IRISH CAVE EXPLORATIONS.

OUR knowledge of the Irish fauna in Neolithic and early historic times has been greatly extended by recent researches into the cave remains of Ireland. These have been carried out during the past few years by a committee, under the auspices of the British Association and of the Royal Irish Academy. Two reports on these investigations have been published in the Transactions of the latter. The first dealt with the exploration of the caves of Kesh, in the county Sligo, and the second, which has just been issued, with that of the county Clare caves. The committee is now at work further south, in the county Cork.

The Clare caves, which are situated about thirty miles from the sea coast, among beautiful surroundings, in a district of crags and lakes, lie in the lands of Edenvale and Newhall. Our illustration shows the entrance to two of these caves (marked A and B) in a steep ridge of rock overlooking an ancient track, known as the Pilgrims' Road, which leads from Ennis to Killone Abbey and the Holy Well. The others lie barely a mile to the west of these. All the caves have been formed by the solvent action of water on the limestone in which they occur. Several of them are of great extent, with complicated ramifications. They are mostly about 100 feet above sea-level. They differ from many of the great English caves in the absence

seemed to show signs of having been artificially fractured, indicate the possible contemporaneity of man with these deer, but the evidence in this case is not conclusive. The bear, however, was clearly coexistent with man, and probably lingered on in Ireland long after the Irish elk and the reindeer had become extinct. A knee-cap of a large bear, showing the incisions of a knife, was found in one of the caves, and other bear bones were obtained from the upper layer along with charcoal and the remains of domestic animals. Unfortunately all the cave deposits had been greatly disturbed by burrowing animals, such as badgers and foxes, which inhabited them chiefly in recent times.

Some of the caves show traces of human occupation of long continuance in early times, while others may have been used as shelters for short periods. Scrapers and flint flakes, bone pins, and stone implements occurred, while a gold bracelet, and another, richly decorated, of bronze, were found. Of bronze, also, was a buckle engraved with an interlaced pattern and plated with silver. One of the most remarkable of the objects discovered was a lamp, the receptacle being hollowed out of a round stone, not carved in any pattern, but with deep grooves round the sides. Of these and other objects the plates illustrating the report give a good idea. Together with the implements, numbers of human bones were found, although there is no evidence that the caves had ever been used as places of burial. The bones revealed nothing which might lead us to suppose that they belonged to a different race from that inhabiting Ireland at the present time; but their study elicited the fact that some of them belonged to individuals who habitually assumed the squatting position common to all primitive peoples.

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Photo.]

[R. Welch.

FIG. 1.—View showing entrances of Bat's Cave (A) and Elder-Bush Cave (B), Newhall.

of a well-marked stalagmite floor, and of their early cave-fauna, including the rhinoceros, hippopotamus, cave-bear, hyæna, &c. The deposits are composed, as a rule, of two easily distinguishable strata. The upper one, generally consisting of brown earth, contains charcoal associated with the bones of domestic animals, while the second is often of a very tenacious nature, and includes many remains of the bear and reindeer, Irish elk, and Arctic lemming.

Of particular interest is the occurrence of the Arctic fox and of the wild cat. The former of these is exceedingly rare in England, and had not been known to occur in Ireland, while as to the latter, it has been held as doubtful whether it ever inhabited Ireland. Several jaws and teeth were found, however, which agreed, not with the Scottish wild cat, but with that commonly met with throughout the African continent, and popularly known as the Caffer cat.

More than 2000 bones of birds were obtained, comprising fifty-eight species, the most noteworthy of which is the crane. The Welsh traveller, Giraldus Cambrensis, stated that when he visited Ireland in the twelfth century cranes were to be met with in flocks, and it is of interest that this account of their presence has been verified by the discovery of these remains.

The occurrence of a shed antler of the Irish elk, and of long bones of this species and of the reindeer, which

trated essence rather than the minute details of the facts, and this is one of the objects in view in the production of the several pilot charts originated on both sides of the Atlantic within recent years. Many subjects have to be dealt with, and the space is strictly limited, so that the mariner has before him on his chart-room table all the essential features of the particular subjects.

Two pilot charts are published by the Deutsche Seewarte at Hamburg, one for the North Atlantic and Mediterranean area, issued monthly, the other for the North Sea and Baltic region, issued quarterly. They are elaborately and excellently got up, and in the quality of their varied contents afford further evidence of that thoroughness characteristic of German investigators. The face of each Atlantic chart (36 inches by 27 inches) is covered with information of immediate concern in navigating a ship—the mean direction and force of the prevailing winds in every 5° square; the northern and southern limits of the trade winds; the paths and the intensity of storm systems; the regions of mist and fog; the dust atmosphere off Africa; the tropical rain area; the set and velocity of ocean currents; ice; derelicts; steamship and sailing-ship routes and great circle tracks; copious remarks bearing on all these subjects; variation curves; and illustrations of the storm-warning signals adopted by countries on both sides of the ocean. The whole of the back is devoted to articles, with or without illustrations, discussing subjects of general interest to