Constitution of the Aurignacian through Eurasia

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ABSTRACT  Considering its global origin, the Aurignacian appears to have been developed in several phases during its advancement toward the west. We have defined here the following chronological stages: 1. Bacho-Kirian, or Pre-Aurignacian, from 43 to 37 kyr BP; 2. Proto-Aurignacian, particularly Mediterranean, from 38 to 32 kyr BP; 3. “classic” phase, particularly continental, from 34 to 28 kyr BP. The origin of the movement seems to be situated in Central Asia (Iran, Uzbekistan, Afghanistan). The aspect known in Europe is the most specialized, caricaturized, form, perhaps in reaction to the local Mousterian context.

Formation through space

From our point of view, the diffusion of the Aurignacian does not have to be considered as a single and straightforward process. Rather, the Aurignacian was constituted during its westward movement. What we can see at the end, in the westernmost part of Europe, are the most “Aurignacian-like” characters. This process went on from Central Asia along the Zagros and Taurus ranges, then diffused either to the Balkans or to the Levant. The most ancient characters do not show the “typical” tools such as carinated scrapers or busked burins. However, the tendency is clear since the very beginnings of using thick blanks for shaping through lamellar retouch. This continuous process went on not only through time but across the whole continent as well. This process may have been due not only to new environmental constraints as new areas were being crossed, but also, and mostly, to new cultural contacts, especially in the western part of Europe, where there were Neandertal refugees. It is thus hard to compare the two extremities of the range without considering the obvious continuity between them. The industries found in Iraq and Iran (Hole and Flannery, 1967; Olszewski and Dibble, 1994; Olzsewski, 1993, 1999), in Turkey (Yalçinkaya and Otte, 2000) and Georgia (Nioradzé and Otte, 2000) all present Aurignacian-like components with thick scrapers, lamellar retouch and bladelets with retouch (Dufour-like). These assemblages also occur in the same chronological range as the Aurignacian. The minimum that we have to do now is to integrate such eastern occurrences into our general view of Aurignacian “History”.

The traces of this diffusion lie from the Balkan Peninsula to the Danube basin or the Mediterranean coast, each step being a re-adaptation process to a new setting, until art is created in the very west (Vogelherd, Chauvet). In this way, we can see different waves or steps with changing limits in time and space.
The different phases

The structure of the Aurignacian proposed in our last paper (Kozlowski and Otte, 2000), consisting of the Balkan-Danubian Pre-Aurignacian, the Mediterranean Proto-Aurignacian, and the Pan-European Typical Aurignacian has been subject to criticism, especially as regards the taxonomic position of the Pre-Aurignacian and the early chronology of the oldest Proto-Aurignacian sites (Arbreda, Romani, etc.).

When we try to compare the Balkan-Danubian Pre-Aurignacian and the western European Typical Aurignacian we quite obviously find considerable differences, which led J. Zilhão and F. d’Errico (1999) to the conclusion that “lacking carinates and Dufour bladelets, the assemblages [...] however, are not Aurignacian” (1999: p. 43). Finally, Zilhão and d’Errico conclude that “nowhere in Europe does the true Aurignacian [...] date before 36,500 years carbon years ago”. However, this statement serves the authors not so much to explain the origins of the Aurignacian, but rather to oppose a thesis which says that the so-called Transitional units, both in the west of Europe as well as in central and east Europe, were the effect of acculturation connected with the early appearance of the Aurignacian in Europe.

The criticism of our understanding of the Aurignacian, especially of our view of a Pre-Aurignacian in the Balkan-Danubian, overlooks the essential problem of the internal evolution of this unit and its gradual transformation into the Typical Aurignacian (Kozlowski, 1999). When we examine closely the sequence in Temnata cave, we can clearly see two tendencies. On one hand, from level C within lithostratigraphical unit 4 (trench TD–I) up to level A in the same unit (that is, in the period from 45 kyr BP up to 33 kyr BP), the technomorphological features of lithic industries and the structure of raw material use are similar and form a continuum. On the other hand, in the same sequence, we can see an increase in the frequency of typical Aurignacian forms, including carinated endscrapers, or even the appearance of Font-Yves type points (Drobniewicz et al., 2000). Moreover, the levels that are still later, dated between 33 and 30 kyr BP (after the volcanic eruption which deposited the tephra layers — Pawlikowski, 1992) within stratigraphical units 3h and 3g (trench TD–V), exhibit further increase in the frequency of elements that are typically Aurignacian.

The shared trends found in the Proto-Aurignacian through Aurignacian sequence of levels in Temnata cave are: 1) similar core reduction sequences; 2) similar patterns in the frequency of butt types among both flakes and blades (with a slight drop in the frequency of faceted platforms and a slight increase in the linear platforms of flakes in the upper levels); 3) similar patterns of dorsal shape among both flakes and blades (including the location of cortex on flakes); 4) and blade morphology (except where the increase of blades with convergent sides is concerned). The morphometric parameters of blades and flakes, too, exhibit a similar structure in the various levels, although a certain standardization of length can be seen in more recent levels (4/A, 3h, and 3g). Typical carinated endscrapers start to appear in level 4/A, but in levels 4/B and 4/C there are already nosed scrapers (Fig. 1).

Similar features are exhibited also by the sequence in Bacho Kiro cave, where levels 11/IV-11/1 (>43-35 Kyr BP) contain a blade industry with nosed endscrapers and have many technological and morphological features in common with the younger levels (in lithostratigraphic units 9, 8, 7/6b, 7 and 6a/7, from the period between 35 to 29 kyr BP). Simultaneously, in the same assemblages appear carinated endscrapers, Dufour bladelets (notably in level 6a/7) and bone points (Kozlowski [ed.], 1982) (Fig. 2).
FIG. I – Temnata Cave, Bulgaria. Lithic assemblages from layer 4, archeological horizons C-A (45-33 kyr BP).
Fig. 2 – Bacho Kiro Cave, Bulgaria. Lithic assemblages from the top of layer 11 (archeological horizons I-II), layers 7 and 6a.
FIG. 3 – Ust-Karakol, Siberia (Russia). Lithic assemblages from layers 9A to 11B.
The occurrence of similar developmental tendencies can be suggested in the case of other early sites (dated between 42 and 33 kyr) in the middle and upper Danube basin (e.g. Willendorf II), where, however, tool assemblages were initially very small (Broglio and Laplace, 1966). The same situation is recorded in the sequence from Istállóskö cave in Hungary (Vértes, 1955) where bone points with a split base appear earliest in Central Europe, but in the context of very poor lithic assemblages.

Central Asia

On the margin of the central Asiatic plains, along the foothills and in the plateaux areas, there is a small series of sites stretching from the Altai ranges to the Zagros. The most well known is Samarkand, right inside the city of the same name in Uzbekistan. Another, Kara Kamar, is in a cave in Afghanistan; it yielded Aurignacian assemblages recovered during several seasons of fieldwork carried out by Prof. McBurney. The obvious presence of Aurignacian technology shows that a lot of work has yet to be undertaken in this country for the origins of European modern man. The best new evidence relating to this issue, however, are two open air sites situated in the Altai plateaux. Vast and very deep excavations have been led by A. Derevianko’s team. At Ust-Karakol, we can see a long sequence of evolution of local technocomplexes, leading to more and more Aurignacian-like characteristics (Fig. 3). One of these levels has been TL-dated to about 50 000 years ago. Although the upper part of this sequence has been 14C dated from 35 100 to 26 600 years BP, the lower part hints to a much older evolution, yet to be dated firmly. The same process is to be observed in the nearby Anuy sites and should not be confused with the parallel Siberian process of evolution from a Levallois blade industry to the Upper Paleolithic, roughly during the same time (Goebel et al., 1993). As a matter of fact, the Altai Aurignacian-like industries occupy the northeasternmost extension of a range essentially based in the southwest, and extending to the foothills of the Zagros (Fig. 4).

Aurignacian and Transitional units

The question that has caused most of the debate, and that has been the primary motivation for the “nouvelle bataille aurignacienne” (we do not dare to say the “last bataille aurignacienne”, the phrase that Zilhão and d’Errico [1999, p. 57] used), is the relationship between “transitional cultures” and the Aurignacian. This problem has arisen in connection with the controversy regarding the origin of the western European Châtelperronian, especially where the possibility of acculturation of the last Neandertals by the first Cro-Magnons is concerned (d’Errico et al., 1998). The resolution of the latter question has geochronological aspects (confirmation of some early dates for the Châtelperronian preceding 38-37 kyr BP obtained at Le Moustier, Grotte XVI, and, most importantly, Arcy IX), technological aspects (the problem of the repeated occurrence of the blade technique in the Middle Paleolithic — Bar-Yosef and Kuhn, 2000), and biological implications (the possibility of mixing of the Neandertal population with modern humans — Hublin, 2000). Although recent dating of the sequence from Arcy does not confirm the Pre-Aurignacian age of the Châtelperronian (David et al., 2001), this does not rule out a possibility of the emergence of the blade technique in the Châtelperronian as a result of the internal developmental dynamics of the western Moustierian — independently of the alleged contact with the Aurignacian.
The problem of the origin of “Transitional units” should, moreover, be considered from a broader perspective, that takes into account not only the Châtelperronian but also other units with backed pieces (the Mediterranean Uluzzian), cultures with leaf points (Szeletian, Streletsian, Lincombian-Ranisian-Jerzmanowician) and without leaf points (Gorodsovian). The recent dating of the level with arched backed points in the Klisoura Cave (layer V) to about 40 kyr BP (Koumouzelis et al., 2001) suggests that these industries could be, locally, older than the Proto-Aurignacian and contemporaneous with the Ahmarian in the Near East (Kuhn et al., 2001).
If we assume, at the same time, that the formation of the Szeletian took place before >43.4 kyr BP within the central European Micoquian (Kozlowski, 2000), then the genesis of the Szeletian would have been partially independent of the Pre- and Proto-Aurignacian. On the other hand, the presence of a Szeletian-type leaf point in the lower layer at Istalloskö (recent excavations by Á. Ringer) would point to early contacts between these units that continued in the period between 35 and 29 kyr BP (see the east Slovakian sites of the typical Aurignacian such as Kechnec, Barca or Sena).

In eastern Europe, the emergence of the Streletskian distinctly precedes the earliest Aurignacian. The Streletskian appears between 37.9 (Kostenski I, layer 5) and 36.3 kyr BP (Kostenki XII, layer 3), the Aurignacian only about 32-38 kyr BP in the Don basin and in the Crimea. The same situation can be seen in the Gorodsovan. Upper Paleolithic elements in these cultures cannot, therefore, be the effect of acculturation, although their intensification and enrichment with figurative art in the later phase of the Streletskian — the Sungirian — could be the effect of contacts with the populations of modern humans, or even of the mixing of Neandertals with the Cro-Magnon people.

Independently of the possible interactions between the Aurignacian and “Transitional units” we can observe a long evolution of the Mousterian in some regions of the Balkans, Crimea and Iberian Peninsula. Particularly interesting is the contemporaneity of the Mousterian and the Pre-Aurignacian in the Balkans, where both units existed during several millennia in limited geographical areas (Central Balkan Mountains, Croatian Karst, etc.) (Fig. 5).
REFERENCES


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