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# THE FIRST HUMAN SETTLEMENT OF EUROPE

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*The question concerning the place of origin of humankind was widely debated for decades. Since it has been established that this was in Africa, much current research is focused on the age of the settlement of Eurasia. This work reviews three hypotheses concerning the age of the occupation of Europe. These hypotheses may be termed "Young," "Mature," and "Old" Europe, according to which systematic settlement took place either less than 500,000 years ago, somewhat before 0.78 mya (million years ago), or before 1.5 mya, respectively. The arguments for and weaknesses of each hypothesis are discussed, and the "Mature Europe" hypothesis is argued to be supported by the strongest current evidence.*

HUMAN PALEONTOLOGISTS HAVE been researching and debating the place and age of the origin of our genus for decades. In the last years of the nineteenth century and the beginning of the twentieth, Asia was accepted as the birthplace of humankind (Dubois 1894). Later the focus shifted to South Africa (Dart 1925; Broom and Schepers 1946). In the 1960s, Central and Eastern Africa picked up the leadership position in terms of antiquity (Leakey 1971). Currently, few scholars doubt the African origin of humankind, with all its implications.

Once the place of origin was clarified, questions have arisen concerning the age of the first human occupations of the Eurasian continent. While all researchers agree that the genus *Homo* evolved in Africa c. 2.0–2.5 mya, the question of the peopling of Europe has been much more controversial. Each significant new discovery has required that the state of the question be revisited. This article updates the issue of the first occupation of Europe by evaluating alternative hypotheses. We will focus on the latest finds without going into paleoecological or behavioral implications (dealt with recently by other authors). Thus we are restricting ourselves to the question of *when*, but not how or why, Europe was first peopled. This does not mean that we are not profoundly interested in the ecological implications of each of the hypotheses that we set forth.

Four major recent discoveries would acquire special importance if they could be definitively confirmed:

1. The lithic assemblage of Riwat (Pakistan), dated at c. 2.0 mya (Dennell, Rendell, and Hailwood 1988a, 1988b).
2. Dating of human remains from Sangiran and Modjokerto (Java) to c. 1.6–1.8 mya (Swisher et al. 1994).
3. Dating of the human fossil from Dmanisi (Georgia) to somewhat less than 1.8 mya (Gabunia and Vekua 1995).

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4. The discovery of a hominid together with lithic artifacts in Longgupo (southern China) (Huang et al. 1995), dated at c. 1.9 mya.

However, all of these claims entail serious problems. Some researchers are hesitant to accept the human-made nature of the supposed stone tools of Pakistan (Hemingway 1989; Stapert 1989; Dennell 1989). Others question the ages claimed for the human fossils from Sangiran, Modjokerto (Vos and Sondaar 1994; Swisher 1994), and Dmanisi (Klein 1995). Finally, some scholars, such as Rightmire and Howell, argue that the Longgupo fossil does not constitute a solid piece of evidence, while Wolpoff considers it possibly to be incorrectly classified. Furthermore, all wonder if the stone tools are really human-made artifacts (Culotta 1995).

In 1976, K. Valoch faced the question of the first settling of Europe, which he theoretically placed around 1.5 mya (Valoch 1976). Since then, scholars have systematically considered the possibility of an older settlement of this continent (Bonifay and Vandermeersch 1991; Dean and Delson 1995; Delson 1989; Klein 1995; Rolland 1992). The issue has been a major subject of scientific symposia (IX U.I.S.P.P. Congress, Nice 1976; "Les premiers peuplements humains de l'Europe," Paris 1989; "The Earliest Inhabitants of Europe," Milan 1990; "Réévaluation du plus ancien peuplement de l'Europe," Tautavel 1993; "Homo erectus heidelbergensis von Mauer-Kolloquium I," Mannheim 1995).

### THE THREE HYPOTHESES

As research on the Pleistocene settlement of Europe developed, three main hypotheses have developed (Dennell 1983).

#### *Hypothesis A: "Young Europe"*

This hypothesis is supported by the following arguments (Roebroeks 1994; Roebroeks and van Kolfschoten 1994; Roebroeks and Tuffreau 1995):

1. There is no evidence of human fossil remains older than 500,000 years.
2. There are no clearly human-made lithic artifacts from sites older than 500,000 years.
3. There is no evidence of human occupation associated with the temporally indicative vole, *Mymomis savini*, in any Early Pleistocene site of Europe.
4. Before 500,000 years B.P., virtually all finds come from a disturbed, coarse matrix. The lithic assemblages "are almost a result of a selection of isolated pieces from natural deposits" and "all of our Lower Palaeolithic sites are open-air sites formed in riverine or lacustrine environments" (Roebroeks 1994:302-3).

From the above, it may be stated that the settlement of Europe took place 500,000 years ago—1.5 mya after the expansion of *Homo* throughout Africa. An intermittent occupation of Europe before 500,000 years B.P. could be accepted only if an Early Pleistocene site with proven primary context was discovered.

*Hypothesis B: "Mature Europe"*

This hypothesis is supported by the following arguments (Lumley 1976; Coltorti et al. 1982; Cremaschi and Peretto 1988a):

1. There are some sites with clearly human-made lithic assemblages dated to the Early Pleistocene, such as Vallonet (France) and Monte Poggiolo (Italy), together with sites such as Isernia La Pineta (Italy) dated to the early Middle Pleistocene.
2. Some of these records show strong evidence of human impact (Cremaschi and Peretto 1988b) related to systematic occupations, not sporadic ones.
3. Even the Mauer mandible (Heidelberg, Germany) is generally argued to be at least 0.6 mya.

From the above, it may be stated that there are systematic open-air and cave settlements in Europe between 0.7 and 1.0 mya. An older occupation is possible, but it has yet to be verified by credible evidence.

*Hypothesis C: "Old Europe"*

This hypothesis is supported by the following arguments (Bonifay 1991; Gilbert and Palmquist 1995):

1. The human fossil of Dmanisi (Georgia) is claimed to have an age between c. 1.5 and 1.8 mya, according to K/Ar dating and biostratigraphic analyses (Gabunia and Vekua 1995).
2. The human remains associated with apparent lithic artifacts from Venta Micena (Orce, Granada) are dated to the early Early Pleistocene based on paleomagnetism and biostratigraphical analysis (Gilbert and Palmquist 1995).
3. There are several sites with lithic assemblages in the French Massif Central, such as Saint Eble, dated at more than 2.0 mya by K/Ar (Bonifay 1991), and Chilhac, with datings ranging between 1.8 and 2.0 mya (Guth 1974; Bonifay 1991).

Therefore, the human settlement of Europe would be of Pliocene or earliest Pleistocene age, coming shortly after the African developments. Dispersal across the Strait of Gibraltar or the Palestine Corridor would have been fast and almost simultaneous with the origin of the genus *Homo* in Africa.

Actually, these three hypotheses represent summaries of different perspectives that have developed during the last decades of the twentieth century. Therefore, they broadly reflect the varying scientific tendencies of archaeologists and anthropologists working in human evolution.

**THE WEAKNESSES OF SOME HYPOTHESES**

New discoveries at sites in the Sierra de Atapuerca (Burgos, Old Castile, Spain), especially in the excavation of a 6 m<sup>2</sup> area of the Gran Dolina cave site (level TD-6), provide the following evidence relevant to the debate (Carbonell et al. 1995; Parés and Pérez-González 1995):

1. A total of 70 human fossil remains belonging to hominids, associated with lithic artifacts.

2. More than 200 lithic artifacts, made of quartzite, flint, limestone, and quartz, among which handaxes are absent.
3. A large faunal assemblage, which includes cervids and equids.
4. Fossil remains of the micromammal *Mymomis savini*, a well-established Lower Pleistocene marker species between levels TD-3-4 and the base of TD-8.
5. These human occupations have been paleomagnetically dated at more than 0.78 mya.
6. There are even older faunal and lithic records from level TD-4 (Carbonell and Rodríguez 1994).

From the above, it should be deduced that the empirical arguments supporting Hypothesis A have been refuted. If Gran Dolina offers conclusive evidence, other European sites would also seem to have a similar age and traits: Kärlich (Germany) (Bosinski 1992; Kulemeyer 1986); Korolevo (Ukraine) (Gladiline and Sitlivy 1991); Vallonet (France) (Lumley et al. 1988); Soleilhac (France) (Bonifay et al. 1976); Monte Poggiolo (Italy) (Peretto 1992); Isernia La Pineta (Italy) (Cremaschi and Peretto 1988a, 1988b; Peretto 1991); Azykh (Azerbaijan) (Ranov 1991); and Dmanisi, even if we accept, as Klein (1995) does, that the age of the latter is younger than Gabunia and Vakua's (1995) proposal. Although some of these sites present problems (such as the biostratigraphic attribution of the lithic assemblage at Vallonet), the overall pattern of pre-Middle Pleistocene colonization is supported by Gran Dolina. The great amount of evidence, the high quality of the records, and the wide geographic range covered by them should all be taken into account in order to support an intermittent, but a widespread, occupation of Europe at the end of the Early Pleistocene.

Therefore, the "Young Europe" Hypothesis (A) has been disproven by the results of new research, which currently favors at least the "Mature Europe" Hypothesis (B).

The present state of knowledge offers some support for Hypothesis C ("Old Europe"). Some European sites, such as French Massif Central loci, Venta Micena (Spain), and Dmanisi (Georgia), have been argued to date to c. 2.0 mya or more. However, such evidence is still scarce and problematical; namely, the taxonomic ascription of the supposed hominid remains from Venta Micena (Orce) (Agustí and Moyà-Solà 1987), the uncertain human authorship of the stone objects from Venta Micena and Chilhac (Texier 1985), and the chronology proposed for Venta Micena and for the Dmanisi human fossils. Therefore, these data cannot be used as irrefutable proof of such ancient settlements.

## DISCUSSION

Obviously, Hypothesis A needs at least to be reformulated, since its supporting arguments have been completely superseded, although it might have a future in dealing with questions about the *magnitude* and *permanence* of human occupation of the European continent before 500,000 B.P.

On the other hand, Hypothesis C has problems involving scientific methodology, since it rests on very few, ambiguous pieces of evidence (mainly Dmanisi). It is an overstated, high-risk hypothesis relative to the available empirical data. The hypotheco-deductive method has great heuristic and hermeneutic usefulness, but it must be strictly tested by discoveries and facts in order to avoid being mere speculation.

The axiom “anything goes” for proving what researchers want to see is not useful when following the strict scientific method. Without strong evidence, such statements are risky: although they may be proven in the future, currently they are no more than generally harmful speculations.

Many scholars holding to Hypothesis B may eventually accept the possibility of an extremely old settlement of Europe. In fact, every new discovery seems to raise some interesting new questions about the origin of the earliest human occupation of the continent. However, it is important to avoid extrapolations to Europe from other continents, such as Africa—which has a much more substantial and reliable data base—in order to try to reinforce Hypothesis C.

To accept new paradigms without a well-proven, or at least well-articulated, basis could lead us to construct a very weak discipline indeed. Such ideas, when only poorly supported by isolated finds, are not able to stand the test of time.

Thus Hypothesis B seems to prevail. Although A and C have been useful in producing interesting research projects, the “Mature Europe” hypothesis is now solidly in the domain of empirical facts. According to the current state of our knowledge, the first settlement of Europe occurred close to 1.0 mya. This is no longer a hypothesis, but a strongly supported conclusion.

In conclusion, in Africa the existence of a rich Lower Paleolithic record permits us to make inferences on the adaptive capacities of the earliest hominids. However, in Europe the scarcity of systematically excavated sites with precise stratigraphic contexts in which hominid fossils are associated with lithic artifacts and faunal remains makes it very difficult at the present time to make behavioral generalizations. Therefore, although we can show evidence for significant occupation of Europe by around 1.0 mya, we are still unable to make paleoecological inferences analogous to those that have been made for Africa on the basis of the empirical record.

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