

His Grace the Duke of Portland, it has been made possible to undertake a thorough examination of the cave, and work is now in progress there. The results already achieved include the discovery of a lance point in mammoth ivory, engraved with a conventional pattern, which is assigned by the Abbé Breuil to the Middle Magdalenian period, and is identical with one found in the cave of La Madeleine itself. This implement and others associated are considered to provide the most definite evidence so far discovered at Cresswell for the precise dating of the culture and its correlation in point of time, if not in development, with the classic cave sites of France. Considerable data have also been obtained in proof of occupation in Upper Mousterian times and at a still earlier period.

At the conclusion of the paper a letter was read from Sir William Boyd Dawkins, chairman of the Committee, in which he entered a *caveat* against acceptance of the engravings on bone from Mother Grundy's Parlour as of human origin. In his opinion, they were due to the action of roots. In the discussion, Prof. W. J. Sollas said that he had no doubt that they were of human origin, while Miss Garrod stated that she was authorised to say that the Abbé Breuil, who had examined the fragments that day, was convinced that the reindeer, and some at least of the lines forming the figure which was thought to be a rhinoceros, had undoubtedly been engraved by man. The bison, however, was more doubtful and might possibly be due to root action.

The Natural History of Disease in Baltimore, Maryland.¹

THE publication before us forms one of the admirable reports issued by the Carnegie Institution of Washington, and therefore calls for attention. It purports to trace the development of public health in one of the oldest cities in the States, and to correlate, so far as practicable, the ascertainable factors bearing on the natural history of disease in that city during a span of more than a century. The attempt is made in nearly 600 pages, beset with elaborate statistical tables and a number of graphs, which have been reduced to an extent which makes them partially illegible.

The valuable portion of the work deals with the actual topography of Baltimore and with the details of the gradual development of its public health administration. In 1820 an ordinance was passed making it the duty of all practising physicians to report cases of malignant or contagious fevers to the mayor or Board of Health; and although this and subsequent but very early further ordinances of similar nature were not enforced, they are interesting as preceding by many years similar ordinances (which were enforced) in Great Britain. Similarly, health commissioners, corresponding to our medical officers of health, were appointed, antedating the appointment of the similar earliest appointed officers in London and in Liverpool. But although these appointments were made, the rapid growth of Baltimore, its increasing heterogeneity of population, and other factors, have left it far behind in subsequent sanitary practice. The reader will find, in comparing the Baltimore enactments with those in Great Britain, much of interest and of practical value; and the balance to the good does not always rest with English legislation. Perhaps, however, we may agree with Solon in his advice to the Athenians; let us have the

¹ Public Health Administration and the Natural History of Disease in Baltimore, Maryland, 1797-1920, by Dr. W. T. Howard, jun.

best law we can keep, not the best laws that can be made.

For epidemiologists and students of natural history generally, however, one looks chiefly to the history of disease prevalence as here presented. A vast amount of material has been compiled, Teutonic in bulk, and Teutonic likewise in the failure to sift out what is trustworthy and to save the student unnecessary and wearisome detail. Thus deaths and death-rates are given for all causes in the aggregate and for some single diseases from 1812 onwards; although prior to 1875, when death-certificates were first required by law, the only information available was that obtained from the sextons of the cemeteries. What proportion of deaths were buried "extra-murally" we can only guess; but the large extent to which deaths of inhabitants in institutions outside the city—which are not recorded in the city statistics—vitiates the statistics given throughout the report, may be gathered from data emerging here and there in the volumes.

When we pass to causes of death, difficulties in accepting the data laboriously collected begin to multiply. Thus on p. 193 is given a list of the causes of deaths named among the burials in the year 1819. "Consumption" is the only item of likely tuberculous nature which appears. On p. 383 the death-rate from pulmonary tuberculosis for the same year appears as 492 and from other forms of tuberculosis as nil. In 1920 the corresponding rates were 128 and 23! On such data, of which an extreme example has been given, are based discussions as to the upward and downward course of the tuberculosis death-rate, which possess very slight value. The problem in Baltimore, as in many other American cities, has been complicated by large immigration of Irish, of Greeks, of Russians and Poles, and by a large negro population. The statistics deal with these heterogeneous groups as if they formed a homogeneous whole; and on such data, extremely imperfect in other respects, we are asked to accept sweeping conclusions, as for example that the course of the death-rate from tuberculosis in Baltimore has been determined above all other factors by natural selection. On similarly imperfect data, to give one further illustration, is based the unlikely inference that although an increasing ratio of the population now attain middle life, these individuals on the whole prove to be poorer risks and less capable of survival to old age than were the proportionally smaller numbers who reached the age of 40 "when natural selection was more searching in its action." To base such a sweeping conclusion on the imperfect statistics of a heterogeneous population, affected by immigration, composed of blacks and whites, of persons of eastern and southern European as well as of British and Irish origin, is extremely indiscreet; and study of the English Registrar-General's figures would have shown its error for a country in which more stable conditions exist, and for which official mortality statistics can be regarded as trustworthy.

University and Educational Intelligence.

CAMBRIDGE.—Mr. H. Gilbert-Carter, Trinity College, has been reappointed as curator of the Herbarium. Sir John Russell and members of the staff of the Rothamsted Experimental Station are giving this term a special course of lectures on "The Chemistry, Physics and Biology of the Soil." The Linacre Lecture will be delivered on May 6 by Lt.-Gen. Sir William B. Leishman, Director-General, Army Medical

Services, on "Health in the Tropics: the Present and the Future."

An appointment is to be made in July of the Busk Studentship for research in aeronautics, and specially in those subjects such as stability problems, meteorological questions bearing on flight, or the investigation of gusts, treated either experimentally or mathematically, in which Edward Busk was specially interested. The Studentship is of the value of about 150*l.*, tenable for one year from October 1, and is open to any man or woman being a British subject and of British descent who had not attained the age of twenty-five years on October 1, 1924. Application forms, to be returned not later than May 12, can be obtained from Prof. B. M. Jones, Engineering Laboratory, Cambridge.

GLASGOW.—The degree of Doctor of Science (D.Sc.) has been conferred on Mr. F. Y. Henderson for a thesis entitled "An Apparatus for the Study of Transpiration under Controlled Conditions."

THE Yorkshire Summer School of Geography will be held at Redcar during the fortnight August 8-22, providing the number of entries is sufficient. The School is intended to provide a "refresher" course for teachers of geography which will help them to keep in touch with recent developments, and will include lectures, practical work, discussions, and excursions. Lectures will be given on the principles of human geography, economic and regional geography, the teaching of geography, and on climate. Practical work will include the analysis and study of topographic maps and the elements of survey. Applications for tickets should be made, not later than May 11, to the Secretary of the Yorkshire Summer School of Geography, the University of Leeds.

THE "Spirit of Modern Science Instruction" is discussed in a thoughtful article by Director O. W. Caldwell of Lincoln School Teachers' College, New York City, in the January number of *School Life*, the organ of the United States Bureau of Education. During the past fifteen years dissatisfaction with excessive specialisation in secondary schools has led to the development, after much careful study and experiment, of a type of "general science" course which has been widely adopted. Returns for 1921-22 show that in 13,700 public high schools there was an enrolment of approximately 400,000 students in general science. The success of this type of course has been achieved in many schools without any diminution of the numbers enrolled in the physics, chemistry, zoology, botany, and physiology classes, and has changed beneficially the character of the work done in these sciences. The point, however, to which the article chiefly directs attention is not so much the importance of science teaching being efficient as the importance of cultivating in the young an appreciation of the proper use of science in modern life, and a determination to make it subservient to the general welfare. "Until people do not wish to destroy their enemies or their competitors they must not possess the means or knowledge for doing so. Science courses for all the people must help all the people to interpret science for service, not science for power." To considerations such as these are partially attributable, no doubt, the remarkable efforts that are being now made in the United States in connexion with the "Education Week," and otherwise to promote instruction and training in good citizenship.

NO. 2896, VOL. 115]

Early Science at Oxford.

May 3, 1687. An account of ye Solar eclips, May ye 1st 1687, was communicated by Mr. Caswell. The Dublin Minutes from Nov. 15 to April ye 7th were read, speaking of a new Engin invented by Mr. Ash to raise water with an inconsiderable Power. They communicated a farther account of ye petrifying of Lough Neagh;—that a toad was kept for eight monthns in Dublin, notwithstanding ye Opinion that noe venemous creature would live there;—that hares and rabbits grow white by Snow;—that Partridges are generally white on ye Alpes.

A discourse was given in to the Society, being a confirmation of Dr. Moline's Observation of ye communication between ye ears of Birds, by Mr. Pit.

May 4, 1686. A Letter from Mr. Grail, Rector of Lassington near Glocester, was read, wherein he gave an account of the little stones called *Asteria*, found chiefly in his Parish, which being put in Vinegar, will move towards one another: if they lie long in vinegar they will wast away, but will keep their starre-like figures notwithstanding their diminution.

May 5, 1685. A Letter from Mr. Will. Molyneux gave an account of a new Hygroscope of his invention: it is made of common whip-cord fastened at ye upper end: the lower end hangs loose with a little weight annext, and turnes round according to ye degree of moisture in ye Air: the turning of ye lower end is mark'd by a tongue or index joyned to ye weight, and playing over a circle in paste-board or ye like, so as that ye weight hangs over ye centre of ye circle.

May 6, 1684. Dr. Plot was pleased to oblige us farther, with ye sight of a Glow-worm shining in ye middle of ye day. This gave occasion to some discourse concerning Lucid Animalls; in which Dr. Bathurst bore a considerable share, affirming, that, in some dissections of Glow-wormes, he had formerly observed, that as soon as ye Insect was cut in peices, ye lucidity disappeared; but it was asserted that even ye peices of a dissected Glow-worm have been known to shine; ye Doctor mentioned ye bones of a Thornback, as remarkable for lucidity.

The Mercury of ye Barometers, having been very low, all ye last weeke, and no rain near Oxon, gave suspection that there might be rain at some distance: ye like event haveing been certainly known about a month since. This discourse began on ye account of a scheme of ye weather ye last month, taken, and communicated, by Dr. Plot.

1690. A Project of making all ye high-ways and streets perfectly good and smooth at ye charge of what 3 years expence as ye present amounts to; after which they may be kept in repair for ever with very little charge or trouble by the use of rollers instead of wheels.

May 7, 1686. The Minutes of the Dublin Society from Feb. 22 to April 26 were read. They gave an account that encouragement being given by ye Lord Lieutenant for forming that Society into a body corporate by the procurement of a Charter, subscriptions for money towards it were made by several.

Mention being made in those minutes of a place between the Tropicks where the *Shadow* goes twice forward upon the dial, and twice backward in a day, Mr. Caswell sayd that this thing happens some parts of the year in all places between the Tropicks (except under the Equinoctial) upon a horizontal dial, and in other places that are not in the torrid zone, upon an inclining dial.