

wegian coast, and that each individual sample shows the same predominance of the 1904 class. It is also equally well shown in seven samples of "large herring" taken during the winter of 1913-14.

The next step in Dr. Hjort's argument is based on a study of the fishery statistics showing the fluctuations in the total yield of herrings of the different kinds. He is able to show that a marked increase of the yield occurred in those years in which the 1904 class became prominent.

The report then goes on to a study of the cod and haddock, and evidence is produced of a similar series of phenomena in the case of these fish. Again, the 1904 year class is predominant for a number of years, and its abundance gives rise to a successful fishery.

Summing up the whole matter, Dr. Hjort claims that the renewal of the stock of fish does not take place, as in any human population, by means of a more or less constant annual increment in the form of new individuals, but that, in the case of the species investigated, it is of a highly irregular character. "At certain intervals, year classes arise which far exceed the average in point of numbers, and during their lifetime, this numerical superiority affects the general character of the stock, both as regards quantity and quality, thus again exerting a decisive influence upon the yield of the fisheries in both respects." These rich year classes make their presence felt when they are still quite young, and their influence on the yield of the fisheries extends through a number of years. It should, therefore, in future, by means of properly organised investigations, be possible to ascertain beforehand the probable general course of the fisheries over a series of years. Such predictions will, of course, be liable to be upset by special circumstances, both of a general and of a local character. Nevertheless, there is now good reason to hope that indications of great practical value may be given, if the methods of investigation advocated by Dr. Hjort are continued upon an adequate scale. E. J. A.

#### STUDIES OF TROPICAL DISEASES.<sup>1</sup>

THIS report consists of the report of the committee (2 pp.) and six appendices, the first of which deals with anti-malarial measures in the Crown Colonies and protectorates, etc., the remainder with reports of the work done in various laboratories. To consider, first, Appendix I. The data in this appendix are mainly statistical. They seem to us to be deficient in two ways. (1) The figures are not scrupulously accurate, or at least differ from other official figures. (2) Information is lacking which seems to be essential to an appreciation of the meaning of the figures. Of want of accuracy, the following are examples. On p. 11 in the Mauritius report the number of deaths ascribed to fever (*malaria included*) is given as 4498, whereas in the annual report for Mauritius the deaths due to malaria *only* are given as 4619. Again, under the heading, "Government Hospitals," we find malarial fever: admissions 2321, deaths 30, whereas in the annual report for Mauritius we find 3063 cases of malaria, and 43 deaths. The discrepancy here may be due to the fact that in the latter case other than hospital cases are recorded, but if this is so, at any rate they find no place among the data in this report.

Again, comparing the figures given in this report and in the annual medical report for the Straits Settlements, we find the figures for malarial admissions to be 9172 and 9474 respectively, a difference of 302. In the corresponding reports for Nyasaland we find the population given as 1,000,659 and 1,001,895 respec-

tively. In the Southern Nigerian report (p. 35) we find the following puzzling figures under malarial fever, viz.:—Admissions, 6; deaths, 10; admissions, 7; deaths, 5; admissions, 1; deaths, 10. And again, under "Government Hospitals," we find the admissions given as 9687, and two lines further down as 1365! Under "Blackwater Fever" four deaths are recorded, but no admissions are given, and it is only by referring to the annual medical report that we find that the number of cases in the colony was twenty-three. Not to pursue the subject further, we would only add that in our opinion the heading, "Deaths Ascribed to Fever," is ambiguous, as apparently some medical officers have found it to be, for some change the heading to "Malaria Fever," others say "malaria included," whereas others again subdivide it into malaria, typhoid, and non-specified fevers. We think this heading should be changed to "Diseases During the Year," and divided into various sub-headings, e.g. malarial fever, blackwater fever, etc., with the addition, if necessary, of unclassified fevers, and in each instance where possible cases as well as deaths recorded, as is done under heading 6 "Government Hospitals."

The second criticism we have to make is that information is lacking which is necessary to give the figures their full value. While dreading to suggest any addition to the really burdensome labours of those who have to compile these reports, yet we cannot help feeling that a mere record of population and malarial deaths tells us less than we ought to know. In our opinion, for these figures to be really of value we should know, besides the total population, that of each race and the deaths in each race. For instance, we are given, on p. 14, the European, Chinese, "other races," and Malay population of the Straits Settlements, but while we are told that the total births are more than 20,000, we are given no idea as to what races were responsible, and similarly we cannot tell among what populations the malarial deaths occurred. We have dwelt on these points because it seems to us that sooner or later the question of the compilation of the figures in reports of this kind and in the annual medical reports must be seriously considered. It is scarcely an exaggeration, we think, to say that at present no two annual medical reports are based on exactly the same plan, and we actually find that the official year is not identical in all. One point will not be disputed, viz., that absolute accuracy is necessary, and this is by no means an easy matter to attain, as everybody knows who has had to make up tables of figures. Whether these matters should not be in the hands of trained statistical officers, instead of being thrown on the shoulders of already overworked medical officers is a matter for consideration.

It is impossible to give shortly an adequate notice of the various researches recorded in appendices ii.-vi., as the subjects differ widely. It is evident that much valuable research is being done and interesting results got, but it occurs to us whether practical results—and we think we may assume that this is the main object of most of these researches—could not be got more quickly if the forces now scattered in various directions were to some extent concentrated on certain problems. For instance, we consider that each of the reports on the use of salvarsan in yaws (three in number) is more valuable than it would have been if it had stood alone. On ankylostomiasis we have only one report. It would be a gain to check the results recorded in it by experience elsewhere. So while not wishing to limit in any way a man's predilection, we think that coordination would be of advantage. The report is priced at 2s. 4d., but we hope that every medical officer receives a copy gratis. J. W. W. S.

<sup>1</sup> Report of the Advisory Committee for the Tropical Diseases Research Fund for the Year 1913.