened." "Vitality" is a strange thing, of the essence of which we know nothing; but