Excavations in Kent's Cavern, Torquay.

AT the Southampton meeting of the British Association last year, a Committee was appointed to co-operate with the Torquay Natural History Society in investigating the important palæolithic site at Kent's Cavern, made famous by the researches of McEnery, Buckland, and Pengelly. For some time previously the future of the cave, which is in private ownership, and the possibility of dispersal to unknown destination of relics of antiquity which might be of the greatest moment for the early history of man in Britain, had been a source of anxiety to the local scientific society and to archæologists generally. It was hoped that the British Association Committee would be able to some extent to mitigate the dangers of the situation; but at the time of its appointment there seemed little hope of immediate excavation, and at the most it was hoped that it would hold a watching brief for archæology and ensure that any specimens of interest or importance to science which might come to light should, at least, be recorded and if possible made available for study. Early last winter, however, leave was obtained from the proprietor for a preliminary examination of that part of the cave known as the 'Vestibule.' Funds were raised from the British Association, the Royal Society, the Society of Antiquaries, and a fund for the employment of ex-service men; but the greater part of the work has been carried out voluntarily by members of the Torquay Natural History Society. A summary of the results of these excavations is contained in a report of the Committee which was presented at the Oxford meeting of the Association.

'The Vestibule,' which was selected for excavation on the advice of Prof. W. J. Sollas, is a chamber some 40 ft. by 32 ft., into which the northern entrance to the cavern leads. A trench was dug along the entire length of the northern wall slightly overlapping into the 'Sloping Chamber' and passing at its eastern end under the Magdalenian hearth discovered by Pengelly in 1866, which is known as the 'Black Band.' A beginning of a trench along the east wall in the direction of the entrance was also made. The depth of the trench varies from 2 ft. 6 in. to 13 ft. according to the nature of the deposit. The area which produced the greater part of the finds was near the east wall. Heavy blocks of limestone were present throughout. At each end of the trench crystalline stalagmite has appeared at the bottom of the excavation, but it is too early to say if this represents portions of a stalagmite floor.

The cave earth is quite unstratified and the fauna identical with that found by Pengelly at the higher levels. No hearths or workshops were found, but 135 flints scattered here and there have been recovered. Nearly all are patinated a dull white. Omitting waste fragments and neuclei, they fall into two classes: end scrapers and 'blades,' the latter being about 80 per cent. of the total. The end scrapers are of the usual type with primary flaking along the length of the implement, terminating at the broader end in steep, fanwise retouches producing a convex scraping edge. The reverse is a flake surface. The implement is in the Aurignacian tradition. The 'blades' have primary flaking along the length of the implement with two facets meeting in a carinated median line, or three facets, when the central facet makes a flat ridge. This would appear to be an industry of simple unretouched blades, and corresponds to the implements collected by Pengelly from the higher levels. The absence of bone, horn, and ivory implements suggests that it is not true Magdalenian; the absence of Chatelperron and Gravette points that it is not true Aurignacian; and of burins that it is not either Aurignacian or Magdalenian. Certain similarities to Solutréan are probably intrusive. It is, however, certain that we have here a culture of Upper Palæolithic type.

The abundance of remains of the horse would indicate a steppe climate suggestive of the Aurignacian and Solutréan periods of southern France, but reaching England at a later date. The study of the fauna suggests that the cave earth was in process of formation when the upper part of the base level and the lower part of the middle levels were laid down in Mother Grundy's Parlour at Creswell, of which the upper middle level roughly corresponds to the Black Band of Kent's Cavern. The deposits recently examined in the Aveline's Hole in the Mendips seem to correspond to the granular stalagmite excavated by Pengelly.

In a skull found in a crevice outside 'the Vestibule' Sir Arthur Keith finds a close correspondence in the palate and teeth to those of the human jaw found in the granular stalagmite. It is brachycephalic and compares closely with two brachycephalic skulls found at Aveline's Hole, also associated with an industry of simple unretouched blades.

Irish Limnology.[1]

ALTHOUGH the study of lake life has received considerable systematic attention by other countries, especially on the Continent and in the United States, there had been no definite institution set up for that purpose in Great Britain or Ireland until the year 1920. It remained for the War to direct attention to our lack of knowledge of British lakes and their possible economic value; and, as a direct outcome of consultations at that time, a limnological station was established in August 1920 on the river Shannon, one mile from the northern end of Lough Derg, Ireland being considered the most suitable country in which to tackle the problem on account of its valuable inland fisheries and large area of fresh water.

The first report from the limnological laboratory by Mr. R. Southern and Mr. A. C. Gardiner, now before us, deals chiefly with the Crustacea in the plankton of Lough Derg and the river Shannon. The research, which included two full years, 1921 and 1922, was carried out with a thoroughness and attention to detail worthy of the greatest praise. Five to seven stations were worked with regularity, the positions being chosen so that information could be obtained on the plankton of the Shannon River itself and of the northern end of Lough Derg in regions outside and within the effect of the river's current and in special localities in which the effects of wind action might be shown. The technique of the plankton collecting was carefully worked out, and it is satisfactory to note that the results are based on collections made by horizontal hauls, although vertical hauls were generally taken at the same time. A great deal of attention was devoted to making these horizontal hauls as uniform as possible, and an ingenious method of

[1] "Fisheries, Ireland, Sci. Invest.," 1926, i. Reports from the Limnological Laboratory. I. The Seasonal Distribution of the Crustacea of the Plankton in Lough Derg and the River Shannon. By R. Southern and A. C. Gardiner. Pp. 1-170. Plates I.-XV. Text figs. 1-4.