

REFLECTIONS ON THE TRANSITION FROM THE LATE PALAEOLITHIC TO THE MESOLITHIC IN WESTERN EUROPE

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ABSTRACT: The following is a short comment on the foregoing article by L.G. Straus. It is written from a Northwest European Mesolithic perspective and is aimed at focusing on issues and generating dialogue.

KEYWORDS: Late Palaeolithic, Mesolithic, Western Europe, Azilian.

1. INTRODUCTION

Beginning with its discovery in 1874 at Abri Duruthy, the Azilian has a long history of research and publication. Interest in this chrono-stratigraphic archaeological unit has waxed and waned proportionally with active field work over the years. The latest and most broadly conceived and executed is that provided by René Desbrosse, Lawrence Straus and André Thévenin in France and Straus and Geoffrey Clark in Cantabrian Spain. Despite this long history of active research, very few syntheses or surveys of the Azilian on a Western European scale have been attempted. The closest approximations are those of Denise de Sonneville-Bordes (1960) and André Thévenin (1982). However, both are limited by their nearly exclusive use of French material and suffer from a narrow focus, *i.e.* the attempt to synthesize and explain the Azilian from the perspective of a single excavated site or a number of sites within a small region of the total Azilian temporal and spatial distribution. Therefore, we welcome this long treatise by an author who has considerable first-hand experience with Azilian materials and sites on the one hand and whose continuing research is oriented toward the definition of the anthropological reality behind the Azilian concept on the other. His study serves our needs because it provides increased resolution of the later Palaeolithic hunting societies inhabiting the southern and southwestern part of our study area (Newell *et al.*, 1979) and is complementary to parallel studies presently being conducted into the 'Epigravettian'/Valorguian industries to the south and southeast (Bietti, 1976-1977; 1978; 1979; Bartolomei *et al.*, 1979; Broglio, 1976; Escalon de Fonton, 1976; Escalon de Fonton & Onoratini, 1976;

Taschini, 1983). For our purposes, the special relevance of the Straus study is the finer identification and resolution of the Upper/Late Palaeolithic-Mesolithic border. A better understanding of the terminal phase of the former and the origins of the latter will provide increased quality control of the samples used in our continuing human biological investigations of the Mesolithic breeding populations and social, ethnic, and linguistic groupings of Western Europe (Constandse-Westermann, 1974; 1977; Constandse-Westermann *et al.*, 1985; in press; Constandse-Westermann & Newell, 1984a; 1984b; in press; Newell & Constandse-Westermann, 1984; 1986; in press a; Newell *et al.*, in prep.).

A first prerequisite to the further resolution of the Palaeolithic-Mesolithic transition or boundary is the establishment of a firm chrono-stratigraphy for the respective archaeological partitions. Once this has been done, the data may then be re-evaluated and weighed for indications of continuity or discontinuity and/or qualitative differences or similarities in their respective levels of adaptive success, life-ways and stage(s) of social evolution. In his paper, Lawrence Straus synthesizes and weighs the data from some forty sites from Spain and France. The dates of their excavation range from 1874 to his own ongoing work at the Abri Dufaure. Some of the sites are in the nature of rescue excavations, while others were investigated in the course of well planned and executed research strategies, *e.g.* Clark & Straus, 1983 and Straus *et al.*, 1981. Publication of all those Azilian data runs the full gamut from the good to the bad to the ugly, and

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beyond. Therefore, Dr. Straus is to be commended for his considerable efforts and perseverance in synthesizing and presenting such diverse and qualitatively variable data. From his endeavours, a number of points become apparent.

After considerable correspondence with the author and most stimulating discussions during a memorable visit by one of us to Albuquerque, there remains a number of points of friendly disagreement in the value accorded to some of the data and the inevitable difference of opinion as to the interpretation of incomplete or missing data. In the spirit of sharpening the focus of our respective research and in order to apprise the reader of the most salient unresolved problems, we will present those points of discussion below. It is our contention that this explication will promote the reader's ability to weigh the respective arguments and/or prevail where we have failed to solve the outstanding problems.

2. IDENTIFYING THE AZILIAN

Firstly, in the absence of a rigid definition of the material composition of the Azilian, it becomes difficult to exclude on objective grounds a number of sites which Straus assigns to that unit. Terminological inconsistency and/or ambiguities among and between the various authors which Straus has synthesized also confounds the problem. Designations such as 'Azilian-like', 'epi-Azilian', 'Azilian-Sauveterrian', 'pre-Asturian' or 'Atypical Tarde-noisian' are the clearest cases in point. No matter what label is given them, based on our experience, the Boreal site Zatoya level II upper part, the Pre-boreal sites Les Fieux couche D, Thoys I, Arenaza I bed II, and El Cierro are Mesolithic in terms of their lithic composition and technology, bone/antler industry, and fauna assemblage.

Secondly, in terms of the chronological positions of the sites/levels which we accept on compositional grounds as belonging to the Azilian, *sensu lato*, we see some additional problems. In principle the author proceeds from three independent sources of chronological data; *i.e.* radiocarbon, sedimentology, and palynology. The results obtained from these three sources are used as if they were of equal value and reliability, although each displays great internal variability. No doubt much of that variability is due to differences in material dated, location of the samples in the respective deposits, and the strength of the archaeological associations with the

dated materials or levels. As such the results should be subjected to a process of data screening in order to guarantee, or at least improve, mutual comparability, *e.g.* both sedimentology and palynology are subject to regional and local factors. Working with these very disparate data from the many primary authors, in addition to his own material, it is patently impossible for Straus to maintain complete uniformity in the exercise of quality control criteria. Nevertheless, fuller explication as to why a particular data-set has been accepted and/or given precedence over another, sometimes conflicting, data-set would have increased the clarity of the issues. This is particularly the case when some of the data would indicate a Preboreal or even Boreal age for the Azilian materials, *i.e.* chronological assessments consistent with the thrust of the Straus thesis.

To that end, we have ordered the chronological data in a manner similar to that used in our skeleton catalogue (Newell *et al.*, 1979). Class I data include those sites in which the ^{14}C , the pollen, and the sedimentological data are mutually consistent and do not contradict the stratigraphy of the site. Class II data include those sites in which at least two of the chronometric data-sets are mutually consistent and do not contradict the stratigraphy of the site. Those data can be partitioned into three subclasses: II A, where the radiocarbon agrees with the pollen, II B, where the radiocarbon agrees with the sedimentological analysis, and II C, where the palynology agrees with the sedimentological analysis. At a very much lower level of reliability is Class III, in which at least one independent source of dating is consistent with the stratigraphy of the site. As in Class II, there are three sub-classes, *i.e.* III A, where the radiocarbon is consistent with the stratigraphy, III B, where the sedimentology is consistent, and III C, where the palynology is stratigraphically consistent. Partitioning the data along this ordinal scale of reliability, a striking difference in the chronological distribution of Class I and II sites as opposed to the Class III sites can be seen (table 1).

From table 1 it is clear that real differences in the mutual comparability and quality of the dating sources exist and may have skewed the total chronological assessment. Most of the compositionally Azilian sites with excessively late chronological assessments show inconsistencies in their various data-sets or are anomalous when compared with better dated sequences in their proximity, *e.g.* Bois Ragot couche 3, Chinchon A, La Faurélie II couche

2, Grotte de la Tourasse ensemble C, Mas d'Azil rive gauche couche G, Pégourie couches 4-5 and 6, Pont d'Ambon, Salpêtrière, Tête du Chien, Varennes-les-Mâcon 10 and 11, Cueva Oscura de Ania, Ekain levels III and IV, Los Azules couche 2, and Urutiaga couche C. In terms of Straus's hypothesis of a Preboreal Azilian which overlaps the Asturian of northern Spain, this approach also discriminates nicely the real problem site and level, *i.e.* the anomalous Los Azules couche 3a-d, where all three dating sources agree in indicating a Preboreal date for the level, only if the series of four bone dates from levels 3 d/e and 3e, run by the British Museum, are ignored.

Proceeding on that question, we would not exclude *a priori* the idea of the duration of the Azilian into the Preboreal. However, before accepting such a position one would do well to bear in mind that a post-glacial Azilian is not supported by a single Class I chronological assessment and only one Class II assessment, *i.e.* II A of Los Azules couche 3a-d. Furthermore, if the Azilian were to

overlap the Asturian, as Straus would contend, it is quite surprising that in all cases it is only found *below* Asturian levels. Compositionally Azilian levels have never been found above or interspersed between Asturian or any other Mesolithic levels.

At the same time, if we look at the chronological range of sites or levels regarded as 'Azilian-Sauveterrian', 'pre-Asturian', 'Atypical Tardenoisian', 'Azilian-like', or 'Azilian/epi-Azilian', *i.e.* terms used to denote mixing of materials in the same deposit or a functional/stylistic transition from the Late Palaeolithic to the local Mesolithic, one sees an analogous chronological overlap at the extreme of the distribution and a clear central tendency in the Preboreal and Boreal periods. Considered in terms of the respective chronological assessments, one finds the mirror image of the picture presented in table 1 (table 2).

In both cases, disagreement over the chronological positions of these sets of sites is exacerbated by the absence of relevant and exclusive compositional definitions of the Azilian and the local Mesolithic as well as the incomplete nature of the sampling (= excavation) and its subsequent reporting. At their present level of archaeological resolution, it is our contention that the undiagnostic artifact components from Poeymaü couche BS, Arenaza I bed III, and Santimamiñe level 5 cannot be used to establish the chrono-stratigraphic parameters of the Azilian.

Clearly, this short exercise has not resolved the transitional nature of the later Azilian and the early Mesolithic. On this point the authors are in agreement with Dr. Straus. Perhaps as we strive to formulate truly operational compositional definitions, we will find that attribute change is clinal in nature, following a smooth curve of change or, alternati-

Table 1. Consistency of chronological evidence for Azilian sites/levels partitioned by dating category.

Dating category	Preboreal	Dryas III	Allerød	Dryas II
I		2	1	
IIa	1		1	
IIb		3	1	2
IIc		2?		2
IIIa	2?	1		2
IIIb	2			4
IIIc	1	3	1	1

Table 2. Chronological parameters of the Azilian-Mesolithic transition.

Boreal	Zatoya level II upper part	6200±170	Ly -1398	Charcoal
Pre-Boreal	Abri Jean Pierre 1 couche 5a	7100±260	Ly - 428	Bone
	Les Fieux couche E	7500±190	Gif -1807	Charcoal
	Thoys I	7400±150	Ly - 599	Carbonates
		8270±650	Ly - 620	Charcoal
	Borie del Rey couche 4	7910±320	Ly -1402	Bone
Dryas III	Arenaza bed III	8350±180	CSIC- 174	Bone
	El Cierro	8450±515	GaK -2548	Charcoal
	Poeymaü couche BS	8470±230	Ly -1386	Bone
Allerød				
Dryas II				

vely, showing one or more points of accelerated change, which could serve as a conventional boundary. Such transitional industries are to be found at Abri Jean Pierre couche 5a, Borie del Rey couche 4, perhaps Les Fieux couche E, Mas d'Azil rive gauche couche G, Rochedane couche A4, Ekain level II and Abauntz couche d. Should either alternative prove to be the most elegant answer to the transition problem, it is our expectation that reliable assessments of the chronological position of such an arbitrary or conventional division will be little later than the first half of the Preboreal period.

Moving on to difficulties inherent in the compositional definition of the Azilian and concomitant problems of chrono-stratigraphy, we wish to stress that more work needs doing on the seasonal fluctuations and subsistence strategic variation in the sites used to date the Azilian. Specifically in terms of the Spanish Upper and Late Palaeolithic, J.G.D. Clark (1973) emphasized the potential role of seasonal variation in assemblage composition. Many of the comments addressed to Meg Conkey's reassessment of the Magdalenian of Altamira dealt with the same issues (Conkey, 1980 and comments). In that same vein a univariate histogram of the elevation above sea level of the Azilian sites used by Straus produces a quadri-modal curve, suggesting different modes of land-use and/or structural poses, which can be tested for consistencies with the respective artifact and/or fauna assemblages. Such locational variability should be related to variation in the material composition of the Azilian and regularities established. As it stands, Azilian points are said to account for 90% of the points at Abri Gay to .8% at La Vache. Burins range from 'virtually none' at La Riera level 26, *i.e.* 1.9%, to 26.55% at Les Fieux and El Otero level 2B. Burins are fewer in number than end scrapers in 27 sites, but exceed end scrapers at El Otero level 2B, Urutiaga couche C, and Les Fieux couche E. End scrapers are reported to vary from 2.6% at Les Fieux or 7.27% at Urutiaga couche C to 51.7% at La Paloma level 'Z'. Such variation can hardly be stochastic and/or merely a reflection of the vagaries in archaeological sampling. Instead, we suspect that a systematic element exists which can be related to seasonal, functional, and subsistence strategic systematics, as reflected in structural poses. In conjunction with the resolution of these problems, we are confident that the continued research of Dr. Straus will succeed in providing us with a workable compositional definition of the Azilian.

After this fine review of the Azilian as a traditio-

nal chrono-stratigraphic unit, *i.e.* now that all the relevant data have been collected and assessed, it is incumbent upon us all to start investigating spatial patterning in the inherent stylistic and functional variation, *e.g.* Odell (1980). Once those patterns have been established, we can test same against known parameters of the ethnographically based three-tiered hierarchy of social structure for goodness of fit (Newell & Constandse-Westermann, 1986; Newell *et al.*, in prep.). In this way we can move from a traditional industrial and chronostratigraphic understanding of the Azilian to one more firmly founded on culture and the patterned variability of human behaviour. Only when we transcend the myopic limitations of regionalism and the single site perspective will we learn to understand the patterning in the data on a scale which is commensurate with the systematics and dynamics inherent in the societies which created them.

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