

The Elephant Butchery Area at the Middle Pleistocene site of Notarchirico (Venosa, Basilicata, Italy)

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SUMMARY: An Acheulean paleosurface was excavated in 1990 and 1991 at the Middle Pleistocene site of Notarchirico (Venosa, Basilicata). The area shows a great concentration of faunal remains together with a skull of *Elephas antiquus* with both tusks still *in situ* and with the mandible lying some meters away from its original anatomical position. Several lithic tools (hand axes, choppers, utilized pebbles and a few flakes tools) are directly associated with the paleontological remains. Various taphonomical considerations suggest the possibility that the area represents a butchery site where parts of this skull were scavenged by hominids.

1. INTRODUCTION

Recent geological studies indicate that the filling of the Venosa basin consists of three lithostratigraphic units. The basal one, known as the "Formation of Fonte del Comune", can be attributed to the end of the Lower Pleistocene and is contemporary with the early phases of the volcanic activity of Monte Vulture. This unit is covered by two volcanic-sedimentary units, the "Formation of Piano Regio" and the later "Formation of Tufarelle". Both of these occur within the major phases of volcanic activity and belong to early Middle Pleistocene, with a minimum absolute age of about 500 ka.

Absolute dating of different volcanic units of Monte Vulture suggest a short chronological span between about 740 and 600 ka for the two major phases of filling. In the Notarchirico sequence, the tephra emissions are mostly reworked, with the important exception of a level of alkalin vitric tuff which remains in primary position, the so-called "Tephra of Notarchirico", deposited in an environment of stagnant water. On the basis of Thermoluminescence and ESR dates, the

"Tephra of Notarchirico" occurring directly above the Acheulean level F, can be dated to 640 ± 40 ka. At present this "Tephra of Notarchirico" represents the only direct fall-out positively identified in an Acheulean site in Southern Italy (Lefèvre *et al.* 1998; Piperno 1999). Tephrostratigraphic correlations agree with the conclusions of the detailed paleontological study and with micromammals identifications (Cassoli *et al.* 1999; Sala 1999).

The extensive archaeological evidence from Notarchirico shows a continuous alternating superimposition of levels with hand axes (from bottom to top, Levels F, D, A, A1, B) or without this tool (E1, E, C, Alpha), starting with the most ancient one (Level F) with hand axes, just below the alkaline vitreous tuff dated 640 ka.

Despite the fact that several hypothesis have been put forward (Leakey 1971; Chavaillon *et al.* 1979) to explain the alternation of techno-complexes differently characterized at a typological level in long lasting stratigraphic series such as Olduvai and Melka Kunture, we must admit that it is difficult to understand the different strategies characterized by the lithic assemblages of various sites of the African Lower Pleistocene and of the European Middle



Fig.1 - Notarchirico. Level I A1: Plan of the paleontological remains and lithic tools in the area of the elephant.

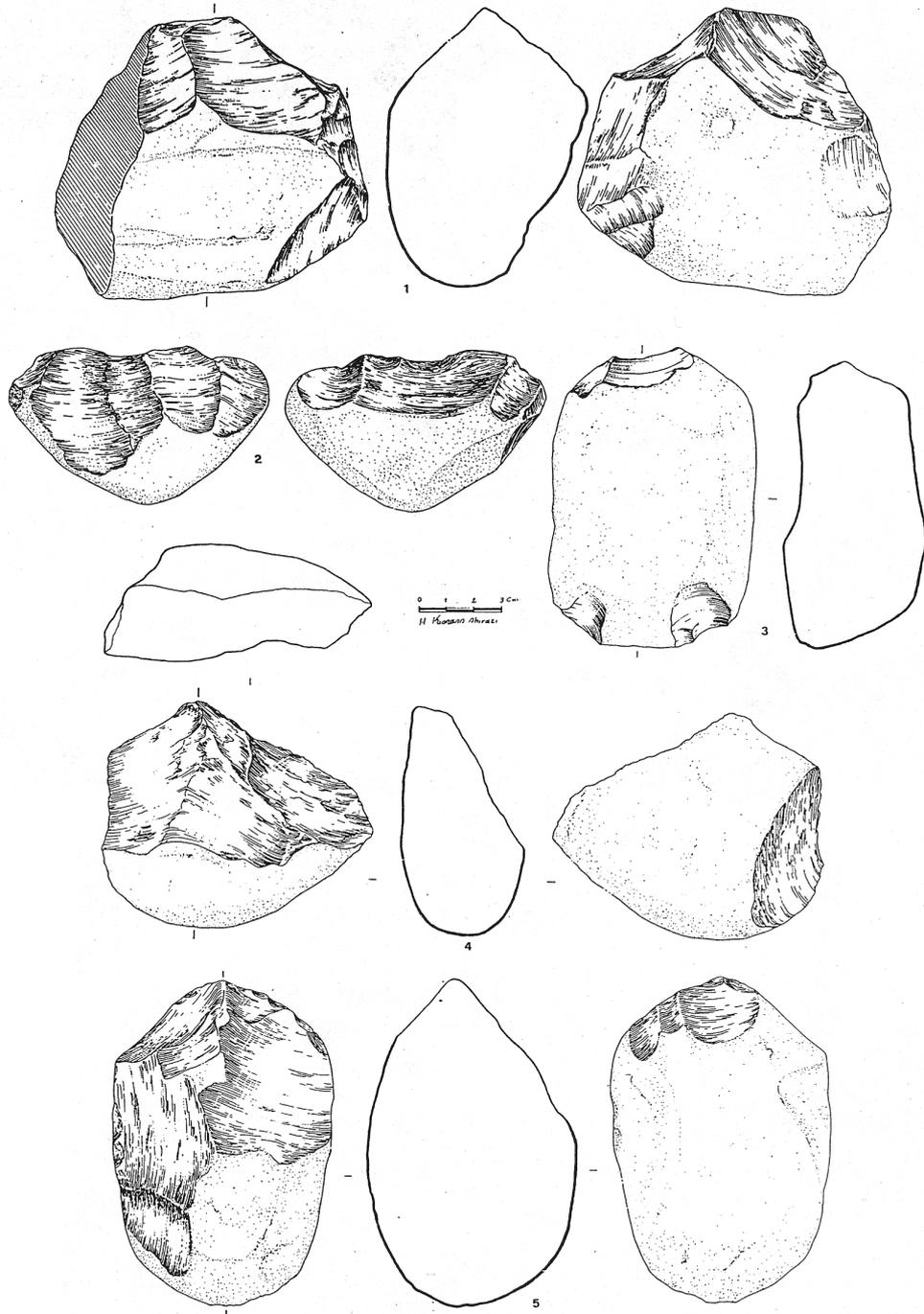


Fig.2a - Lithic Industry of the Elephant area.

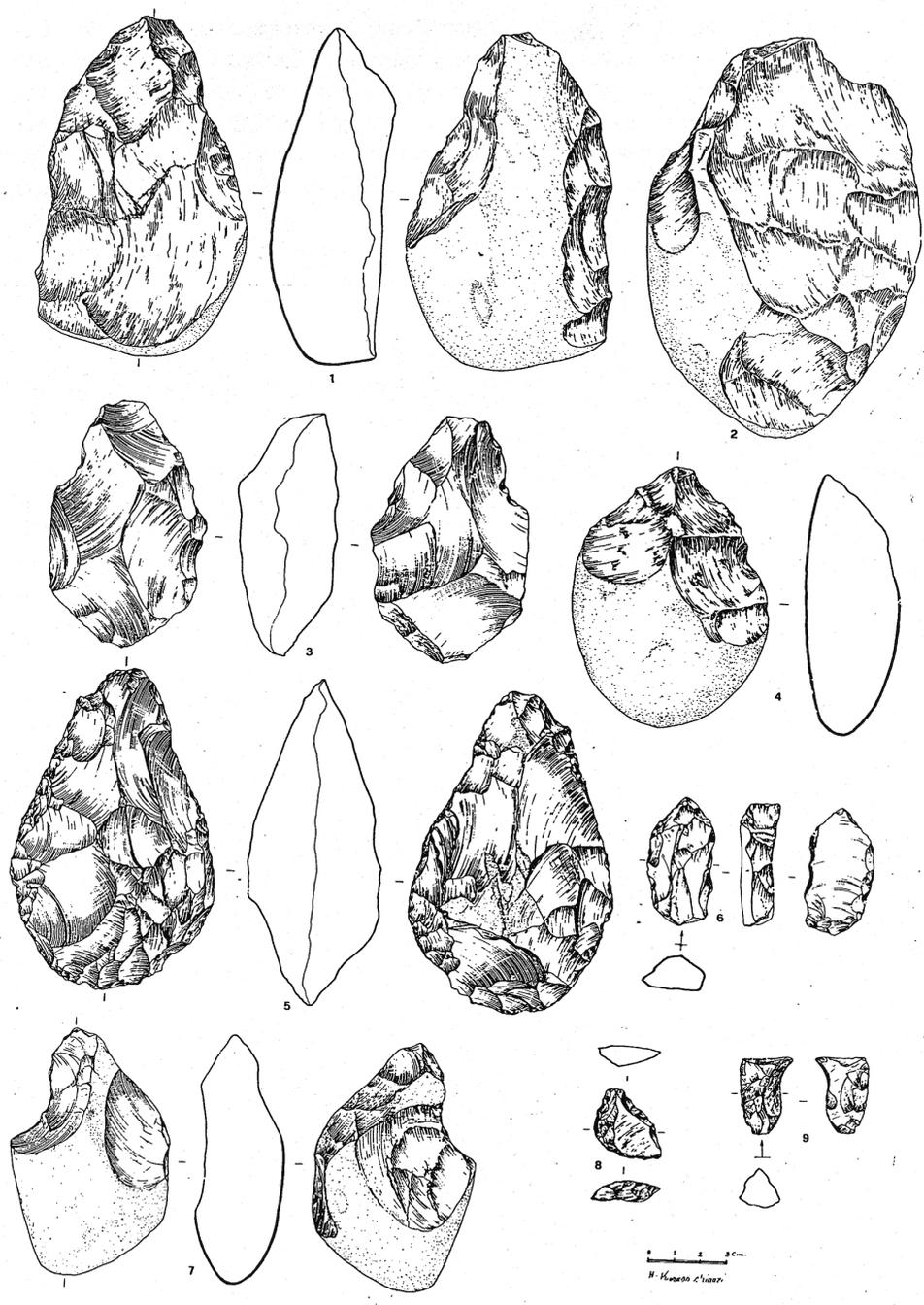


Fig.2b - Lithic Industry of the Elephant area.

Pleistocene. It seems equally impossible, in the majority of cases, to ascertain well beyond the residual evidence which can be observed in most lithic complexes, if such dichotomy actually corresponds to a substantial diversification of the Lower Paleolithic industries which would allow them to be placed in two or more parallel phyla corresponding to "Acheulean" and "not-Acheulean" separate traditions.

2. THE AREA OF THE ELEPHANT

The surface with the remains of an *Elephas antiquus* covers an area of 6 x 4 m; most of the lithic and faunal remains rests within this area, while some of them are lying either at its bottom or at the top of level B, and others are clearly embedded in level B. 42 lithic and 85 faunal remains have been found in the area of the Elephant. 38 bone remains have been attributed to *Elephas antiquus* according to their size.

14 seem to represent anatomically unidentifiable fragments of elephant bones, 19 belong to Cervids and 14 are undetermined.

The great part of the remains belongs essentially to a skull of one sub-adult male individual, lying in an overturned position and lacking the entire masticatory apparatus and occipital (Fig. 1).

A portion of the left side of the cranial vault is still well preserved and shows the orbital area and part of the parietal; on its anterior part lies the alveolus of the tusks with still close-fitting some fragments of their radicular portions. Two upper posterior molars, showing moderate wear, were found respectively on the right and on the left of the skull, few cm away from their no more preserved original position. A highly worn anterior right molar, still preserving residuals of the last seven lamellas, was lying in front of the skull, while the left anterior molar was not found.

The left tusk was preserved in its middle-proximal part to a length of about 150 cm and was broken in its radicular part. The displacement of both tusks with respect to their original anatomical position was caused by the sinking of the bony portion of the incisor bones. Once

the tusks were no more kept in their alveolus, they collapsed on ground, where they stay on their lateral surface. Numerous fragments of the area of the praemaxillare have been dislocated between the proximal extremity of the left tusk and the skull.

An apical portion of a tusk, measuring about 45 cm, was lying at a distance of a few cm from the distal fracture of the right tusk, resting in a slightly angular position with respect to its anatomical position. This fragment is actually lacking the great part of its external surface and has a maximum diameter of 7,5 cm, smaller than the one in association with the distal fracture of the tusk, measuring 23 cm. In spite of this discrepancy, its attribution to the same tusk is highly probable, even presuming a possible lack of an intermediate portion of the tusk.

The middle-proximal portion of the right tusk is present, with a length of about 140 cm. Its surface is badly preserved, because of the lost of the external ivory lamellas (max diameter: 21 cm; diameter at the fracture: 14 cm). Several fragments have been displaced, but they either still maintain a contact with the tusk, or lie a few cm far from it.

The mandible is lying in connection with the fragmentary extremity of the right tusk; it is overturned and it lacks of both vertical ascending rami. In the lower part of its corpus, two large lacunae, uncovering the alveoli of the posterior molars, are visible. The left molar is still partially preserved, while the roots and the labial surfaces of both anterior molars are partially visible. A fragment of the vertical branch of the right hemi-mandible, still keeping the articular condyle, lies at a distance of about 20 cm from the mandible, with its external surface turned upside.

In the "area of the elephant" there is a clear correlation between the faunal remains and at least part of the 41 lithic tools found.

Lithic tools are quite uniformly distributed around the bone remains of larger size and inside the area between the two tusks.

Of a particular significance appears to be the position of chopper, of two handaxes, of a kind of a flint hammerstone and of a denticulated flake very close to the upturned mandible,

which represents, in this area, the only large sized faunal element not lying in anatomical position and clearly intentionally displaced from its original position.

3. CONCLUSIVE CONSIDERATIONS

As it is well known, several examples of utilization of entire or partial carcasses of large animals (elephant and hippopotamus) have been documented in association with Oldowan, Acheulean and Lower Palaeolithic (*sensu lato*) tools, such as for example at Barogali in Djibuti (Chavaillon *et al.* 1987; Berthelet 2001), Olduvai in Tanzania (Leakey 1971), Hargufia (Desmond Clark *et al.* 1984) and Gombore II (Chavaillon *et al.* 1979) in Ethiopia, Torralba and Aridos in Spain (Villa 1990), Mwanganda's Village in Malawi (Desmond Clark & Vance Haynes 1970), etc.

Equally well known and well studied in their taphonomic features are the cases of carcasses of either fossil elephants, as for example the *Elephas recki* from Haidalo in Djibuti (Chavaillon *et al.* 1990) or modern ones (Conybeare & Haynes 1984; Haynes 1988), which have not been utilized by humans.

In the case of Notarchirico some considerations suggest the utilization of the skull of *Elephas antiquus* from level A1 by hominids. To summarize, data suggesting such an hypothesis are the following :

- association between the paleontological remains belonging to one single individual and several lithic tools either lying in the proximity or in direct contact with some anatomical remains such as, for example, the mandible;
- very limited post-depositional disturbances;
- anatomical connection of many remains, with the unique important exception of the mandible;
- possibility of refitting of several faunal remains.

The hypothesis of a possible utilization of the soft parts of the skull (brain, tongue, trunk) seems therefore supported by a satisfying archaeological evidence.

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