

Im: RIPOLL PERELLÓE (cur.), 1968, Simposio internacional de arte rupestre Barcelona 1966, Diputación Provincial, Barcelona, pp. 291-294

The absolute chronology of Saharan Prehistoric Rock Art

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The problem of the absolute chronology of the initial period of Saharan art (phase of the big wild fauna or the *Bubalus antiquus*, and the beginning of the 'round head' phase) is always of considerable incertitude. The principal causes for this may be summarised as follows :

a) There do not yet exist serious possibilities to compare and relate the Saharan works of rock art with those of other artistic regions of the Mediterranean basin ; hence it is not possible to transfer to it the determination of age of the latter by dint of arguments based on apparent analogies of subject or style.

b) Anthropozoic deposits, in some way and positively assignable to the phases preceding the herdsmen period, have not yet been found. The deposits up to now localized and studied in Tadrart Acacus, for example, are to be linked with various periods in these latter ; the layers not yet examined, discovered in great quantities in almost all the valleys of the massif and apparently not unlike the first, seem to belong to the same period. The rocky base of the shelters with deposit sometimes reveals, under the sediment itself, traces of previous activities which, conjointly with numerous paintings

of the first pre-pastoral phases, clearly indicate to what purpose such natural cavities in the rock were put *ab antiquo*. Nevertheless, the absence of corresponding deposits in their interior cannot be ascribed to a precise cause : the sedimentary material may have been washed away and destroyed by the action, over a long period, of heavy floods of a greater force than those proved to have occurred at the beginning of the VI millenium B. C. onwards, but it is also probable that in earlier times the rock shelters were restricted to ritual uses and to the celebration of magico-religious practices and beliefs.

c) The extraordinary state of preservation of some pre-pastoral paintings can be deceptive : their pigment is sometimes in a better state than that of many paintings of the more recent pastoral phase. Such a phenomenon can be explained by studying the technique employed in the earlier phase ; to the pigment itself, bright and mellow — such as is not found in any of the successive phases — there must have been added a very durable medium that was more resistant than those used subsequently.

d) The great abundance of paintings existing in this pre-pastoral phase attributed, for the time being, in the aggregate, to the

large group of 'round head' works may, in reality, belong to a more prolonged period than has been supposed. It would, perhaps, be necessary to attempt a further subdivision of these works of multifarious styles, in which the subject ranges from the representation of delicate pale monochrome figures to the powerful portrayal of anthropomorphic beings and of polychrome animals. However, until we have adequate guarantees in this respect, it would be well to limit ourselves to the subdivisions proposed in the following table, and to note that there is a real possibility that the date of the beginnings of this important phase ought to be greatly antedated.

e) Regarding the graffiti which compose the phase of the big wild fauna — considered the oldest manifestation of all Saharan rock art — the difficulties are even greater. However much some obvious superpositions may show it to be earlier than the 'round head' phase, and however strong probabilities exist of being able to obtain with a certain approximation the relative age of this latter, the absolute chronology of the initial phase may remain uncertain (even if indications are not lacking) for a long time. The great majority of these engravings are found on the great rocky walls outside the shelters where there is very little chance of finding a connection between them and datable layers for typological examination or for chemico-physical tests.

On the other hand, the absolute chronology of the middle phase of Saharan rock art, for which direct stratigraphical references in the deposits identified and studied recently in the Acacus can be established, may be considered today as correctly defined. The determination of age arrived at by means of the radio-carbon method,¹ con-

jointly with the results of the digs, constitutes a complex of concordant and remarkably clear data. Here follow the principal ones, obtained from samples taken during the latest campaign (all the dates are to be considered B. P.):

UAN MUHUGGIAG DEPOSIT

- 7438 (± 226). Determination of age obtained by samples of vegetable charcoals from hearths at the basic level of the deposit (1959).
- 5952 (± 120). Samples of vegetable charcoals from hearths belonging to level VII of the deposit. This level contained a frontal bone of *B. brachyceros* (1960).
- 5405 (± 180). Samples of animal skin enveloping the child-mummy discovered in the same layer (1959).
- 4730 (± 310). Samples of vegetable charcoals from hearths belonging to the layer immediately above a rock forming part of a boulder of greater size, detached from the back wall of the shelter by thermoclastic phenomenon, fallen obliquely to the base of the shelter itself and covered by successive sediment. The lower surface of the rock, when found, was turned downwards; when it had been upturned, two clear figures of oxen, painted in the Uan Tabu style (after the shelter where a painting of a vast herd of over 300 head of cattle — not yet published — were discovered). Such figures were obviously executed before the collapse, at the time when the boulder, attached to the back wall and adhering to the roof of the shelter, exposed the surface in question on the outside and in a vertical position. Such a position of the rock before the collapse has been confirmed by the control measurements taken (1963). At the same time another important chronological position was established by the paintings found upon the surface of the wall from which the boulder had become detached. Among numerous works of a decadent style and technique, evidently contemporaneous with and following the phase of the horse, it is possible

1. Three of these dates were obtained by the Geochron Laboratories of Cambridge, Mass., U.S.A.

and the others by the Istituto di Geologia Nucleare of Pisa University.

to note some figures of longlimbed herdsmen painted in the more typical style of Ti-n-lalan. The determination of age obtained furnishes a *post quem* date for this remarkable collection of paintings to which probably all the works of the last herdsmen who frequented this region — now a desert — belong. These were followed by the peoples of the horse and chariot, with the chronological order rendered evident by the obvious over-painting met with. Date *ante quem* for the paintings on the boulder; *post quem* for those on the back wall freed by the collapse of the same.

UAN TELOCAT (WADI IMHA) DEPOSIT

6754 (± 175). Determination of age obtained by means of samples of vegetable charcoals from hearths belonging to the III level of the deposit against the lower part of the back wall of the shelter. On the surface, now freed from the deposit, are visible to the naked eye some painted figures, not easily identifiable but probably belonging — by their patina and type of pigment — to the final 'round head' phase. The top levels of the sediment cover the lower part which continued to deteriorate through contact with the surrounding organic substances, until in almost fades away at the extremity. A close-up photograph (4 cms.) was taken to show up better the dark red coloured pigment.

A stratigraphic trial excavation was made and produced stone implements, bones, incised pottery, together with samples for pollen analysis. From a preliminary examination of such material, elements similar to the pastoral deposit of Uan Muhuggiag (1960) seem present.

Date *ante quem* for the paintings.

FOZZIGIAREN DEPOSIT

Circa 7900. Samples of vegetable charcoals from hearths originating from the top level of the deposit. Trial excavation 1961.

8072 (± 100). Samples of vegetable charcoals from hearths originating from the basic level of the deposit. During the trial excavation sherds of incised pottery and three fragments of millstone with decided traces of yellow and red pigment were collected.

UAN TABU (WADI TESHUINAT) DEPOSIT

7045 ± 175). Samples of charcoals from hearth originating from the middle zone of the deposit above which was revealed the wooden structure of a dwelling in the form of a hut. Sherds of incised pottery, fragments of a millstone with traces of colour and a few stone implements (chips) were collected during the trial excavation.

From what has been exposed, the importance of the series of dates obtained becomes evident.

For the most important of these, 6754 (±175), a problem remains insolved: the *quantum* must be added to the date established in order to determine with greater exactitude the absolute chronology of the 'round head' phase and the various times of it. Nevertheless, from numerous indications and by the possibilities of study that occur, the hypothesis may, from now on, be advanced that the break in continuity between it and the pastoral phase was neither brief nor culturally irrelevant.

The date 6754 years B. P., in fact, should be linked with the pastoral cycle to which belong also the layers from which the other determinations of age were obtained; the most remote of these dates is around the middle of the VI millenium B. C. and it seems natural, for the time being, to place the beginning of the culture of the cattle-raisers, in this part of the Sahara, within such an epoque.

It can therefore be taken as the point of separation between the two phases which do not seem in any way to have been contemporaneously present in the region.

As regards the phase which must have preceded the great complex of the 'round head' works, it can only be said that some overpaintings and other signs have been revealed that merit profound study; it would, however, no longer be surprising if

it were recognised and established, through future work, that Saharan rock art continued to manifest itself by a slow process, the origins of which may extend beyond the limits that were reasonably supposed.

The cultural cycle of the cattle-raisers ends with the appearance of the horse and chariot. During about four thousand years the alternations of human groups of diverse types probably occurred with a pendular movement where the mountainous region of the Sahara continued to be the junction of the two areas geographically opposite to and climatically different from the sub-

Mediterranean basin and the regions to the south of the Chad.

The arrival of the horse may be considered the end of Saharan pre-history; linked with it are the Mediterranean populations in close contact with better-known historical cultures. During this phase, on the other hand, the artistic traditions of past millenniums become more and more sterile and cease completely with the appearance of the camel; this latter denotes, in a definite manner, the climatic change towards aridity which had begun some thousands of years before.

SURMISED ABSOLUTE CHRONOLOGY

Dates obtained
(years from the
present day)

—	PHASE OF THE BIG WILD FAUNA OR OF THE BUBALUS ANTIQUUS <i>prevalently graffiti</i>	
—	PHASE OF THE 'ROUND HEADS' <i>prevalently paintings</i>	{ beginnings { painting with only outlines Full colour paintings, yellow, green and red final..... polichrome paintings (negroid-type peoples)
8072		
7045		{ antique (Mediterranean herdsmen Uan Amil type) middle (Uan Tabu type) recent (elongated herdsmen, Ti-n-anneuin and Ti-n-lalan type) (Mediterranean populations)
6754		
5952	PASTORAL PHASE <i>graffiti and paintings</i>	
5405		
4730		
—	PHASE OF THE HORSE <i>graffiti and paintings</i>	
—	PHASE OF THE CAMEL <i>graffiti and paintings</i>	