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The first European peopling and the Italian case: Peculiarities and “opportunism”

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ABSTRACT

The Italian Peninsula attests an early human peopling through the presence of several sites such as Monte Poggiolo and Pirro Nord, the first one dated to about 1.0 Ma (by paleomagnetism and ESR) and the second one dated to 1.2–1.5 Ma (on a biochronological basis and especially on the presence of *Allophaiomys ruffoi*). The techno-economical approach to the lithic industries has been used to highlight the technical behaviours, the choices related to raw materials and to make comparisons with other European sites that have the same chronology.

In these sites, the lithic production is generally characterized by short reduction sequences strongly adapted to the initial morphology of raw material (always flint cobbles or pebbles). The lithic production is mainly made by unipolar/orthogonal/multidirectional debitage, but also centripetal exploitation is attested, and seems to have an important place inside the debitage economy. From a general point of view, these features are shared with the other contemporary European sites and with the African Mode 1, but some peculiarities can be underlined, indicating an extraordinary *savoir-faire* and capacity of adaptation to raw material.

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1. Introduction

Many sites in Europe attest a human occupation around 1 Ma (De Lumley et al., 1988; Peretto et al., 1998; Martínez-Navarro et al., 2003; Despriée et al., 2006, 2010; Parés et al., 2006; Barsky et al., 2010; Bermúdez de Castro et al., 2010; Moncel, 2010; Sirakov et al., 2010; Toro-Moyano et al., 2013; Arzarello et al., 2015; de Lombera-Hermida et al., 2015). All those sites seem to show a common technical behavior, strongly influenced by raw material morphology and physical characteristics. The reduction sequences are mainly finalized to flake production and the most utilized methods are “opportunistic” (short reduction sequences strongly adapted to raw material morphology, that shows a strong adaptability in relation to resources existing around the settlement) mainly unipolar and orthogonal, most rarely centripetal. Flakes are more unretouched and scrapers and denticulates are rare.

In this scenario, the Italian Peninsula significantly contributes to the debate about the ways and modes of first European peopling.

Pirro Nord (fissure P13) and Cà Belvedere di Monte Poggiolo respectively date to more than 1 Ma and to about 0.85 Ma. They show lithic assemblages characterized by the exploitation of local flint pebbles, by the utilization of unipolar, multidirectional, and centripetal methods of knapping, and by the presence of some retouched blanks.

2. The Pirro Nord (fissure P13) site

Pirro Nord (also known as “Cava Pirro” or “Cava Dell’Erba”) is a Lower Pleistocene site located in the village of Apricena (Foggia, Apulia, Italy), at the northwestern margin of the Gargano promontory, inside an active limestone quarry (Fig. 1). The Pirro 13 shaft (P13) is situated at the top of the Mesozoic limestone formation, and is the result of dissolution along the fractured corezone of the Pliocene fault that bordered the “Apricena horst” to the south (Pavia et al., 2012). Pirro 13 represents one of the earliest records of European peopling attributed to 1.6–1.3 Ma on a biochronological basis (Arzarello et al., 2007, 2009, 2012, 2014; Lopez Garcia et al., 2015). In P13, the lithic assemblage has been found in association with Villafranchian vertebrate fossils of the Pirro Nord Faunal Unit (Abbazzi et al., 1996; Gliozzi et al., 1997).

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Fig. 1. Geographical localization of the two sites; A – Cà Belvedere di Monte Poggiolo, general view of the hill where the site is placed; B – Cà Belvedere di Monte Poggiolo, excavation; C – Pirro Nord, general view of the Quarry; D – Pirro Nord, particular of the excavation area; E – Pirro Nord, synthetic stratigraphy of the P13 fissure.

On the basis of the presence of birds *Otis tarda*, *Tetrax tetrax* and *Pterocles orientalis*, together with other species of Anatidae and Charadriiformes, the environment was probably open and dry, but with a seasonal wetland. The significant presence of Alaudidae indicates that open areas were characterized by low vegetation (Bedetti, 2003; Arzarello et al., 2009).

The sedimentary filling of the P13 fissure have been made from the top, by a rapid, massive and chaotic process such as debris-flow (Giusti, 2013), and follows the position of the large limestone blocks that made up the skeleton of the fissure. The faunal remains and the lithic industries have been found dispersed in the whole sequence without any special concentration. All materials (flints and bones) are characterized by the same taphonomic alterations, mostly Fe–Mn concretions. Although the accumulation is not in its primary position, the lithic industries have fresh margins and show no evidence of rolling, smoothing or abrasions.

3. The Cà Belvedere di Monte Poggiolo site

Cà Belvedere di Monte Poggiolo is in North-East Italy, near the town of Forlì (Fig. 1). The geological succession in the surrounding area is composed by the Plio-Pleistocene “argille grigio-blu” (grey-blue clay), deposited in a littoral environment, covered by the “sabbie gialle” (yellow sands) that indicate the final phase of the regression (Ricci Lucchi et al., 1982). The yellow sands are absent in the prehistoric site and are replaced by a pebble beach in a fluvial sand matrix (Peretto et al., 1998), that belongs to the same pedogenetic phase, constituting a lateral transition of facies inside the same sedimentary context. The lithic assemblage has been found inside the pebble beach. The site occupants were established near the mouth of the river, exploiting the local raw material during a cold period (Peretto et al., 1998). The site has been dated by ESR on sands from San Biagio and Monte Vescovado and on a marine mollusc from the Monte Poggiolo sands to 1 Ma (Peretto et al., 1998). The paleomagnetic analysis shows that the site was occupied during a magnetic inversion phase that probably occurred around Jaramillo (Gagnepain et al., 1992). Latest magnetostratigraphic and biostratigraphic results indicate a chronology of about 0.85 Ma, just after the cooling of MIS 22 (Muttoni et al., 2011). No faunal remains were found in Cà Belvedere di Monte Poggiolo, but inside the yellow sands *Mammuthus* aff. *meridionalis*,

Dicerorhinus sp., *Bison* cfr. *Schoetensacki* and *Hippopotamus* sp. remains have been found (Giusberti, 1992).

4. Methodology

We performed a technological analysis on the material, leading to reconstruction of the *chaînes opératoires* and core reduction strategies. The main purpose of such an approach is to understand the objectives of production and the modalities applied to get the wanted products. Technical criteria are necessary to answer these objectives. We tried to identify those technical criteria and their application during the *chaîne opératoire*, from the raw material selection to the production itself (Inizian et al., 1995; Boëda, 2013).

For flakes, several technological attributes have been analyzed. The knapping technique has been recognized on the basis of the stigmata present on the butt and on the ventral face (impact point, ripples, hackles). The presence/position of cortex and the scars have been utilized to define the knapping methods and the possible position of the blanks inside the reduction sequences. For each core, a diacritical scheme has been done in order to define all final steps of production. Core and flake were put in relation in order to test the “theoretical” completeness of the reduction sequence. As retouched blanks are few, any typological attribution was made. In this context, more attention was given to the position of the retouch and to flake morphometry. The dimensional analyses have been performed on complete pieces.

5. Lithic assemblages, technological traits

The lithic assemblages at Pirro Nord and Monte Poggiolo provided a lithic industry finalized to the production of flakes. Each site presents homogeneous raw materials and very repetitive, in terms of sequence of gestures, *chaînes opératoires*. We studied an assemblage of 349 pieces from Pirro Nord (fissure 13, the only one that yielded lithic industries associated with faunal remains) and 520 pieces from Cà Belvedere di Monte Poggiolo. The material from Pirro Nord includes all lithic artifacts found to the 2014 excavation, and the one from Cà Belvedere di Monte Poggiolo include all pieces coordinated during the excavation. The study includes all lithic artifacts found in Cà Belvedere di Monte Poggiolo and all lithic artifacts found in Pirro Nord to the 2014 excavation.

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