

THE DAWN OF WESTERN CIVILISATION.¹

THE volume before us is the final contribution to our knowledge of the Baoussé-Roussé Caves. It may be recalled that volumes dealing with the history, the geology, the palæontology, and the anthropology of the deposits in these caves have been reviewed already in NATURE.² To complete the picture it was necessary that we should know the archæology, and this the volume now under notice supplies. From the nature of the subject with which it deals it can be well understood that the volume is in no way inferior in interest or importance to those which have preceded it.

The deposits in the caves are, from the viewpoint of the archæologist, assignable to the Mid-Moustier, the Superior Moustier, and the Mid-Aurignac periods; neither the first nor the last phase of the Aurignac culture is represented. The caves therefore afford evidence of having been occupied at two distinct periods, with a considerable interval of unknown length during which they were not occupied by man.

As to the first or Moustier period, it is significant that the worked stones are of an undoubted Moustier pattern, but yet they are not all associated with the remains of a Moustier fauna. In the Grotte du Prince, for example, five foyers have been distinguished, the stones from which only differ in the character of the material which was used. Of these five foyers, however, the two lowest are associated with the remains of animals which lived during the Chelles period, species which denoted a warm climate—

the hippopotamus, the *Rhinoceros Merckii*, the *Elephas antiquus*; the third foyer was associated with a mixed Chelles and Moustier fauna, whereas the two upper foyers only yielded remains of the latter fauna. It thus results that in this cave we have a Moustier culture contemporaneous in part with a Chelles fauna, a contradiction which provokes the question whether in such a case it is

more justifiable to attach importance to the industrial stage reached by man in his development or to the associated fauna, suggestive as it is of climatic and geographical conditions. Although much might be said in favour of either view, we agree with M. Cartailhac that, in this instance at least, it is safer to base our conclusions on the character of the implements, particularly as we should expect the Chelles fauna—a fauna of a warm climate—to linger longest in the south of Europe, where it might well be contemporary with the Moustier fauna in a more northern latitude.

As to the second or Aurignac period, we are

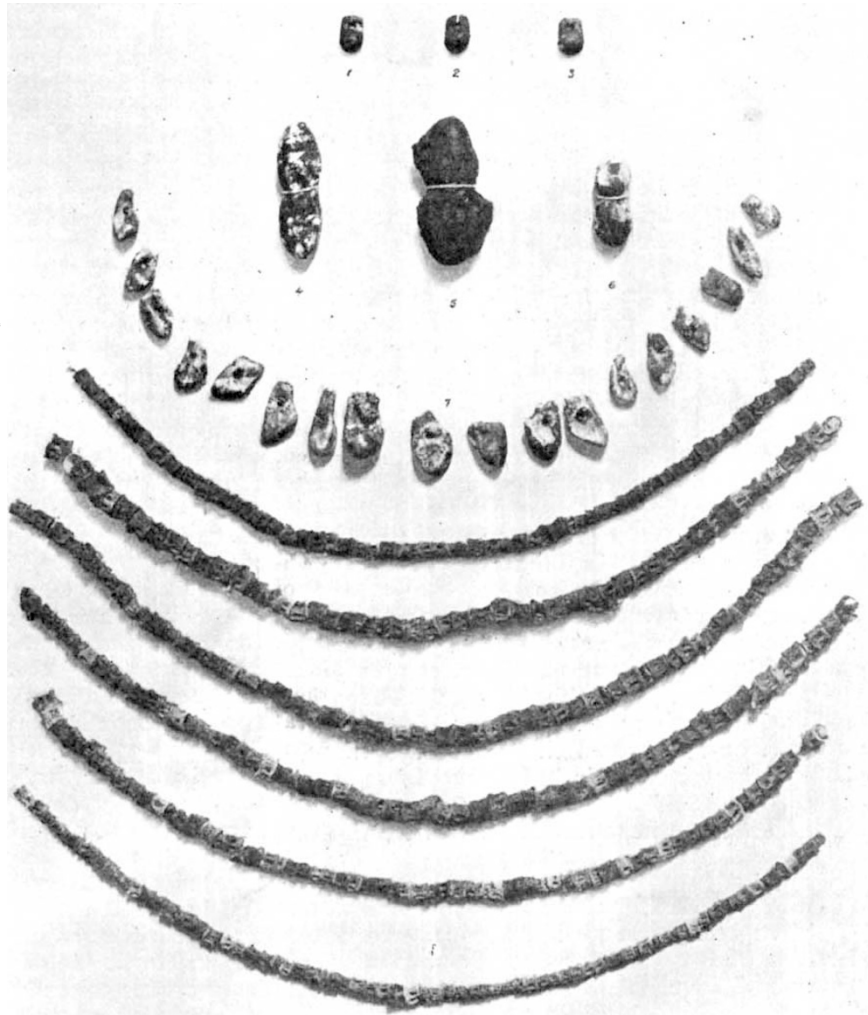


FIG. 1.—Necklaces of the Aurignac period.

glad to find M. Cartailhac availing himself of the opportunity afforded him to give in a separate chapter an excellent résumé of the history and of our knowledge of the Aurignac phase from the days of Lartet and Gabriel de Mortillet to the present day when, thanks to the brilliant work of Abbé Breuil, we may consider the Aurignac period as firmly and permanently established. The particular interest in the period lies in the fact that, owing to the greater variety of the tools, the presence of ornament, and the first definite appear-

¹ "Les Grottes de Grimaldi (Baoussé-Roussé)." Tome ii., Fascicule ii. Archéologie. By Emile Cartailhac. Pp. v+215-324+plates xii-xxiii. (Imprimerie de Monaco, 1912.)

² October 10, 1907; July 27, 1911.

ance of grave furniture, we are permitted a more intimate insight into the life and habits of Palæolithic man.

It is an interesting yet readily intelligible reflection that, although the mass of the deposits postulates a long period during which the layers gradually accumulated, although the fauna changed considerably during that time, yet the same weapons are found in the upper as in the lower beds. The explanation, of course, is that at all periods the dwellers in the caves were hunters, and the same weapons were required, although the animals which they hunted might and actually did differ. Another conclusion to which we can, we think, with reason arrive is that there was no very great lapse of time between the end of the Moustier period and the middle of the Aurignac period; in other words, the first of the divisions into which this last period has been divided does not, at Grimaldi at any rate, appear to have been of sufficient length to have made its presence felt.

It is to the middle of the Aurignac period that the graves, of which there were no fewer than thirteen, should be ascribed. Further, the graves were clearly of the same date, judged by the character of the associated relics, although it is curious to find the methods of burial were not identical; for example, the dead were in some cases disposed at length, at other times they were found in contracted positions.

Like its predecessors, the volume is perfectly produced and illustrated. An admirable bibliography concludes the volume, and the fact that the literature dealing with these caves covers a period stretching from 1786 to 1912 is perhaps sufficient evidence of their infinite power to stimulate interest and investigation.

The text of the volume at present under review, while as strictly scientific and accurate as possible, is warmed by many sympathetic references, M. Cartailhac having, from his lifelong labours in this field of archæology, acquired no little affection for these long-forgotten followers of the chase, no little insight into their habits and life.

WILLIAM WRIGHT.

THE DIVINING ROD.

WITHIN the last few years many experiments have been performed in various countries to test the claims of water diviners, and among those who have published papers on the subject are Graf Karl von Klinckowstroem, of Munich, and Dr. Armand Viré, director of the Laboratory for Underground Biology in Paris. A series of experiments at Guildford has also been organised by the editor of *The Sanitary Record and Municipal Engineering*, under the auspices of a number of scientific men, including Prof. Henry Adams, Dr. Herbert Lapworth, and Dr. Samuel Rideal.

Graf von Klinckowstroem, in a paper published in parts 1, 2, and 3 of the *Zeitschrift des Vereines der Gas- und Wasserfachmänner in Oesterreich-Ungarn* for 1913, gives, in the first instance, an

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account of certain supposed successes in water-finding, which Dr. Achille Poskin, of Spa, has gathered together from various sources. These are not very interesting, as the observations do not appear to have been controlled by impartial witnesses possessing some knowledge of scientific methods.

But Dr. Poskin also includes an account of five experiments undertaken by him, in which the diviners indicated places where water was found. Dr. Poskin believes that he himself possesses the power of detecting water by means of the divining rod. In any case, it is quite certain that "dowsers" are frequently successful in indicating points where water is subsequently found; the real question is, whether these indications are produced by anything outside themselves, or whether they are purely subjective.

In the same paper Graf von Klinckowstroem has translated into German a paper describing my own experiments, accounts of which were published in *The Times* and in *The Journal of the Royal Society of Arts* in 1911. He admits that the experiments were performed with all reasonable care, and without any prejudice, but he describes them, using stronger language than I did, as a fiasco for the diviners who were tested, and then gives a number of possible reasons why the experiments may have failed. He does not give enough weight to the fact that in every case the experiments were conducted under conditions which the dowser in question thought reasonable, and were directed to test powers which he alleged he possessed. This seems to be the only reasonable way of attacking the question from a scientific point of view; it is not for the investigator to say what the dowser can do, or under what conditions he can do it, but when the dowser has stated what his powers are, to arrange an experiment which shall test the alleged powers.

M. Armand Viré (*La Nature*, April 19, pp. 332-338) has conducted a series of experiments in order to ascertain whether the diviners could determine the existence of underground cavities which did not contain water; the results given by M. Viré include a considerable number of "successes," but he passes over too lightly the cases in which the indications given by the diviners are inaccurate. It will be interesting to await the result of an experiment which he proposes to undertake later, in order to discover the shape and extent of caves or grottoes the existence of which has not yet been proved, and the plans for which will only be prepared after the diviner's plans have been reduced to paper.

The series of experiments recently performed in the neighbourhood of Guildford have now been completed, and the committee of investigation has published its report. The members point out that, while there appeared to be some evidence that certain persons may be sensitive to underground water, their sensitiveness "is not sufficiently definite and trustworthy to be of much practical value." They also allude to the lack of