

Lithic Technical Systems in the First Part of the Late Glacial at Riparo Tagliente (Stallavena Di Grezzana, Verona)

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KEY WORDS: Late Epigravettian, Riparo Tagliente, lithic artefacts, techno-economical analysis.

Introduction

After the Late Glacial Maximum the earliest evidence of human recolonization process in the Southern Alps is attested by the Epigravettian layers of Riparo Tagliente (Stallavena di Grezzana, Verona), dated to the first part of the Lateglacial (Fontana *et al.*, 2009). Combining recent research works on lithic artefacts with data previously emerged by a diachronic analysis on the main series of North-eastern Italy (Montoya and Peresani, 2005) it is possible to have a wider knowledge on technical systems during the first part of the Lateglacial, allowing to highlight evolution and changes between the Early and Late Epigravettian.

Materials and Methods

The research work moves from a techno-economic and typological analysis of tens of thousands of artefacts belonging to the Stratigraphic Units located under the protection of the rock shelter (SUs 13a, 13a alfa, 301, 302-304 307). The Lateglacial age of the SU 13a alfa is confirmed by a new radiocarbon date of 13.986 ± 60 BP (LTL4441A), i.e. 17.100 – 16.300 yrs cal BP. (Cremona, 2008; Falceri, 2010).

Results

The raw material procurement system is based on the exploitation of local outcrops (Monti Lessini), such as flints from the Biancone formation, which is the most abundant in the surrounding area. Scaglia Variegata, Calcari oolitici, Scaglia Rossa and Eocenic flints. According to natural surfaces morphology, provisioning took place preferably either in debris deposits situated at the base of the flint veins or in soils and, in lower percentage, in riverbeds (Bietti *et al.*, 2004).

The techno-economic analysis has allowed to recognise three main technical projects: blades (length > 60mm), bladelets (length between 35 and 60mm) and microbladelets, (length < 35mm). The bladelet project is the best represented one (Fig. 1). The presence of a secondary project for the extraction of flakes (centripetal scheme) is also documented. Each category of product was obtained through an independent reduction sequence; nonetheless some "mixed schemes" which testify the transition from blades to bladelets production and from bladelets to microbladelets have also been recognised.

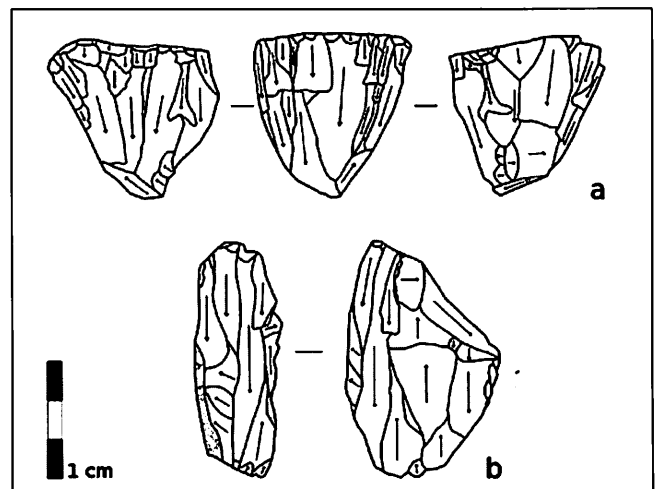


Fig. 1. Bladelets core from to SU 13a alfa (drawings M.G. Cremona).

The three main sequences identified were carried out by different methods of reduction: frontal for blades; frontal and natural edges starting schemes passing to *semi-tournant* exploitations for both bladelets and microbladelets (Fig. 2). The latter two result in a wide range of products. *Débitage* direction is generally unidirectional, whereas bidirectional and orthogonal re-orientations, over the same or new surfaces, are rarer.

Moving from a comparison between archaeological and experimental cores, it has been possible to recognize the different knapping techniques that have been used to make flints artefacts. The main one is direct percussion with a soft lithic hammer – i.e. calcareous pebble – but cases of direct percussion with an organic hammer are

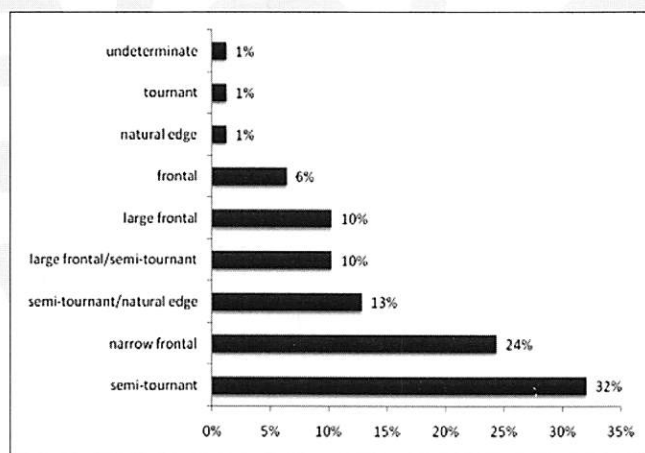


Fig. 2. Methods of cores exploitation adopted for the production of bladelets (SU 13a alfa).

also attested – i.e. deer’s antlers or hard wood – aimed at obtaining blades and bladelets (Visentin, 2009). All the range of primary products were selected for the manufacturing of backed points, back bladelets, borers and truncated backed bladelets. Among backed points and back bladelets three different dimensional classes have been identified (large, medium and small), probably corresponding to different functional roles (Fig. 3). Scrapers on blades, points and, secondarily, end-scrapers are obtained from laminar products especially from the largest ones; burins, endscrapers, scrapers and denticulates from maintenance and initialising by-products; short end-scrapers, scrapers, backed flakes and denticulates from flakes.

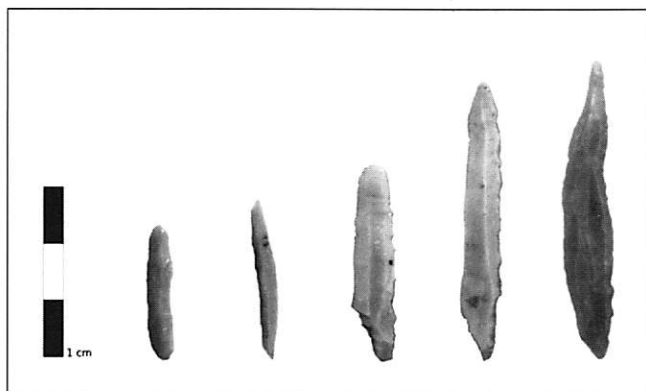


Fig. 3. Backed points of different dimensional classes (SU 13a alfa)

Discussion

The techno-economical and typological study carried out on the assemblages from the lower Lateglacial layers of

Riparo Tagliente has increased our understanding on lithic systems from the most ancient phase of Late Epigravettian in North-eastern Italy. These are aimed at obtaining different categories of blanks according to specific reduction sequences and methods although several cases of “mixed” schemes (laminar/lamellar, lamellar/microlamellar) are also documented indicating a continuity with the following Interstadial phase. Laminar reduction sequences are subordinated to the lamellar ones, in connection to the high production of armatures, namely of backed bladelets and backed points.

Acknowledgments

Archaeological research in the site of Riparo Tagliente is carried out with the financial support of Regione Veneto and the Municipality of Grezzana (Verona). By courtesy of Ministero per i Beni e le Attività Culturali, Soprintendenza Archeologica del Veneto.

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