

THURSDAY, OCTOBER 9, 1884

THE CHOLERA POISON

THE reporter of the French Commission appointed to investigate the mode of action of the cholera poison and its method of propagation, as judged of from the behaviour of the disease during the epidemic in the southern provinces of France, has made public the conclusions which have been arrived at. It will be remembered that the French Commission which studied the same subject in Egypt last summer differed from the German one in regarding the blood as containing the specific organism of the disease, a contention which found no support in this country when the medical societies had had an opportunity of examining microscopically the preparations which were supposed to afford proof of it. Dr. Koch, chief of the German Commission, on the contrary, declared that the French statement was due to an error of observation, and maintained that the comma bacillus which he had discovered in the coats and contents of the intestines formed the specific germ of the disease. The French Commission of 1884 now return to the subject by still maintaining that the blood contains the poison, and that the initial lesion of cholera takes place in the blood. In proof of this they describe the changes which the blood cells undergo during the process of cholera; they regard certain modifications, such as result from the entire loss of elasticity of the globules, as one of the most certain signs of the patient's impending death; they maintain that by the hourly examination of the blood of cholera patients the progress of the malady can be mathematically followed; they assert that cholera, as such, is transmissible to the rabbit as the result of the injection into its veins of the blood of a cholera patient at the algid period; and lastly, they maintain that the microbe specially described by Dr. Koch has no such specific properties as have been claimed for it.

So far the two sets of observations are diametrically opposed to each other, and neither of them finds much support from the investigations of Drs. Lewis and Cunningham in India. The French contention that cholera is transmissible to one of the lower animals is at variance with all previous trustworthy experiments, and until the details of the method of operating and of the symptoms induced are made public, it would be premature to accept the conclusion at which the Commission have arrived at as in any way proven. But, on the other hand, time is not lending support to the contention of the German Commission, and it is asserted that the early labours of Dr. Klein in Calcutta have confirmed the view which he has all along held, that the announcement of the discovery of a specific cholera organism in the comma microbe is, at least, premature. Fortunately, many observers are now at work in the field of cholera micro-pathology, and the opportunities which have been, and still are, afforded for such work both in Europe and in India are exceptionally favourable. The interests of science will be best observed by waiting for the results of the labours now in progress, and by the exercise of caution in accepting any views which are based on any isolated series of experiments. But whatever be the result, Dr. Koch and the German

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Commission must be regarded as having given fresh life to a scientific question the interest in which had for some time past been flagging, and to them must be given the credit of having secured in Dr. Klein's work at Calcutta the establishment of an English laboratory for the elucidation of a subject which this country should always regard as peculiarly its own, in view of the fact that among its possessions is the country which has always been regarded as the home of cholera.

THE SANITARY INSTITUTE AT DUBLIN

THE Sanitary Institute of Great Britain succeeds, by its annual migrations from town to town, in securing a widely-diffused interest in matters relating to public health, and there are but few large towns in the United Kingdom that stand in greater need of some such stimulus than Dublin, where, under the presidency of the veteran sanitary engineer, Sir Robert Rawlinson, C.B., the Institute has met this autumn. Within the past twelve years we have made great strides in organising a sanitary administration in this country, every portion of which is subject to the control of a sanitary authority having at least two executive officers—the medical officer of health, who is intended to be a skilled adviser as to the principles which should be held in view in action taken for the promotion of health; and an inspector of nuisances, whose functions relate in the main to the periodic inspection of his district with a view of the removal of such conditions as are likely to cause injury to health, or nuisance. In Ireland a somewhat similar organisation has also been established, and, as in this country, the working of the system is subject to the control of a central body known as the Local Government Board. But to judge from a paper read before the Institute by Dr. Edgar Finn, there is a wide difference between the efficiency of the two systems, and it is certain that, whether judged by the progress that has actually been made or by the amount of money that has been raised by way of loan for the execution of sanitary works in England and in Ireland, the latter country must be regarded as comparing very unfavourably with the former.

According to Dr. Edgar Finn, this is partly due to the fact that the Irish Local Government Board is in itself unmindful of using the ordinary means at its disposal for enforcing the proper carrying out of the provisions of the Act under which it is constituted, partly to the circumstance that in the large mass of the sanitary districts the Boards of Guardians who have been constituted the sanitary authorities take but little interest in their sanitary duties, but mainly to the faults inherent to the system under which the medical officers of health are appointed in the rural districts. In Ireland the dispensary or poor-law medical officers are appointed to act as rural medical officers of health, and Dr. Finn points out that the miserable addition of from 10*l.* to 15*l.* to their other salaries does little more than suffice to induce them to hold their tongues, and to take no official notice of the conditions of dirt and unwholesomeness with which they come into contact. And not only so, but it is alleged that such officers cannot possibly be unfettered and independent in their action, for they are generally the medical attendants of the Guardians whom they serve, and who

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are probably in most cases the owners of the properties needing sanitary amendment. In England, on the contrary, Dr. Finn points to the frequency with which rural sanitary authorities combine amongst themselves, and at times also with urban authorities, in the appointment of a single officer of health, to whom it is then possible to give such a salary as will command the entire services of a really competent and independent officer. The contention is true to a certain extent, but it must be remembered that the same system which Dr. Finn describes as faulty in Ireland is precisely the one which the poor-law inspectors, to whom the English Local Government Board originally looked for advice in this matter, secured throughout a very large portion of England when first the appointment of medical officers of health became compulsory in 1872, although it is true that the same Board has during the past five or six years been striving its utmost to undo the arrangement then carried into effect. It was originally felt that a local officer whose other duties necessitated his constant presence in every portion of his district would be the most competent of all to advise as to its sanitary circumstances, the more so as he, of all others, would have the earliest information as to the existence of preventable sickness and death. At first sight the idea seems a very plausible one, and if the principal duties of an officer of health were to be performed on the occurrence of disease, it might still find intelligent supporters. But it is essentially the prevention of the conditions leading to such diseases, and not their remedy after the disease has occurred, that should be looked for from the officer of health, and it is daily becoming more and more apparent that wider districts, supplying wider experience and commanding more skilled services, tend to this, rather than narrow areas which are only looked after during the performance of multitudinous duties of a more pressing character. It is not that the dispensary or poor-law medical officer is necessarily incompetent to perform the duties expected of an officer of health, for in England such officers at times hold both appointments with considerable advantage; but the great mistake which was originally made in England, and which has been repeated in Ireland, was to regard men as competent to perform the duties of one office merely because they held another office involving the performance of totally different duties.

The present is, however, a period of transition in this matter, and the public cannot expect to secure the highest procurable services until degrees and diplomas in sanitary science shall be so universally taken by those who seek public health appointments, that it shall always be possible to find candidates possessing the needful guarantee that they are competent to perform the duties of medical officer of health. The principle of combination by several authorities to secure the entire services of a single officer of health over a reasonably large area tends to efficiency, and most of such officers recently appointed have been able to prove their fitness for the post by the possession of some such diploma as we have referred to, and which can now be procured in each of the three divisions of the United Kingdom.

We have given this matter some prominence because of the importance which attaches to it wherever medical officers of health are appointed, but the Institute dealt at Dublin with many other subjects which are of equally

pressing importance in Ireland. The need for improved dwellings for the poor, for adequate supplies of wholesome water, for efficient means of drainage, and for some proper methods for the disposal of refuse, are urgent requirements in many parts of Ireland. The lack of them causes needless mortality and sickness, and the methods by which they may best be supplied were fully indicated. As a test of the needs of the country in these respects, statistics as to deaths and sickness need to be intelligently examined, and amongst the contributions to the Congress few papers were of more value than that in which Dr. Grimshaw, Registrar-General for Ireland, dealt with the statistical measures of the health of communities, and so explained how a proper estimate of the health of a district may best be arrived at.

CONTRIBUTIONS TO PHENOLOGY

Beiträge zur Phänologie. By Dr. Egon Ihne and Dr. Hoffmann. (Giessen: Published by the Authors, 1884.)

PHENOLOGY, the observation of the first flowering and fruiting of plants, the foliation and defoliation of trees, the arrival, nesting, and departure of birds, and such like, has attracted the attention of naturalists from time to time for nearly 150 years. Some have continued their observations for several years and have formed therefrom a "Calendar of Nature"; others have gone still further and have tried to deduce more general results. But the subject is beset with difficulties, especially when an observer endeavours to procure the aid of others, and this has proved so great at times that the work has not flourished as much as it deserved. The subject has been most carefully studied by M. Quetelet of Brussels, and his writings have served as the basis for most of the subsequent attempts which have been made at organising a System of observation. Dr. Egon Ihne of Giessen, in connection with Dr. Hoffmann, whilst endeavouring to form a series of Charts of plant-flowering for Europe generally, has consulted all accessible works likely to contain any information on the subject. This information is most generally scattered through the Transactions and Reports of Botanical and Local Societies, but still there is much to be obtained from other works, whose titles would not lead one at first to consult them for the purpose. The number and minuteness of the notices mentioned by these Professors, shows that they must have spent a long time in preparing this work, and very valuable service has been rendered to Phenology by publishing the list of sources from which information can be obtained. The total number of works noticed is 196, and naturally those published in Germany are most numerous. It will, however, surprise many to find that, whilst 102 German works are noticed, Great Britain with only 21 comes next, leaving 73 for the rest of Europe. It must be evident, therefore, that, notwithstanding the great care taken in compiling this list, there must be many works not noticed which contain phenological information, and the Authors would doubtless welcome notices of any works omitted from their list.

The main part of the book consists of a short account of the progress of Phenology in each of the countries of Europe, followed by a list of the works published in that country, with such short notes as may suffice to explain the nature of the information each contains. To this is