

ever his travels brought him in contact with new peoples.

Owing to his delicate health in childhood and youth, he was cut off from outdoor games and sports, but made good use of his time indoors by devoting it to a course of wide and solid reading. The effect of this is seen in the numerous and illuminating historical and other allusions in his anthropological books and memoirs.

Abandoning the study of the law, for which he was at first destined, he found a much more congenial study in medicine. He commenced his medical studies at University College, London, and completed them at Edinburgh University, where he took his M.D. in 1853. He was house physician at the Edinburgh Infirmary for fifteen months under the direction of such distinguished physicians as Christison, Simpson, and Syme.

In 1854 the Crimean War offered him the opportunity of visiting eastern Europe as a member of a civil medical staff sent out by the War Office to supplement the work of the military staff. Here he made good use of spare time to make observations on the Turks and other Eastern races he came in contact with.

On his return from the Crimea he resolved to spend a winter of study in the Vienna hospitals, and in his journeyings to and from Vienna he collected a great deal of anthropological material in Holland, Germany, Austria, Hungary, and Italy.

In 1867 he was awarded by the Council of the Welsh National Eisteddfod a prize of a hundred guineas for the best essay on the origin of the English nation. His essay was afterwards expanded into his well-known book, "The Races of Britain."

In 1868 Dr. Beddoe was president of the Anthropological at the same time that Huxley was president of the older Ethnological Society. The amalgamation of these two rival societies into a single society, the Anthropological Institute (now the Royal Anthropological Institute), which has done so much to promote the study of anthropology in this country, was due to a great extent to the efforts of Beddoe. He also took an important part in the movement which led to the constitution of anthropology as an independent section at the British Association.

Dr. Beddoe was president of the Anthropological Institute in 1889. In 1890 he delivered the Rhind Lectures on "The Anthropological History of Europe," a work which shows his unique knowledge of the physical characters, the migrations, and evolution of the peoples of Europe. In 1905 he delivered the Huxley lecture of the Royal Anthropological Institute, and quite lately he was appointed honorary professor of anthropology in the Bristol University.

When we consider that the large amount of anthropological research done by Beddoe was carried out during the intervals of leisure in a busy professional life, we cannot help being astonished at the amount of very valuable work he has done, nor withhold our admiration for the devotion to science which enabled him to persist in it through so many years. Beddoe was a pioneer in a new line of scientific investigation, and his example has been powerful in stimulating other investigators to carry out similar work. The great survey of the hair and eye colours of the school children of Germany carried out by Virchow was without doubt due to the stimulus of Beddoe's pioneer work, and a great deal of similar work has since been carried out by other investigators. The name of John Beddoe will always occupy an honourable place in the history of anthropology.

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DR. H. TIMBRELL BULSTRODE.

DR. H. TIMBRELL BULSTRODE, who died suddenly from heart failure on July 22, was one of the senior medical inspectors of the Local Government Board, having been appointed to that office by Mr. Ritchie in 1892. His death was unexpected and will be widely regretted.

Dr. Bulstrode obtained his medical education at Cambridge University and St. Thomas's Hospital. Since his appointment to the Local Government Board he had, in addition to the more routine work of the medical inspectorate, been engaged under three successive medical officers in work of a more special nature implying exceptional skill in epidemiological investigation. It is in regard to this work that his high reputation was made. Three of his reports to the Local Government Board have been presented to Parliament as command papers. Of the subjects at which he worked, that of the relationship of contaminated shellfish to the prevalence of illness, and especially to enteric fever, is particularly important. Early in the nineties of last century the attention of the Local Government Board was directed to the possible causation of outbreaks of enteric fever, as well as of cholera, by the consumption of contaminated oysters, and Dr. Bulstrode was commissioned to make a comprehensive investigation into the subject. He visited all the districts in England and Wales in which there were oyster layings, and collected all the known literature on the subject of his inquiry. His report, which was presented to Parliament in 1894, was illustrated by a series of charts which indicated the position of all the principal oyster layings in England and Wales, and the positions of sewers in their neighbourhood. The issue of this report necessarily and properly caused much damage to the trade in oysters as then carried on. Its more permanent effect has been to improve the conditions under which a very large proportion of the total oysters in this country are grown and fattened.

Dr. Bulstrode's next investigated several deaths and a considerable number of cases of enteric fever which occurred after mayoral banquets at Winchester and Southampton, and clearly traced these to the consumption of contaminated oysters. Early in the current year a report by Dr. Bulstrode was presented to Parliament dealing with shellfish other than oysters in relation to disease. This report, which is a comprehensive one, brings up to date epidemiology in association with oysters, and contains a detailed account of the principal shellfish beds of mussels and cockles. The volume, like its predecessor on oysters, is illustrated by a valuable series of charts showing the topography of the beds in relation to sewage pollution. Dr. Bulstrode attended many meetings of the Royal Commission on Sewage Disposal which had the oyster and other shellfish difficulties under consideration.

Another public health question with which Dr. Bulstrode was particularly concerned is that of tuberculosis. In 1903 he gave the Milroy lectures at the Royal College of Physicians, choosing the subject of tuberculosis. In 1905 he was associated with Dr. Theodore Williams as a representative of the British Government at the International Congress on Tuberculosis at Paris. In 1908 Dr. Bulstrode's report on sanatoria for consumption was issued and presented to Parliament. This extremely valuable work on sanatoria in England and Wales was republished by H.M. Stationery Office in a cheaper edition, the demand for it having been large.

Dr. Bulstrode, at the time of his death, was engaged in an inquiry, as a representative of the Local

Government Board, with officers of the Home Office into cases of phthisis which had been attributed to "kissing the shuttle," a practice in the cotton mills in Lancashire. His recent report on plague in East Suffolk was a further piece of excellent work, set out with characteristic detail and exactitude. All his reports will remain for a long time valuable works of reference for investigators and examples of laborious and exact inquiry.

Dr. Bulstrode's death in his fifty-third year removes from the medical staff of the Local Government Board not only a very able and conscientious public official, but a colleague who had endeared himself to the officials of his own department, and was held in high repute by local officials in England and Wales with whom his investigations had brought him in contact.

THE PROMOTION OF SCIENTIFIC RESEARCH BY THE DEVELOPMENT COMMISSIONERS.

THE appointment of the Development Commissioners marks a remarkable change in the attitude of the British Government towards research. Not only is the old *laissez-faire* policy thrown over, for the commissioners are charged with the duty of fostering decaying rural industries and trying to promote new, but they are also specifically instructed to promote scientific research and experiment so far as it bears upon agriculture. The funds placed at their disposal are considerable—a capital sum of two and a half million pounds, with an annual grant of 400,000*l.* for the five years for which provision is made in the Act—and though the big grants will be chiefly wanted for such purposes as the improvement of harbours and inland navigation, the reclamation of land, rural transport, and similar works, there should yet be a very considerable margin available for investigation and education in its widest sense.

The first report, which the Development Commissioners have just issued, shows that although they have been at work for less than a year, they have set scientific matters in the forefront of their programme; indeed, they indicate that until they have dealt with research and education they intend to postpone the consideration of projects aiming at the direct creation of employment, such as the reclamation of land, canals and light railways, and afforestation of waste land. Our deficiencies in the scientific direction and control of agriculture and other cognate industries, *e.g.* sea-fishing, are both patent and pressing. In this direction the foundations have to be laid for the future; and, moreover, there can be very little doubt but that the expenditure will be recouped a thousand-fold, because it will take effect upon the mind of the men who have to live by the industry, whereas in the case of works the expenditure is greater and the ultimate benefits to the industry as a whole more doubtful.

The commissioners have already made certain grants for research to institutions like Cambridge University (4,000*l.*), the Rothamsted Experimental Station (2,000*l.*), the Royal Veterinary College (1,390*l.*), Bristol, and other university colleges possessing agricultural departments; but they indicate that these are only interim grants for the maintenance of certain work already going on pending the framing of a general scheme of research applicable to the whole kingdom and intended to secure that every part of the wide field shall receive adequate attention. The commissioners report that they are negotiating with the Board of Agriculture for the preparation of such a scheme, and that they propose to devote about 40,000*l.* a year to carrying it out. In other directions

the scientific aspect of the question seems to have been well before the commissioners, for example in the scheme for the improvement of the breeding of light horses; they have insisted that "definite provision should be made for watching and supervising its operation and so far as possible making experiments from the point of view of scientific research in eugenics as applied to horses." Again, in attacking the problem of increasing the variety of production, they "have appointed two gentlemen of scientific training to investigate by inquiry at home and abroad" the cultivation and management of the tobacco, flax, and hemp crops; and, as regards forestry, they report that education and research ought to precede any action in the direction of afforestation on a large scale.

This recognition of the foundation of all development of industries like agriculture, forestry, and fishing upon scientific knowledge and research is very welcome, and must be applauded as a most promising departure from the spirit and methods that have hitherto prevailed in English official circles. We may compare the 40,000*l.* the commissioners propose to spend with the few hundreds a year which represented all the Board of Agriculture was able to devote to the same purpose.

In this connection the British Science Guild may well be congratulated upon its action. A few years back the guild appointed an agricultural committee, which, after making many inquiries and collecting a great deal of information, produced a report showing what Great Britain did in the way of agricultural research in comparison with foreign countries and our own colonies, and giving some examples of the returns which had accrued to the industry from the application of particular investigations. This report was widely and influentially signed and presented to the Government; and the guild may be well content with the manner in which its representations have now been translated into action. Subjoined are a number of extracts from the commissioners' report.

The Development Commissioners were appointed by the King on May 12, 1910, by Royal Warrant. The commissioners include Lord Richard Frederick Cavendish (chairman), Sir Francis Hopwood, K.C.B., and Messrs. Saint-Hill Eardley-Wilmot, H. J. Davies, M. A. Ennis, W. S. Haldane, A. D. Hall, F.R.S., and Sidney Webb. At the beginning of this year the commissioners entered, with the Road Board, into the occupation of permanent offices at Queen Anne's Chambers, Broadway, Westminster.

Since their appointment, the commissioners had held nine official meetings up to March 31 last, and it is with the work done at these meetings and the preliminary business transacted by the commissioners that their first report¹ deals.

General Principles of the Commissioners' Action.

The commissioners are informed that during the period under review about 170 applications for advances from the Development Fund were made to the Treasury. Of these, twenty-four reached the commissioners officially under the Act, so that they could take formal cognisance of them.

It may be useful if they offer some general remarks on the duties entrusted to them by the Act of 1909, and the principles at which they have arrived in considering how best to carry out those duties.

Their prime duty is to consider and report to the Treasury on applications referred to them for advances from the Development Fund. All applications must in the first instance be made to the Treasury. The Act directs that when an application reaches the Treasury it is to be dealt with in different ways, according to its source. If it is from a Government department, the Treasury are to send it direct to the commissioners for examination; if it

¹ First Report of the Proceedings of the Development Commissioners for the Period from May 12, 1910, to March 31, 1911. Pp. 60. (Wyman and Sons, Ltd.) Price 3*d.*