

Lithic Production before and after the 4th Millennium BC on the Lower Danube, in Southeast Bulgaria, the Marmara Region and the Eastern Aegean

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Abstract: This paper investigates the lithic artefacts produced before and after the 4th millennium BC. The lithics derive from several research projects that took place in the southern Balkans, in the region around the Marmara Sea – present-day northwestern Turkey –, in Thrace and the eastern Aegean. A number of different features of the chipped stone assemblages under investigation have been analysed and compared in terms of raw material procurement strategies, technology and the morphology of the retouched implements. As a result of this ongoing research, various technological and typological features and raw materials were identified. Interpretations concerning lithic procurement, technology and distribution during the 4th millennium BC are stifled by the scarcity of evidence during this time period. Presently it cannot be determined whether this lack of data is due to research strategies or influenced by other factors.

Keywords: Southern Balkans, Marmara region, eastern Aegean, 4th millennium gap, lithic technology, chipped stone industry, raw material procurement

This paper investigates lithic artefact assemblages pertaining to the 5th and to the 3rd millennia BC. The artefacts were collected during different types of archaeological research projects, which took place in the region of the lower Danube of northeast Bulgaria, in southern Bulgaria – more precisely in upper or northern Thrace –, in the region around the Sea of Marmara, and in the area of the north-eastern Aegean.

A number of different features of the chipped stone assemblages under investigation have been analysed and compared with regards to raw material procurement strategies, technology and the morphology of the retouched implements. As a result of this ongoing research, a distribution area for a 5th millennium trapezoidal blade technology could be identified.³ This region stretches from the lower Danube valley to the region of present day upper northern Thrace.⁴

Within this technology, blades were produced by lever and standing pressure mode of detachment and punch or indirect percussion, as well. In general, core reduction is based on the exploitation of high quality flint sources located in northeast Bulgaria, more precisely in the area of the Ludogorsko plateau.⁵ Thus, at the time of the 5th millennium BC the system of raw material procurement and distribution included the areas of the settlement of Pietrele Magura Gorgana (Fig. 1.1), and the Durankulak and the Varna necropoleis.

With reference to the southeast Bulgarian region, it is very likely that at least a fraction of the flint used for the production of Chalcolithic chipped stone assemblages, from Karanovo VI, Azmak Chalcolithic layer (Fig. 1.2), Drama, Merdžumekja (Fig. 1.3), was exported from north-eastern Bulgaria as regular pressure and punch blades.⁶

In the south an entirely different situation emerges. In eastern Thrace, during beginning of 6th millennium and in the 5th the very well-documented settlement Aşağı Pınar presents an entirely

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³ Pelegrin 2012, 465–500.

⁴ Manolakakis 1996, 119–123; Sirakov 2002, 213–246; Manolakakis 2005; Gatsov – Nedelcheva 2012, 247–251.

⁵ Manolakakis 2011, 225–244; Nachev unpublished.

⁶ Boyadziev 1995, 149–191; Manolakakis 2011, 225–244; Nachev, unpublished.



Fig.1 Lever pressure blades; 1. Pietrele Magura Gorgana; 2. Azmak, Chalcolithic layers; 3. Drama, Chalcolithic layers (Drawings: P. Nedelcheva).

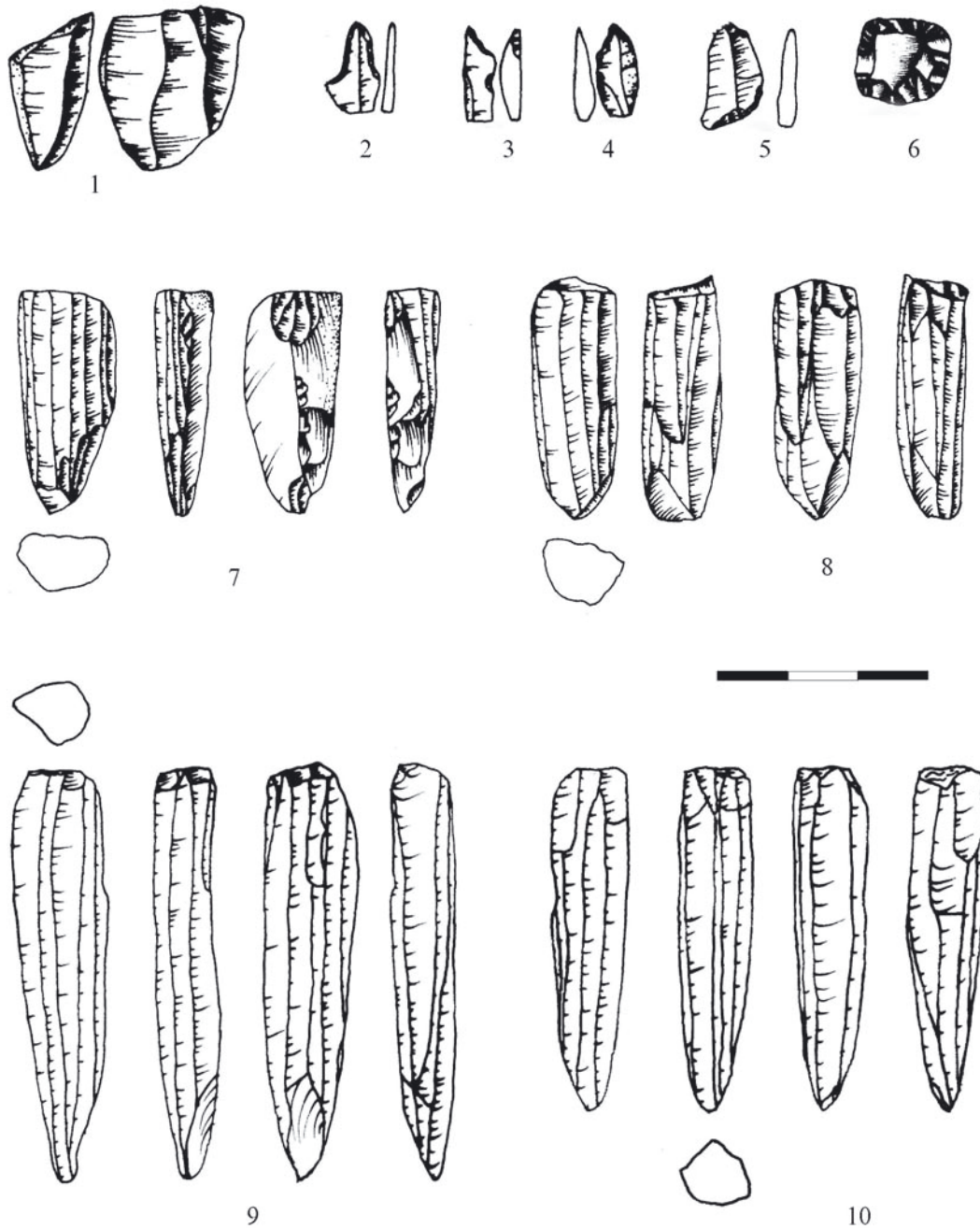


Fig. 2 1. core; 2–4. micro perforators; 5. segment; 6. micro end scraper; 7. ten bullet cores; 1–6. Aşağı Pınar; 7–9. Barçın Höyük; 10. Aktopraklık, Chalcolithic layers (Drawings: P. Nedelcheva).

different lithic industry.⁷ The assemblages are characterised by the use of local raw material varieties, the use of relatively small sized blades and flake cores, high frequency of micro perforators and drills, as well as micro end scrapers and segments (Fig. 2.1–6). Core reduction was achieved by applying punch and direct percussion techniques. In M. Özdoğan's words: "Obviously with the present evidence at hand, it is not possible to draw a picture of what happened in eastern

⁷ Parzinger – Schwarzberg 2005.

Thrace during the 4th millennium BC. Prior to the 4th millennium, there is a break in settlements both on the Anatolian and the European sides of the Sea of Marmara”.⁸

In the area of the Marmara Sea and the northern Aegean shore, a very characteristic bullet core technology along with several retouched tool types appeared between the 7th and 5th millennia BC at Ulucak,⁹ Ilıpınar, Fikirtepe, Pendik, Barçın Höyük,¹⁰ in the Yenişehir region, at Aktopraklık, Menteşe, and Gülpınar (Fig. 2.7–10). Flint core specimens were reduced mainly by standing pressure and punch. Simultaneously, obsidian blade cores were knapped mostly by means of standing and hand pressure techniques. The similar system of raw material procurement and a number of parallel technological and typological features could imply that groups with similar social organization were present in western Anatolia from the 7th to the 5th millennia. Considering the recent results from Gülpınar, for the moment it can be stated that this is the latest manifestation of bullet core technology in the area under discussion.¹¹ The end of the Gülpınar sequence is related to the end of 5th millennium BC.¹²

Now, let's turn to the 3rd millennium BC. For this time period the Bulgarian territory lacks sufficient archaeological exploration, resulting in a paucity of data. At this stage of research, a small quantity of lithics related to the Early Bronze Age – Cernavoda III derives from the Drama-Merdžumekja excavation in southern Bulgaria.¹³ These flint specimens were recovered from areas P10–P13, Q10–13, and R9–13. Among the lithics, some denticulated specimens have been recorded as well. Unfortunately, the insufficient quantity of the flint artefacts from the Late Chalcolithic – Karanovo VI period and the Early Bronze Age – Cernavoda III periods does not afford more refined results.¹⁴

However, some basic characteristics of the Early Bronze Age chipped stone technology from the 3rd millennium BC on the territory of western Anatolia, especially from the area south of the Marmara Sea and northern Aegean area can be defined.¹⁵ The lithic technology during this period was based on local varieties of silicates and a short distance system of procurement and distribution. The use of coarse-grained local stone varieties had a great impact on the technological characteristics, which determine the implementation of direct percussion techniques, resulting in considerable technical uniformity and simplicity through time. Consequently, the lithic technology did not change significantly during the course of the Bronze Age.

As a whole, the lithic industry related to the 3rd millennium BC on the north Aegean island of Gökçeada – the Yeni Bademli settlement –, the western Anatolian littoral – Troy – and in eastern Thrace – Kanlıgeçit – are linked by common traits, e.g. a similar distribution system based on local raw material varieties, on spot knapping activities, flake orientated lithic industry, ad hoc tool making, and typological uniformity (Fig. 3.1–8). Therefore, one can assume that Early Bronze Age lithic assemblages are characterized by low skill technological capabilities, direct percussion techniques, and ad hoc flake tool production. This technology was aimed at obtaining flakes and flake utilization with or without secondary modification.¹⁶

In the assemblages under study, flakes and blades with denticulate retouch prevail from the outset of the 3rd millennium BC. Some of these denticulated pieces are characterized by semi-flat invasive bifacial retouch.¹⁷ Within the assemblages, retouched specimens have been recorded as

⁸ Özdoğan 2004, 19–26.

⁹ Çilingiroğlu – Abay 2005, 12; Çilingiroğlu 2009, 7, fig. 2; Çilingiroğlu 2011, 67.

¹⁰ Gatsov et al. 2009, 35–48; Gatsov et al. 2012, 125–133.

¹¹ Gatsov – Nedelcheva in preparation.

¹² Takaoğlu 2006, 289–315.

¹³ Gleser 2011, 177–204; Gleser – Thomas 2012, 283–295.

¹⁴ Gatsov – Nedelcheva, 2012, 247–251.

¹⁵ Özdoğan 2003, 105–120.

¹⁶ Gatsov – Nedelcheva in print.

¹⁷ Gatsov – Karimali 2007, 393–401.

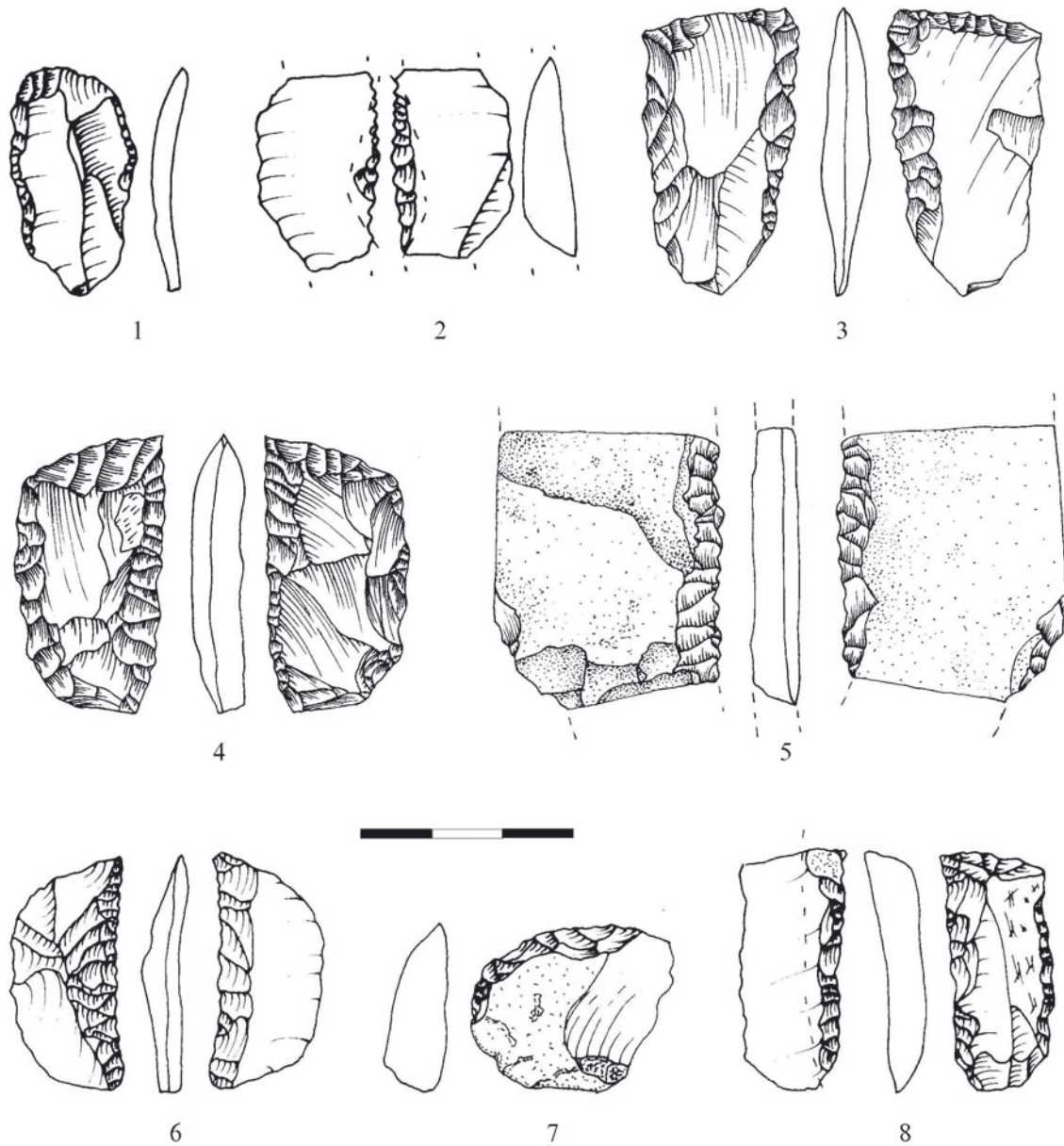


Fig. 3 1. retouched flake; 2–6, 8. denticulated pieces; 7. end scraper on flake; 1–2. Yeni Bademli; 3–5. Troy; 6–8. Kanlıgeçit (Drawings 1–2: P. Nedelcheva; 3–8: I. Gatsov).

single items; as a rule these are atypical perforators and bores, flake end scrapers, irregular blades and flakes with denticulate retouch.

Apart from a few obsidian specimens in the form of small blade fragments and single tools, obsidian cores and core-reduction by-products are missing. Certainly the obsidian was brought to the settlements in the shape of percussion blades. Given the fact that at the settlements under study obsidian artifacts have been found in very small quantities, it can be assumed that the allocation of this raw material was not a high priority for the population in this area during the Early Bronze Age.

At this stage of the investigation it can be stated that the scarcity of evidence for the 4th millennium, especially concerning chipped stone assemblages, stifles interpretations for the territory encompassing the lower Danube to western Anatolia. To what extent this gap is a result of lack of research or other factors is difficult to determine at the moment.

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