

THE FLINT ASSEMBLAGE FROM ORLOVETS–ERENDZHKA

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Abstract

The studied flint assemblage from the Chalcolithic site of Orlovets-Erendzhika, in spite of the modest number of pieces, exhibits interesting techno-typological and functional traits and highlights the issue of in- vs. off-house signatures. The paper focuses on this aspect and offers a detailed description of the artefacts found inside and outside of three burnt dwelling structures. The methods applied include: raw material macro-petrographic discrimination without description provided in the text; techno-typological description, use-wear analysis and comparative observations which lead to some more general considerations.

The tables summarise the general structure of the assemblage, and the frequency of typological tools by categories and utilisation, and the frequency of worked material in relation to artefact categories for both intra- and extra-dwelling contexts. Accordingly, intriguing observations are made on several points relating to whether there was an intentional approach and selection of raw material and typological features of the artefacts involved in household activities and whether the opposition between intra- vs extra-dwelling contexts finds some rational explanation.

Keywords: Chalcolithic – flint assemblage – raw material – in/off-house – technotypological features – use-wear analysis

<https://doi.org/10.53250/stprae15.207-217>

Introduction

The studied assemblage from the Chalcolithic site of Orlovets-Erendzhika consists of 88 artefacts: 23 from the first excavation season (2003) and 65 from the second campaign in 2004. The artefacts were subjected to investigation including raw material differentiation, techno-typological analysis and functional determination. The use-wear observations were made using an MBS 10 microscope at a magnification of x100. The photomicrographs were taken at magnifications of x100 using a Keyence VHX-100 digital microscope belonging to

the Laboratory for Analyses, Conservation and Restoration of NIAM-BAS.

In spite of the modest number of pieces, the assemblage is interesting because of the opportunity to distinguish between artefacts taking part in the household arrangement and those from the outer areas. An additional point of interest is the relative cultural attribution of the settlement's life-span to the Middle Chalcolithic, allowing me to reveal some particular features of the Middle Chalcolithic flint repertoire.

Regarding Stefan Chohadzhiev's paper in this volume, the burnt houses at Orlovets–Erendzhika are of priority interest. In this respect, the flint assemblage will be presented in two aspects: i) the flint artefacts as household elements inside houses and ii) a summarised presentation of the flints outside the houses, *i.e.*, artefacts from the layers and those without clear stratigraphic position. The comparison between the flint items in- and out- of houses will be made with an accent on a particular distinction (if found) between these two groups.

The general observation on the assemblage did not reveal any particular difference within the off-house artefacts and they are presented as a whole. This observation is valid when comparing the artefacts from the topsoil with these from the layers in the excavated squares, as well as for the assemblage of the stratified implements coming from different depths (from 10 to 50–70 cm).

Flint assemblage: general structure

The studied assemblage comprises 88 artefacts assigned to the following techno-typological groups:

Tools – 29

Debitage – 59, including 21 blades, 15 flakes, and 23 fragments and debris.

The general structure of the assemblage shows a balanced ratio between different flint categories with a slight predominance of tools and virtual absence of cores (table 1).

Context	Tools	Blades	Flakes	Fragments and debris	Total	Used
House 1	3	1	-	-	4	3
House 2	6	5	2	4	17	2
House 3	4	-	-	-	4	2
Off-house	16	15	13	19	63	17
Total	29	21	15	23	88	24

Table 1. Structure of the studied assemblage

Flints from the houses (tables 2 and 3)

This group of artefacts is less numerous but is more relevant to the paper's focus. The comparison between them as well as the comparison with the off-house implements is instructive and will be done briefly.

Tool category	House 1	House 2	House 3	Total	Used
Endscrapers	1	3	2	6	4
Retouched blades (unilateral)		1		1	1
Retouched blades (bilateral)	1			1	1
Truncated blades	1	1	1	3	
Burins		1		1	
Fragment of tool			1	1	
Total	3	6	4	13	6

Table 2. Frequency of tools in houses by categories and utilisation

House 1. The assemblage is represented by 4 artefacts among which are found 3 typological tools and one unretouched blade (fig. 1.1–4). There is an endscraper used for scraping hide with 3 working edges, two lateral and one frontal (figs. 1.4 and 3.2); a blade with distal truncation and no traces of use (fig. 1.1), and a blade with discontinuous retouch that served as a sickle insert (figs. 1.2 and 3.1). The only unretouched blade was used for unilateral cutting of hide (fig. 1.3). There is no piece with traces of thermal (heating) alteration. No precise position of the artefacts could be fixed within the household arrangement but obviously the flint pieces were not damaged by the fire. This correlates with the fact that this house shows the slightest traces of burning/fire.

House 2. This assemblage is the most numerous among the houses. There are 17 artefacts belonging to all represented groups: 6 tools, 5 blades, 2 flakes, and 4 fragments and debris:

- The tool category includes 3 endscrapers (fig. 1.11–13), a truncated blade (fig. 1.14), a burin (fig. 1.9), and a retouched blade with unilateral alternated retouch (fig. 1.10);
- The blades are presented by fragments: 3 mesial (fig. 1.8) and 2 distal ones;
- There are 2 flakes and 4 fragments, three of which seem to be from flakes' middle or distal parts, and one is undetermined.

Only two typological tools show traces of use: the retouched blades served for cutting hide (fig. 1.10) while one of the endscrapers was used for cutting and scrapping hide (figs. 1.11 and 3.4).

In this house, contrary to others, more than half of the artefacts (9 of 17: 2 tools (fig. 1.12 and 14), 1 flake, 3 blades, and 3 fragments) show heating alterations of their surface and texture: from light colour change to drastic damage and disintegration of the pieces with whitish visual aspect, which suggests different exposure of the flints to the heat source. Very interesting is a fragmented blade of two refitted pieces which were affected differently by the fire. The two pieces are too small for us to presume that the blade

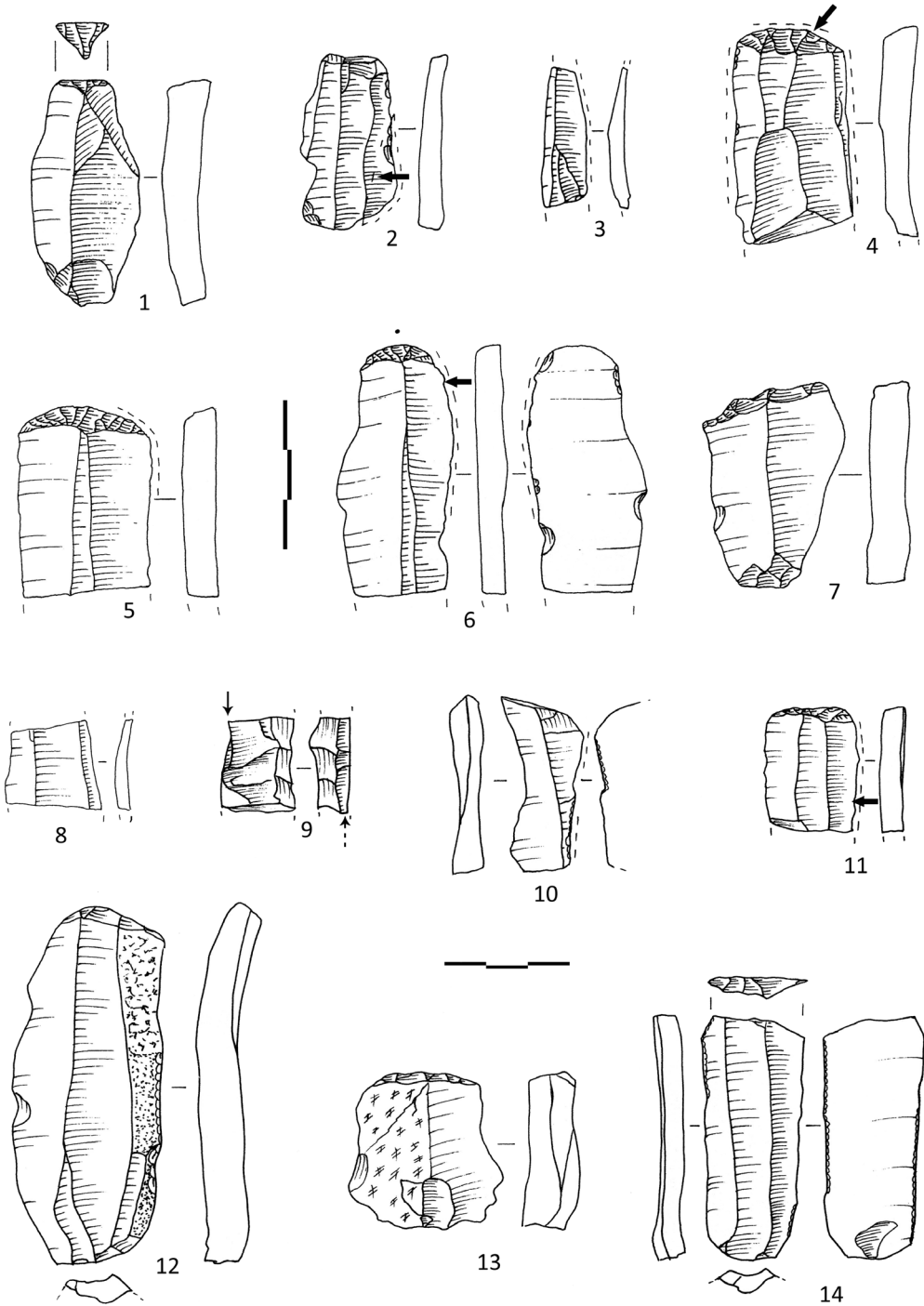


Figure 1. Flint artefacts found in houses: (1-4) house 1; (8-14) house 2; (5-7) house 3. Typological tools: 17, 9-14; unretouched blade: 8. Used parts are marked by dotted line. Drawings M. Gurova.

was fragmented before the fire. More plausibly, the piece was subjected to heating which resulted in subsequent ‘explosion’ and breakage of the blade. Another curious fact is that three artefacts (an endscraper, a flake and an undetermined fragment) were found near the oven but were not affected by the fire. This suggests that in a burnt house, individual artefacts can have different biographies, and the simplistic interpretation of the burnt house invites a re-consideration (for more on heat impact see Gurova et al. 2020).

House 3. The assemblage consists of four typological tools, including two endscrapers (fig. 1.5 and 6), a truncated blade (fig. 1.7), and a tool fragment. The functions of both endscrapers have been determined: the one served for hide cutting (fig. 1.5), and the other for cutting plants (figs. 1.6 and 3.3). The observation on the implements from house 1 is valid here as well: there are no pieces with heating alterations. It should be noted that three of the artefacts were found near the north wall of the building.

Worked material	Tools	Blades	Total
Cereals	1		1
Other plants	1		1
Hide	4	1	5
Total	6	1	7

Table 3. Frequency of worked material in relation to artefact categories in the houses

In order to establish and better understand the specificities of household internal activity, it is necessary to summarise briefly the evidence and observations concerning the flint artefacts discovered outside of the buildings.

Off-house flint assemblage (tables 4 and 5)

The following is a brief summary of the collection numbering 63 artefacts. They come from layers in the excavated squares (ranging in depth from 10 to 50 cm), from profile cleaning and from the topsoil. There is an insignificant difference in the character of the artefacts from the various contexts except the observation that among the debitage, the grey varieties of flint raw material prevail.

Tools – 16

Debitage – 47, including 15 blades, 13 flakes, and 19 fragments and debris.

The *Tool* category comprises several types of tools with a significant predominance of endscrapers – 7 pieces (fig. 2.9, 12, and 13). There are also two retouched blades (fig. 2.10), two splintered pieces (fig. 2.4–5), a truncated blade, a borer (fig. 2.7), a burin, and two tool fragments (table 5). It should be stressed that most of the tools are made of the high quality Ludogorie flint (Ravno type).

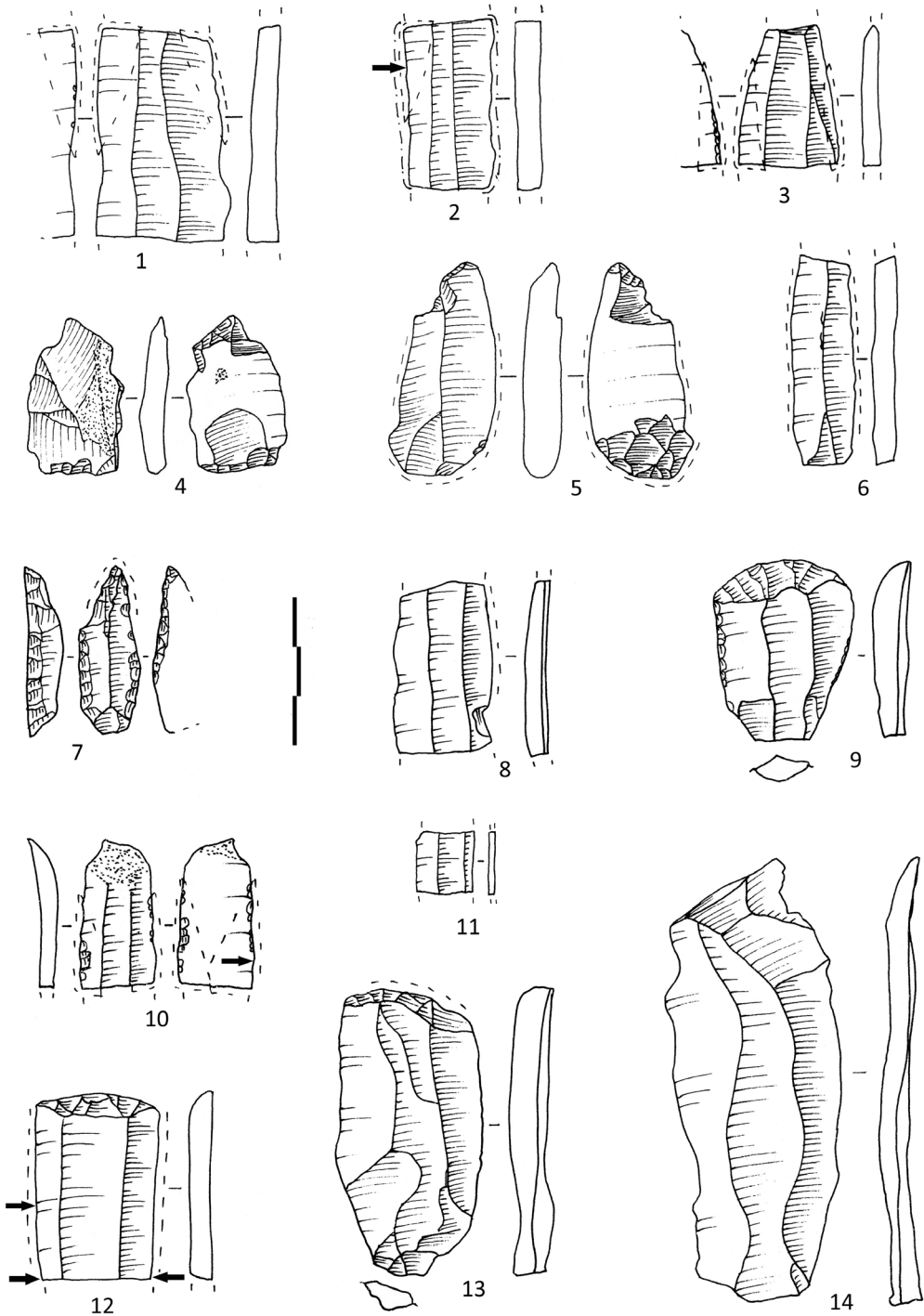


Figure 2. Flint artefacts found out of houses. Typological tools: 4–5, 7, 9–10, 12–13; unretouched blades: 1–3, 6, 8, and 11. Used parts are marked by dotted line. Drawings M. Gurova.

Tool category	Total	Used
Endscrapers	7	4
Retouched blades (unilateral)	1	1
Retouched blades (bilateral)	1	1
Truncated blades	1	
Perforators/borers	1	1
Burins	1	
Splintered pieces	2	1
Fragment of tool	2	
Total	16	8

Table 4. Frequency of tools out of houses by categories and utilisation

Blades (n=15) are represented by two intact pieces, one of which is the biggest artefact in the whole assemblage (8.9 x 3.5 x 0.6, fig. 2.14). Among the fragments, there are four proximal and nine mesial ones (fig. 2.1–3, 6, 8, and 11). The width of the blades varies between 1 and 3.9 cm and their thickness, from 0.1 to 0.8 cm. Trapezoidal cross-sections prevail, the butts are smooth (single-blow made), unreduced and with a ventral angle $\approx 90^\circ$. These parameters indicate the use of debitage produced by the punch technique. Most of the blades are made of Ludogorie flint variety.

Flakes (n=13) are quite amorphous in the range up to 5 cm long and with dominantly broken butts. There are only two flakes made of Ravno-type flint, and the rest are in the greyish variety whose outcrop locations could not be precised.

Fragments and debris (n=19). There are five fragments which could be of flakes (with missing proximal parts, 4 small chips of retouching, 2 burin spalls and 3 undetermined fragments (debris).

The flint assemblage from off-house areas consists of more numerous and varied utilised pieces – 17 pieces (table 5). There are eight typological tools with identified functions as follows:

- 4 endscrapers have been used: 3 reveal traces of hide processing (fig. 2.12–13), one served for cutting plants. It is noticeable that one of the endscrapers shows reutilisation stigma – after being used as a sickle insert with the right proximal edge, the tool was reused as a scraper-shaver for hide with bilateral utilisation in a curved wooden handle (figs. 2.12 and 3.7–8). The reutilisation led to disintegration and removal of the polish of the working edge – a typical feature in the case of such reutilisation (fig. 3.8). Flint implements with traces of the particular scraper-shavers were identified in Chalcolithic assemblages from Bulgaria decades ago by N. Skakun (1993, figs. 3, 4, and 6). This tool category was subsequently determined within recently studied assemblages from the

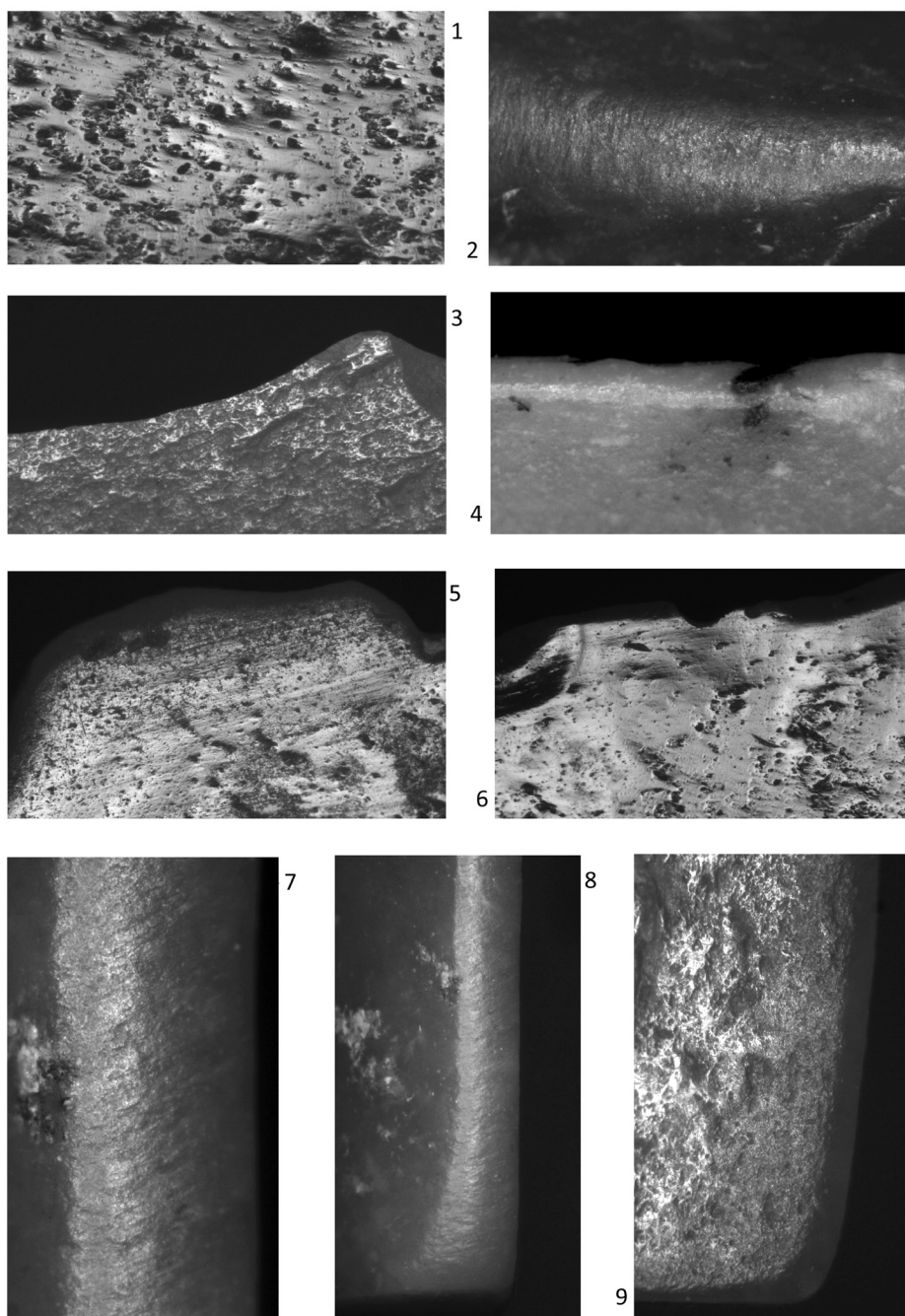


Figure 3. Photomicrographs (magnification $\times 100$) of the use-wear traces on the artefacts. (1) sickle insert (fig. 1.2); (2) scraping hide (fig. 1.4); (3) cutting plants (fig. 1.6); (4) cutting and scraping hide, with residue (fig. 1.11); (5) sickle insert reused as scraper-shaver for hide (fig. 2.2); (6) sickle insert (fig. 2.10); (7–9) sickle insert reused as scraper-shaver for hide (fig. 2.12). Photomicrographs M. Gurova.

Copper Age sites of Ivanovo (Venelinova & Gurova 2010, 70; Venelinova et al. 2012, 73), Targovishte-Garata (unpublished), etc. The reutilisation of sickles into scrapers for hide has been repeatedly attested as well (Gurova 2011a, fig. 4.2; 2011b, fig. 7.5a);

- two retouched blades were used: one as a sickle insert with two cutting edges (proximal parts with diagonal polishes) (figs. 2.10 and 3.6);
- a borer was used for hide piercing (fig. 2.7);
- a splintered piece shows bilateral use for hide cutting and scraping (fig. 2.5).

Worked material	Tools	Blades	Total
Cereals	1	3	4
Other plants	2	1	3
Hide	4	2	6
Meat/fresh hide		1	1
Bone		1	1
Combined function/reutilisation	1	1	2
Total	8	9	17

Table 5. Frequency of worked material in relation to artefact categories out of houses

Among the debitage categories, there are nine unretouched blades with traces of use (6 mesial and 3 proximal fragments). The following functions have been identified:

- there are 3 mesial fragments of blades with bilateral use as sickle inserts (fig. 2.1 and 3); two blades were used bilaterally in hide processing: one for cutting and another, for scraping hide; three blades were used for cutting meat/fresh hide (fig. 2.6), for cutting plants (fig. 2.8), and for sawing fresh bone, respectively. The most interesting piece is a mesial fragment used as a bilateral sickle insert and reused in a scraper-shaver (figs. 2.2 and 3.5). Obviously, this succession of functions concerns unretouched blades as well as typological tools as is the case of the endscraper in figure 2.12.

General observations and discussion

It is challenging and informative to compare both assemblages – in and out of the houses – in order to reveal certain specifics of the pieces in closed house contexts and the ones out of the buildings. This observation is relevant for the distinction (relative, of course) of the different household activities and for the detection, eventually, of some priority in selecting the pieces from the flint repertoire to be in/out of the structures. Intentionality in selecting artefacts may concern both raw material and typological features. The studied assemblages are not numerous enough but nevertheless give some points for reflection in this direction.

From the raw material perspective, it is noteworthy that in both cases, the high-quality raw materials of Ludogorie and especially Ravno type were chosen for tools and blade manufacture. It has already been emphasized elsewhere that this kind of flint started to be used *en masse* and reached a wide-scale distribution during the Chalcolithic (Nachev 2009; Andreeva et al. 2014; Gurova 2011a; Gurova & Nachev 2008). As for the debitage, there is a tendency to keep *ad hoc* production based on local flint resources, which in this case consist of a greyish variety of flint with different knappable properties.

Considering the tool repertoire, it is obvious that among artefacts out of the buildings there is a higher diversity; borer and splintered pieces were attested only here and not in the houses. This fact could be explained with the small total number of tools in the houses, but could be also due to a particular selection.

The use-wear analysis reveals interesting data. The toolkit in the houses consists mostly of specimens used in hide processing (5 pieces), with rather occasional presence of instruments with different functions. On the contrary, in the assemblage out of buildings, the hide treatment is best represented but there are also other worked materials in higher proportion as cereals and other plants. Very intriguing here are the pieces with combined function consisting of sickle inserts reused as scraper-shavers (artefacts with bilateral use inserted in the concave centre of an arched wooden handle (Skakun 1993). There is purely technical explanation for this functional transformation: a sickle working edge becomes smooth and very suitable for hide processing, with no danger that the hide will be torn by the sharp virgin edges. The fact that more used pieces were found in the space out of the houses is easily explainable with the field and house activities whose toolkits could have been kept out of the houses. However, the presence of debitage pieces inside house 2 should not be explained with any functional ‘priority’ of the artefacts; none of the eleven pieces (including blades) has recognizable use-wear traces. Obviously, no direct relation between toolkit and domestic activity could be registered and argued.

The last point that deserves attention is the ‘burnt’ aspect of the flints from the houses. The problem of the deliberate heat treatment is always challenging and provokes additional reflection as in the cases of hoards (caches) and pieces with obvious and intentionally produced coloration effects of the surfaces (e.g., Gaydarska et al. 2012). In this case, however, the state of the ‘burnt’ flints indicates the destructive impact of the fire that demolished the houses themselves (see also Gurova et al. 2020). The heat/thermal impact provokes different modifications and traces on the flints due to the different ‘exposure’ to the heat source in the houses as it was noticed in the section describing house 2 (see above).

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