portion of rib with the incised figure of a horse upon it, found in this layer in Robin Hood Cave in Derbyshire (Fig. 13).

No portions of the human skeleton have been found in the Palæolithic stratum of British caves, except a single tooth.

On the continent many caves have been discovered in France, Belgium, Germany, and Switzerland, with similar deposits and implements to those found in England, and showing also the same two stages of culture. More numerous examples of figure carving of the same type as that found in the Derbyshire cave have been obtained in French caves (Fig. 14), and the teeth of carnivorous animals and shells, both artificially bored for ornaments (Fig. 15).

By associating British and continental evidence we can form a good idea of the mode of life of the cave-dwellers of Palæolithic times. The caves gave him shelter in cold weather, from which he further protected himself by fires, and clothing made from the skins of animals he secured in the chase, sewn together by means of bone needles and tendons of reindeer for thread. Armed with flint-tipped spears and daggers of bone ornamented with carved handles representing the chase, he lived by hunting the reindeer, the wild horse, and the bison; he also lived on birds and fish, which he speared with barbed harpoons. The game he brought home was cut up with flint knives, and cooked; the long bones were broken with heavy flints for the marrow they contained, which was evidently considered a delicacy. When not engaged in the chase, the manufacture of flint implements must have formed an important part of his home work. He must also have spent much time in carving ornaments on bone. These, it may be remarked, show that he was an artist of no mean order in depicting animals, but give us little information regarding his own form, as he seldom represented himself, and when he did he figured himself in miniatures and naked (Fig. 14); they also show that he was in the habit of wearing long gloves to cover his hands and arms (Fig. 15). Besides ornamenting himself with perforated shells, pieces of bone, ivory, and teeth, he probably painted his body of a red colour. He, like the river-drift people, possessed no domestic animals, and had no dog to assist him in hunting.

(*To be continued.*)

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—Dr. J. Lorrain-Smith has been appointed Demonstrator in Pathology, in the place of Mr. L. Cobbett, who has been elected to the John Lucas Walker Research Studentship.

An Isaac Newton Studentship in Astronomy, worth £200 a year for three years, will be vacant in the Lent Term. Candidates must be B.A.'s under the age of 25 on January 1, 1895. Names and testimonials are to be sent to the Vice Chancellor by January 31, 1895, with a statement of the course of study or research proposed.

At the biennial election to the Council of the Senate, held on November 7, Dr. Peile, Mr. C. Smith, Dr. Maitland, Dr. Sidgwick, Dr. D. Macalister, Dr. Forsyth, Mr. Whitting, and Mr. R. T. Wright were returned for a period of four years.

Dr. Donald Macalister was, on November 9, elected without opposition to represent the University on the General Medical Council for a second term of five years.

This year has been memorable as the twenty-first anniversary of the establishment of the University Extension Lectures, the system having been founded by the University of Cambridge in the year 1873. The twenty-first annual report of the Cambridge Syndicate has just appeared. During the past session seventy-five science courses have been delivered at various centres. This number is less than those of the last two or three years, the diminution being attributed almost entirely to the decrease in the temporary work undertaken by the Syndicate during the preceding sessions for the technical instruction committees of various County Councils. Whereas in some places grants of money from the local authorities have enabled local committees to arrange more easily courses of University Local Lectures on scientific subjects, in others the cheap technical classes organised independently by the local authorities have influenced very injuriously the attendance at the local lectures, and in some cases caused their discontinuance. The County Councils are just beginning to feel their feet, but it seems ungenerous of them to forget that they were helped over their initial difficulties by University Extension Lectures. The Technical and University Extension College at Exeter, which is under the joint management of the local authorities and the Cambridge Syndicate, has now completed its first session's work, and about six hundred regular students have already joined the College. Its success affords a striking illustration of the method by which under the Local Lectures system permanent educational institutions can be established. It should not be forgotten that the Cambridge University Extension movement was similarly largely instrumental in the foundation, a few years ago, of University College, Nottingham, Firth College, Sheffield, and other local colleges.

THE *London Technical Education Gazette*, the first number of which has just been published, is intended to contain the official announcements of the Technical Education Board of the London County Council; notices of important steps in technical education taken by the various institutions in London; and useful information bearing upon the work. In the list of the conditions which have to be fulfilled by evening classes in science, in order to obtain grants from the Board, we are glad to note the following:—"That as a condition of aid being granted by the Board for the teaching of chemistry, metallurgy, physics, mechanics, and botany, it will be regarded as indispensable that provision should be made, to the satisfaction of the Board, not only for the experimental illustration of the lectures or class teaching, but for experimental work by the students themselves, either in laboratories belonging to the institution, or, where this cannot be arranged, in the laboratories of some neighbouring institution with which the class should be associated; and every lecture must be followed by at least one hour's practical work on the same evening, or some other evening in the same week."

SCIENTIFIC SERIALS

Wiedemann's Annalen der Physik und Chemie, No. 11.—Experimental researches on the origin of frictional electricity, by C. Christiansen. Friction by itself does not generate electricity. The appearance of the latter is due to chemical decompositions which are initiated by contact and completed on separation. These results are those of experiments with a tube coated on the inside with various insulators, arranged so that mercury could be brought into contact with them and withdrawn, after which a charge was indicated by a galvanometer.—On thermo-couples of metals and saline solutions, by August Hagenbach. In the case of couples consisting of metals and their salts, the E.M.F. increases with the dilution, and more rapidly than the difference of temperature. In combinations of platinum with hot and cold saline solutions the same acids give about the same forces, and differences of concentration have a very marked influence. The highest E.M.F. obtained was that of a platinum-cupric-chloride couple, which, with a 5·6 per cent. solution, and with the two communicating portions of the liquid at 25° and 80° respectively, gave an E.M.F. of 0·1541 volts.—Changes of length produced by magnetisation in iron, nickel, and cobalt ellipsoids, by H. Nagaoka. The optical lever method was employed. As the field intensity increases, iron first expands and then contracts, going through the opposite stages on reversing, and showing a decided hysteresis. Nickel simply contracts. Cobalt contracts first and then expands, the expansion increasing to a limiting value as the field intensity increases.—On elliptically-polarised rays of electric force, and on electric resonance, by L. Zehnder. The author shows how to produce circularly and elliptically polarised electric rays by two wire gratings placed one behind the other, with the directions of wires crossed.—On refraction and dispersion of rays of electric force, by A. Garbasso and E. Aschkinass. To produce a prism capable of affecting ether waves of the length of those due to Hertzian oscillations, a prism was constructed of a series of parallel glass plates, upon which were stuck "resonators" made of strips of tinfoil. This was placed between an exciter and a suitable resonator. It was found that the rays were refracted by angles differing according to the wave-length. The deviations for three different resonators were 9° 6′, 7° 18′, and 5° 24′ respectively.

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