

**PRIMITIVE MAN IN THE KESSLERLOCH.**<sup>1</sup>  
**T**HAIINGEN is known to most of us only as a little station on the line from Schaffhausen to Constanz. In the Jurassic limestone that rises above



FIG. 1.—Excavations at the main entrance to the Kesslerloch in 1902.

the village, there is, however, a famous cavern, which in the last thirty years or so has added greatly to our knowledge of Palæolithic man.

The Kesslerloch has suffered by being somewhat too accessible. It is even visible from the railway embankment, and has attracted workers, discreet and indiscreet, from several of the adjacent towns. We owe to Konrad Merk, a schoolmaster in Thainingen, the recognition of the cave as a place where prehistoric records might be found. In December, 1873, Merk and a friend named Wepf began their excavations in frozen soil. Wepf took a number of worked flints and a carving in reindeer-horn to Prof. A. Heim, in Zürich. On January 6, 1874, Heim himself visited the cave, and found the beautiful incised drawing of the grazing reindeer, which is now so well known through many reproductions.

The present handsome memoir brings together the discoveries made from time to time, including those of Dr. J. Nüesch in 1898 and 1899; but it deals especially with the systematic excavations organised (p. 27) by the Schweizerische naturforschende Gesellschaft and the Historisch-antiquarischer Verein of Schaffhausen in 1902 and 1903. Dr. Heierli, of Zürich, was appointed as director, and a very complete investigation has been carried out. Merk published his results in 1875, and an English translation appeared in the following year in London. Drawings of a bear and a sitting fox, incised on bone, were included among the objects found in the detrital heaps, and the originals are now in the British Museum. They are again figured in the present memoir (plate xxix.) as a warning to collectors. The true drawings made by Palæolithic man at Thainingen are worked on polished reindeer-horn, or rarely on jet (p. 196); and the bear and fox are certainly in another style of art. Linden-schmit, director of a museum in Mainz, and well acquainted with prehistoric art, soon pointed out that the bear and fox were copied from a book for children that had appeared in 1868. Forthwith a judicial

<sup>1</sup> "Das Kesslerloch bei Thainingen." By Dr. J. Heierli, with the co-operation of other authors. Pp. vi+214; with 32 plates. (Zürich: Neue Denkschriften der schweizerischen naturforschenden Gesellschaft, Band xliii., 1907.)

inquiry succeeded in tracing the fraud to an artful workman and an innocent schoolboy; but for a time suspicion fell upon other and far superior specimens. Heim, however, who is here quoted in full, proved his case for the reindeer; a pig that had somehow got figured with a curly tail was shown to have a most proper and straight one in the original; and the carved head of a musk-ox, one of the most valuable relics (plate xxxii.), has proved especially convincing. In fact, only three forgeries are now recognised, thanks to the very searching criticism which each object has undergone. On plate xxxii., by the by, the numbers 5 and 6 should be interchanged.

Dr. Heierli's own excavations were in the yellow loam, which must have accumulated during the epoch of the occupation of the cave by man (p. 60). The hearths in this show that successive groups of settlers came in, but all the remains are classed as Palæolithic, and mostly as Magdalenian. There are no signs of climatic alteration during this epoch (p. 213); but the water-level in the loam has now climbed some four metres higher

than when the cave was first inhabited. The loam is regarded by Prof. Meister as accumulating, partly

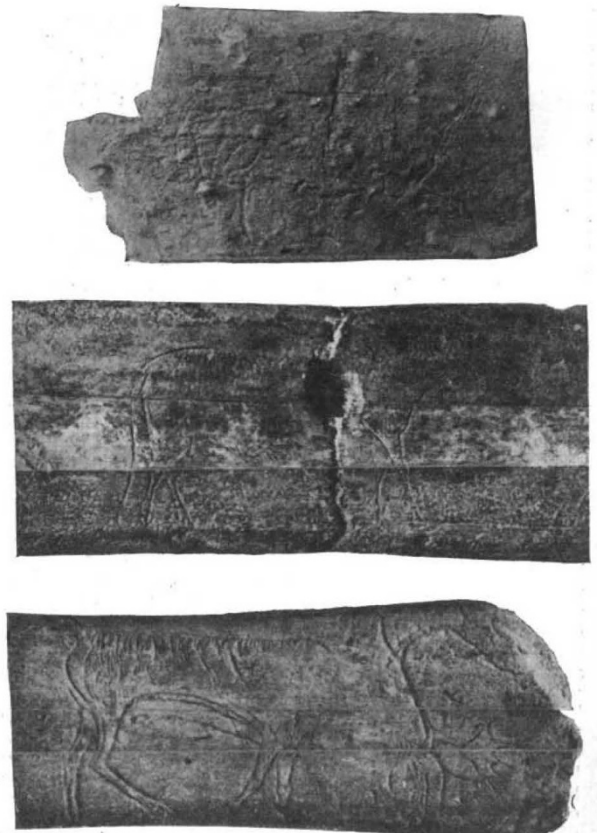


FIG. 2.—Incised drawings on reindeer horn, from the Kesslerloch. The two lower photographs are from casts in which the curved surfaces of the horn are brought into one plane.

in a shallow stream, while the last extension of the Rhine glacier withdrew from northern Switzerland (p. 56).

A full account is given by Prof. Hescheler of the animal remains, which include representatives of the lowland fauna of pre-Glacial times, of an Arctic or Alpine fauna, now known to have been strongly present, and of a fauna proper to the Magdalenian epoch, suggesting steppes and tundras. The cave-dwellers fed mostly on reindeer, hare, horse, and ptarmigan, and probably had no domesticated animals. Among the more interesting remains found may be mentioned those of the mammoth, the lion, the woolly rhinoceros and the musk-ox.

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#### THE NEW IMPERIAL INSTITUTE.

WE imagine that few, if any, members of the old Corporation of the Imperial Institute, which was dissolved by Act of Parliament in 1903, believed that within a very few years the institute would be able to produce the record of useful work which has just been presented to Parliament.<sup>1</sup> The policy at first adopted, and persisted in long after it had been discredited, led to a failure, in so far as the complete fulfilment of the objects for which the institute was founded was concerned, and lent plausibility to the view that South Kensington was too "inaccessible" to become a centre of scientific and commercial information concerning the raw materials of the Empire. It has been amply proved, however, now that the original failure was not due to this cause. South Kensington is no longer inaccessible, and in any case the exact position in London of a central establishment, which has to be in close touch with distant parts of the Empire, whence its work chiefly comes, as well as with manufacturers throughout the United Kingdom, is a matter of secondary importance. Whatever may be urged against the South Kensington site, it has not stood in the way of the accomplishment of an increasing volume of work which, it is clear from the present report, must have taxed to the utmost the power and capabilities of the relatively small staff allotted to the institute.

The new era dates from 1903, when the Imperial Institute was transferred to the Government and placed under the control of the Board of Trade, with Prof. Dunstan as its new director. This Government department seems, however, to have been primarily interested in developing in the city a Commercial Intelligence Office, and appears to have done little to facilitate reconstruction at South Kensington. The institute made steady if slow progress during this period, as shown by the report on its work presented to Parliament in 1906, and received increasing support from the colonies, with the result that in 1907 its management was delegated, under the Act of 1903, to the Colonial Office, representation on the board of management being given to the India Office and the Board of Trade.

It may be claimed that the present measure of success is the result of steady and persistent work on scientific lines, and is indeed the outcome of the foundation in 1896 of the scientific and technical department, with the assistance of the Royal Commissioners of the Exhibition of 1851, who, however, ceased to contribute to the support of this department when the institute was transferred to the Government.

The present report deals with each of the several divisions of the work carried on, but we need only

refer to that of more immediate scientific interest. This concerns the operation of the institute in conducting investigations and inquiries relating to the commercial utilisation of the raw materials of the Empire.

This work has benefited the British manufacturer, as well as the colonial producer, as is shown by many instances quoted in the report. It is obviously of first importance that this scientific work should be directed to practical ends and made to tell commercially, so that, as a rule, the results are of technical and commercial rather than of purely scientific interest. Nevertheless, the members of the scientific staff have made a very creditable contribution to more purely scientific knowledge, no fewer than thirty communications to the Royal and other scientific societies being noticed in the report. These relate chiefly to the results of researches on the constituents of new vegetable and mineral products. The material placed at the disposal of the institute is so valuable and important, from this point of view, that, in the interests of science, it would be a wise step for the Colonial Office to enable the scientific members of the staff to devote more time to such investigations as these, most of which can only be undertaken successfully by such men with special training and experience, who are at present deterred from undertaking it by the pressure of routine work.

We observe that satisfactory working arrangements have been concluded with agricultural and other technical departments in the colonies, by which only such investigations are conducted at the institute as require special knowledge and experience, or are of a technical character needing reference to manufacturers at home. The colonies are thus left free to devote attention to such work as can best be accomplished on the spot, whilst relying on the Imperial Institute for the conduct of investigations which can most usefully be carried out by a central department at home.

Brief mention may also be made of two other branches of activity.

The "Bulletin of the Imperial Institute" serves as a medium for the publication of the more important official reports of investigations, and also for the dissemination of information respecting developments in tropical agriculture and the utilisation of raw materials. This quarterly publication is stated in the report to have a large and increasing circulation in this country and the colonies.

The public exhibition galleries contain exhibits representative of the natural resources of practically all parts of the Empire. Their reorganisation has been in progress since 1903, and new products, maps, statistical diagrams, &c., are continually being added, with the view of rendering the "Court" allotted to each British possession as representative as possible of its present economic development. The report mentions that special facilities are now afforded to schools, with the object of rendering the exhibition galleries useful as a means of teaching the geography of the colonies and India, and that these facilities are being taken advantage of to an increasing extent.

The Imperial Institute in its new régime still suffers to some extent from the prejudice created by its false start. Now that it has justified its existence and shown that it can render services of great importance to the Empire, it may be expected that something further will be done to strengthen its general and financial position. The present report shows that its operations are hampered for want of space. The arrangements made with the Government by the former corporation included the occupation of a portion of the building by the administrative offices of the University of London. In view of the increasing need, both of the university and the institute, for adequate accommoda-

<sup>1</sup> Report on the Work of the Imperial Institute, 1906 and 1907. Colonial Reports—Annual Series, No. 584. By Prof. W. R. Dunstan, F.R.S.