A FIRST GLIMPSE OF THE ORGANISATION OF SPACE IN THE LATE PALAEOLITHIC OF LATVIA*

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In Western Europe special attention has been devoted to the organisation of the North European Late Palaeolithic sites. Some observations on this topic now have been added from the settlement site Salaspils Laukskola, Eastern Baltic. Two flint concentration places, discovered at the site, are analysed using the spatial distribution of different artifact categories. For the first time in Latvian Stone Age research the use-wear study is applied to the flint inventory, obtained at these two concentrations. Both concentrations, although situated quite close together, differ in terms of the structure of the main types of flint tools and the activities undertaken at the site.

Key words: Late Palaeolithic, Latvia, settlement sites, space organisation, flint artifacts.

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INTRODUCTION

The Late Palaeolithic settlement sites, the flint distribution within these sites and the specific characteristics of the tools and waste can all provide important evidence for interpreting in spatial organisation of the site question and past human behaviour, as well as for better understanding of ancient cultural and social systems.[1] In Western Europe, morphological, technological, functional and refitting analyses have been combined with investigations of intra-site spatial patterns.[2] Special attention has been devoted to research into the Stone Age site organisation, dwelling patterns and hearth places in Poland.[3]

In Latvia such research has not been carried out until now. In the area of present-day Latvia, as in the whole of Northern Europe, the flint finds have been discovered on sandy river terraces without any vertical or horizontal stratigraphy. In spite of the occurrence of numerous stray finds of flint artefacts along the banks of two major rivers, the Daugava and Lielupe, only one settlement site has been discovered, the site of Salaspils Laukskola, which had separate well-defined clusters of flint artefacts.[4] On the sandy terrace of the River Daugava, an Iron Age settlement site with storage pits, ovens, dwelling remains and even burials was excavated.[5] Beneath this cultural layer, deeper in the sand, where more numerous flint finds were registered, the Stone Age research group unearthed six undisturbed concentrations of flint. These concentrations were located in the eastern part of the terrace, at a depth of 0.60–0.90 m from the surface, in some places down to a depth of 1.20 metres. In their upper parts, these flint concentrations measured approximately 10×10 m^2, but deeper down the real extent of the flint 'nests' was revealed: about 4×6 square metres. Deeper finds of flint occurred only in a few separate places. All tools and waste pieces were recorded three-dimensionally and an overall plan of all flint finds was made. No evidence of Stone Age dwelling structures was preserved on the site. No traces of charcoal or ash were found, neither were there any traces of stones encircling tent sites that might be interpreted unequivocally as Late Palaeolithic. In this area, stones of different sizes were found, but these had been used for Iron Age ovens and stoves. Perhaps some of the stones had been taken from Late Palaeolithic structures, destroying these earlier features. Thus,

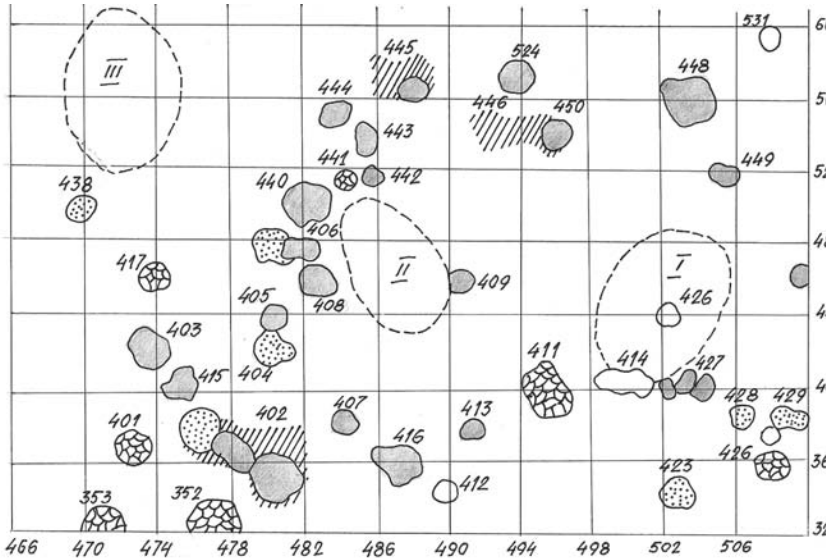


Fig. 1. Part of the excavated area at Salaspils Laukskola settlement site, showing flint concentrations or clusters (I–III)

the main source material for intra-site analysis consists of the field records of the spatial distribution of flint finds and the distribution of different artefact categories. A use-wear study has been undertaken on the flint material from two concentrations (Nos. II and III), the analysis being performed by trasologist M. Winiarska-Kabacińska (Poznan). These two flint concentrations were chosen for closer investigation (*Fig. 1*).

SALASPILS LAUKSKOLA SETTLEMENT SITE

The Late Palaeolithic settlement site of Salaspils Laukskola was located on the 11–12-m-high right bank of the River Daugava. It lies in an area where the steep-sided river valley gradually merges with the sandy coastal lowlands, i.e. the former bed of the Baltic Ice Lake. This is shown by the branching of the River Daugava into several separate streams, by the formation of small islands and by the existence of both lacustrine and alluvial deposits in this region.

The site was located on the earliest terrace of the palaeoestuary of the river. The terrace now has a 1–1.5-m-thick cover of sand with layers of gravel and thin lenses of clay. According to geologists, the occupation could not have occurred before the Middle of the Younger Dryas.[6]

The flint artefacts at Laukskola were found across an area of about 600 × 70 m, some 20–50 m from the steep bank of the river. Six preserved separate flint concentrations (kshemenitsas) were unearthed in the eastern part of this area, within an area of about 90 × 40 metres. The flint 'nests' measured 4 × 6, 5 × 7, 7 × 8 m, and were elongated or rounded in plan. These concentrations were separated by distances of 8–10 metres. In the flint material ready-made tools predominated, as well as prepared blades. The main finds in the waste material were burin spalls and small chips. There were only few cores, mostly with two platforms. High quality flint had been used as the raw material, thought to have been brought from areas outside the present territory of Latvia. The flint was heavily patinated. Similar flint material and artefact forms occur at the very end of the glacial in the basins of the rivers Vistula, Pripet and Nemunas and along the middle course of the River Dnieper, forming the core area of the Swiderian Culture.[7]

The similarity and stability seen in the form of the tools (scrapers, burins and tanged points) confirms that these concentrations are more or less synchronous and had been left by Late Palaeolithic reindeer hunters during their seasonal movements. Some differences between these flint 'nests' have also been observed, in terms of the extent of the flint distribution, the predominance of particular tools in each concentration, the distribution of burnt flint and the degree of use of the artefacts. In our opinion, these characteristics can help us to ascertain the functional significance of each flint concentration, and might reflect economic and social aspects of the earliest human occupation in the area of present-day Latvia.

FLINT CONCENTRATION NO. II

Flint concentration No. II (*Fig. 2*) was located between concentrations Nos. I and III, approximately 8 m from each of them. The flint scatter in this second unit was dispersed in a 4-m-long and 3-m-wide zone, extending down to a depth of 0.70–1.00 m,

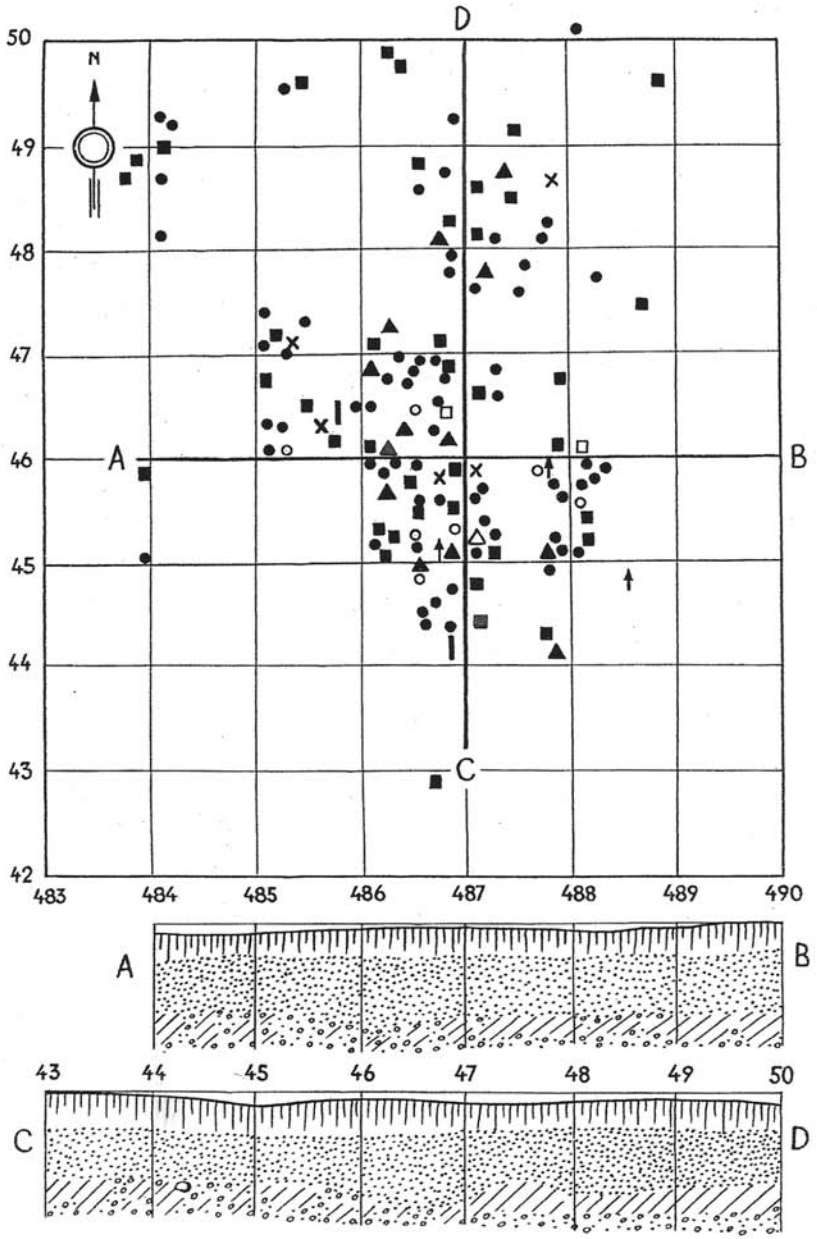


Fig. 2. Flint concentration No. II (denotations: square – scraper; triangle – burin; arrow – tanged point; rectangle – core or core fragment; cross – other find; dot – waste; empty figures indicate burnt pieces)

with some flints recovered at a depth of more than 1 metre. Two smaller groups of flint artefacts were located to the north of the main, largest group. Between these was an empty space, more than 1 m wide (*Fig. 2*). In these two smaller groups, mainly flint blades were found, along with some scrapers and burins. The flint finds in these groups were not so compactly distributed: they were more scattered and concentrated only in the upper part of the sand layer. In the main group, the distribution of flint finds was denser and occurred deeper down, as deep as 1.00–1.20 metres. Burnt flint artefacts were found in all layers, from the surface right down to the bottom.

In this concentration a total of 196 flints were recovered (*Fig. 5 a*), one third of them tools (32%), with blades less numerous (31%), more than half of the material consisting of flakes, burin spalls and very small chips (37%). A feature peculiar to this flint concentration is the presence of two preserved cores and two core fragments, all of them two-platform cores for blades, which were struck from both ends (*Fig. 4: 15*).

Among the artefacts, end scrapers prevail, made on blades and on flakes (*Fig. 4: 7–10, 13, 14)*. Some are elongated, with retouch along the lateral edges. Double scrapers form quite a large group (*Fig. 4: 8, 9, 13*). Some of the scrapers are retouched all around. In some cases, cortex is observable on the scrapers. The number of burins is smaller, and they include angle burins and dihedral burins (*Fig. 4: 11, 12*). Other finds include perforators, knifes and some microburins. The small number of burin spalls corresponds to the small number of the burins themselves. Only three fragmented flint points were found, all belonging to the Swiderian type of tanged point (*Fig. 4: 1, 2*). The uppermost parts of the points have been broken off, and only the lower parts survive. These are the parts with the tang, bearing traces of flat retouch on the ventral surface.

It is not possible to detect differences in terms of the spatial distribution of the different categories of lithic artefacts. All the artefacts, with scrapers and waste predominating, were densely clustered in quite a small area. These artefacts included a large number of burnt pieces. Only the three broken arrowheads mentioned above were found in the south-eastern part of this concentration.

The flint tools were intensively used. The end scrapers that prevail in the assemblage were mostly used in the hide-working pro-

cess, including the cleaning and softening of hides (*Fig. 4: 7–9, 13*). Each phase required proper, effective tools. In this concentration, the activities undertaken were mostly aimed at softening dry hides. The end scrapers, especially the smaller or broken ones, had hafting. Burins were less numerous in this assemblage. They were used for engraving and scraping wood (*Fig. 4: 11*) and bone/antler. In one case, the tool was used as a knife. To sum up, burins were used in multiple ways. Not only the tips formed by removing a burin spall were used: lateral edges were also utilised for scraping or cutting various raw materials. The presence of burin spalls suggests that the used edges of burins were repaired. These tools might not have been hafted, probably due to the kind of work they were employed for. For drilling hard materials a perforator was used, while a few blades fulfilled the function of knifes for cutting soft materials. There is no doubt that the fragmentary tanged points really were attached to arrow shafts and broken in the course of use (*Fig. 4: 1, 2*). All tools were made of imported flint, and include a few made from chocolate flint (a blade, a crested blade, an end scraper and a truncated blade), but of these, only the end scraper had clear evidence of use. The dominance of end scrapers and the fact that they were mostly used for scraping dry hides, the final product of hide-processing activities, suggests a rather long-term occupation by a group of people at the site. It is commonly believed that such activities are labour-consuming and require a specialised category of hafted tools.

It appears that this intensive concentration of flint can be interpreted as marking the position of a hearth. It was smaller than the other flint 'nests', and the flints in the core area were clustered in a zone only 3 m long and 2 m wide. The finds were densely concentrated, and included burnt pieces. Burnt flints were found quite deep, i.e. right down to the base of the concentration. The sand in the area of this concentration was slightly greyish. Thus, this concentration can possibly be explained as all representing one hearth. The only question is whether this concentration relates to a tent structure or whether it constitutes a repeatedly-used area between the tents. Because of later disturbance, it was not possible to identify traces of any structure and thus to have an answer to this question.

On the Pribor 13 and Berezino settlement sites in Belarus, poorly-marked ash sand lenses of rounded outline, 1.4–2.0 m in diameter

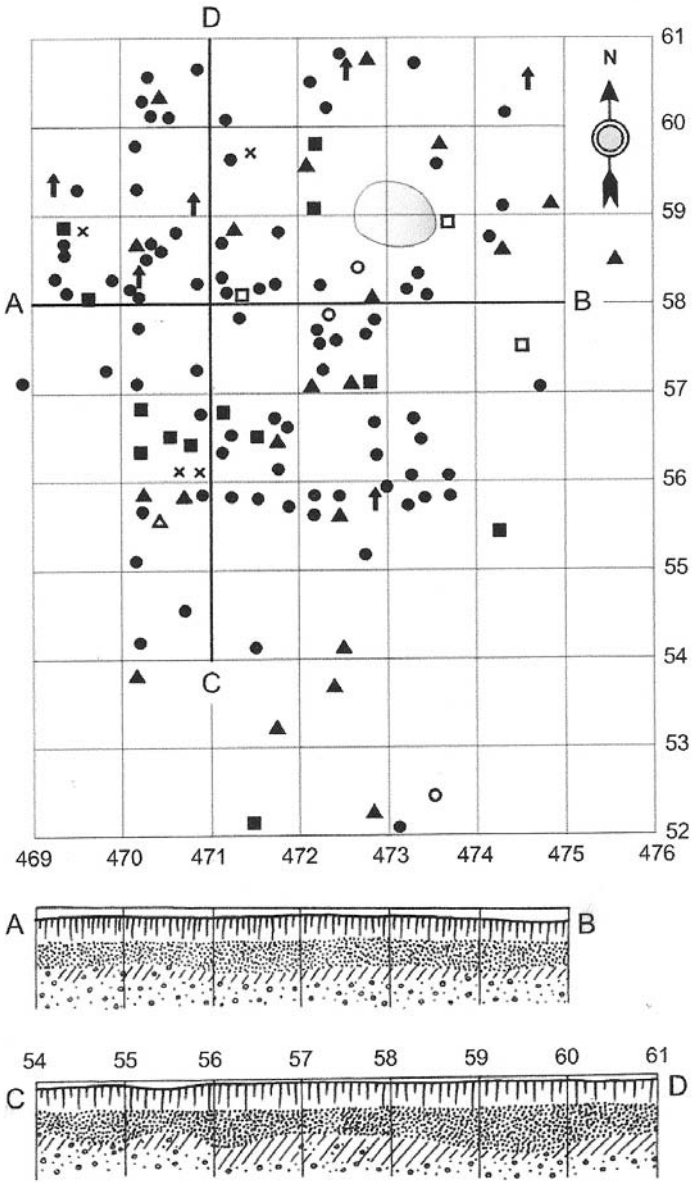


Fig. 3. Flint concentration No. III (symbols as in Fig. 2)

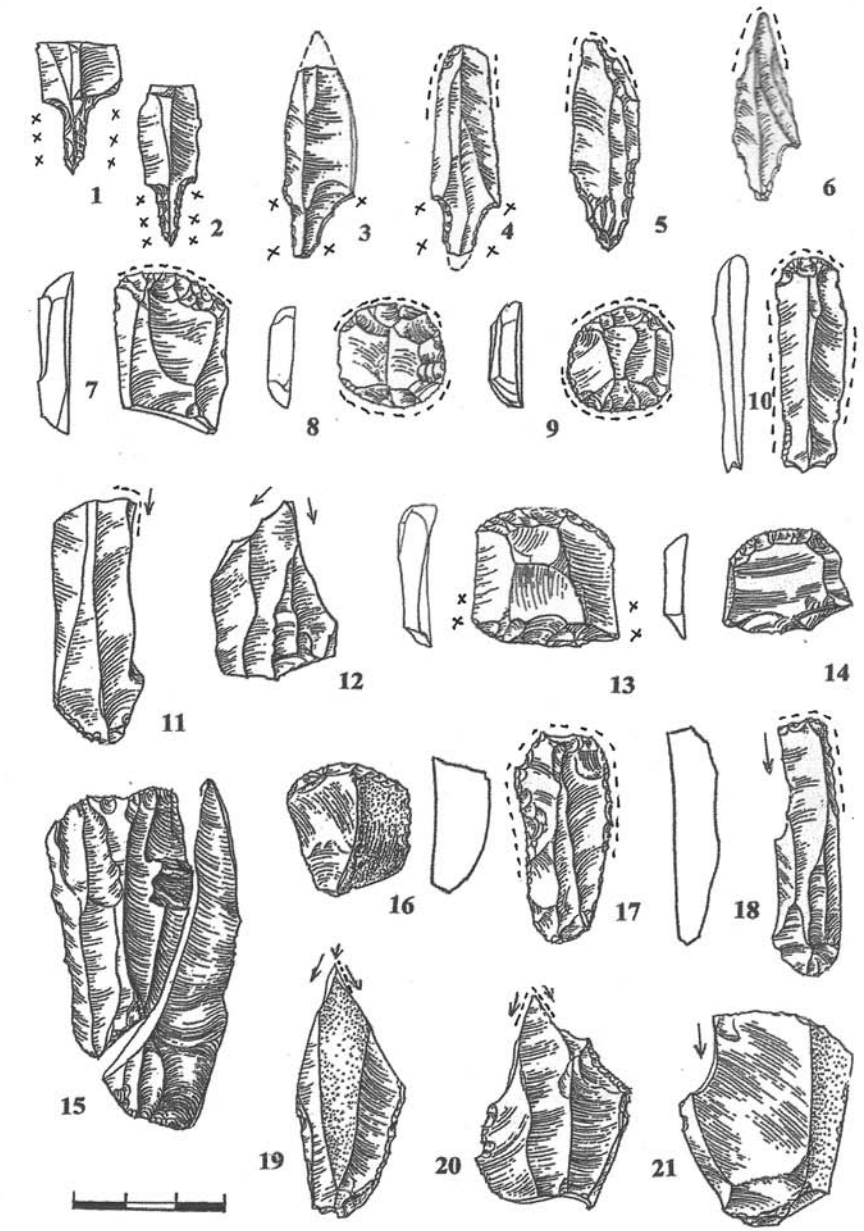
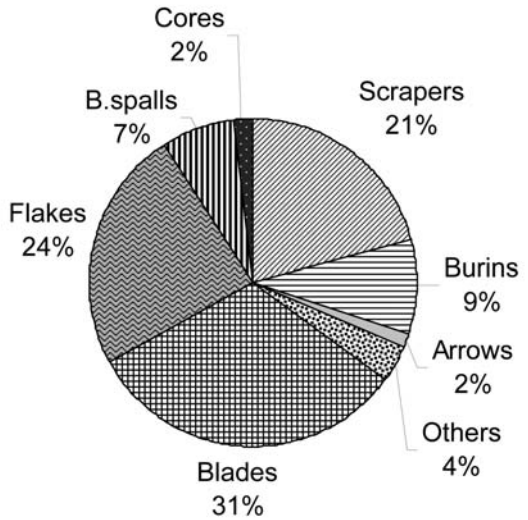
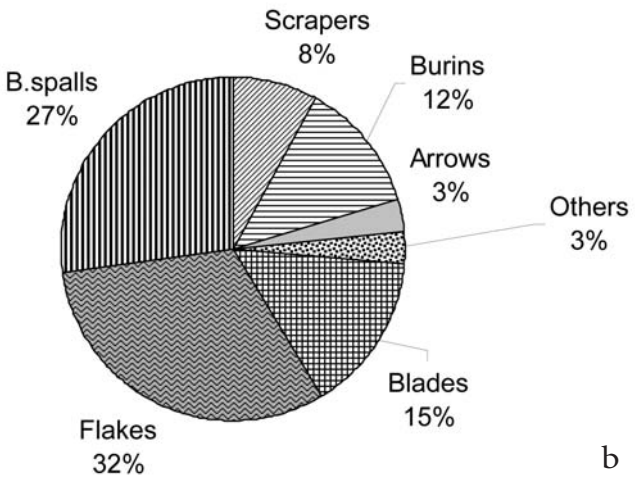


Fig. 4. A selection of flint artefacts. Concentration No. II: *1, 2, 7–15*; concentration No. III: *3–6, 16–21.* Drawing by R. Lazdiņa, wear traces showed by M. Winiarska-Kabacińska



a



b

Fig. 5. Composition of finds in flint concentrations:
a) concentration No. II; b) concentration No. III

and 1 m deep, filled with small pieces of charcoal and burnt flint, were unearthed between the flint concentrations. These sand lenses are interpreted as separate hearth places between the dwellings.[8]

FLINT CONCENTRATION NO. III

The third concentration of flints was discovered about 8 m to the north-west of the above-described concentration No. II (*Fig. 1*). The flints were scattered in light yellow sand, at depths of approximately 0.60–0.90 metres. The scatter of flints constituted a rounded, almost circular feature, 6–7 m in diameter. Only a small number of flints were recovered outside of this circle, to the south (*Fig. 3*). A large, flat boulder was found close to the centre of this circle, a boulder that may have been here since the Late Palaeolithic. This concentration produced a smaller number of flints than the others (only 52 artefacts), and they were less densely distributed within the area described.

A total of 198 flint finds were registered in this concentration (*Fig. 5 b*). About 25% of the material consists of tools. Blades are forming another 15% but the rest is made up of flakes and small chips, among which burin spalls constitute the largest part. No cores or core fragments were found.

In the concentration No. III, burins dominated, corresponding to the high number of burin spalls. These include dihedral (mainly medial) burins, as well as angle burins. Some particularly massive examples bear the traces of multiple blows (*Fig. 4: 18–21*). Among the scrapers, it is end scrapers that prevail. These were prepared on fairly broad, thick blades and flakes (*Fig. 4: 16*). Some of the scrapers are elongated, with all-around retouch (*Fig. 4: 17*). Some combined tools are present: scraper-burins and double burins. Six flint points were recovered in this concentration area. Five of these are tanged points, with one leaf-shaped point (*Fig. 4: 3–6*). Three of the points are broken, namely two have broken tips, and of the third only the lower part survives. All three belong to the Swiderian type, with a tang that shows flat, ventral retouch (*Fig. 4: 3, 4*). The remaining three flint points are complete. Two of these have steep retouch along the sides of the tang, as well as retouch on one side of the upper part of the leaf. Both have flat ventral retouch on the tang (*Fig. 4: 6*). The third, leaf-shaped point had been retouched

only from the dorsal face, with no ventral retouch (*Fig. 4: 5*). The raw material used for the points deserves mention: two of these points (*Fig. 4: 3, 5*) are made from high-quality chocolate flint, occurring in the upper Vistula area.[9]

In this concentration, burins prevail among the tools. They were quite intensively used and repaired, which corresponds to the great number of burin spalls in the assemblage. The upper parts of the burins, formed by removing burin spalls, were used primarily for engraving and scraping bone/antler. The lateral edges were used for scraping bone/antler and cutting other raw materials (*Fig. 4: 18, 20*). One item served as a perforator for hides. These tools most probably were not hafted and can clearly be described as multifunctional. The end scrapers, slightly less numerous in this assemblage, were used for hide processing. In contrast to the second concentration, described above, in this area people were mainly engaged in cleaning hides (*Fig. 4: 19*). A few blades were used for cutting soft materials, and one for scraping an undetermined raw material.

The tanged points were intensively utilised. Two of them, one with a broken tip (*Fig. 4: 3*), the other represented only by the preserved tang, were undoubtedly points. Another tanged point, with the tang partly crumbled away and the tip broken, was initially used as a point, and then as a knife (*Fig. 4: 4*).The remaining two tanged points were used for drilling and engraving bone/antler (*Fig. 4: 5, 6*).

This assemblage likewise consists of artefacts made of imported flint, including a blade, two burins and two tanged points of chocolate flint (*Fig. 4: 3, 5*). All four of these tools were used.

The activities undertaken by the group of hunters occupying this location mainly involved the working of bone/antler. It is commonly believed that such activities were aimed at the production of tool shafts, including parts of hunting equipment. Only the initial phases of hide processing were undertaken here. It seems that this location was occupied for a shorter time.

The flint finds, mainly burins, scrapers and blades, were quite evenly dispersed across the area. No special patterning in the distribution of flint burin spalls was observed. Only the arrowheads, with one exception, were concentrated in the northern part of the feature (*Fig. 3*). Burnt artefacts were very rare, and nearly all were found to the south of the flattened boulder. If this concentration

of flint included an indoor hearth, then it could have been located near this stone. Finds were sparsely distributed within this area. Compared with the other sectors, the distribution of flints was slightly denser in the southern and western parts of the circle. The south-eastern part of the rounded feature were quite 'clean', i.e. completely devoid of flints.

It might be suggested that this nearly circular feature where the flints were dispersed was a living structure – a tent place. In that case, the structure would have been 5–6 m in diameter. The sleeping places could have been arranged on the south-eastern and south-western sides of the feature. The central flattened boulder could be close to the hearth, if indeed there was a hearth. The entrance could have been on the south side, facing the river, as indicated by some separate flint finds. Perhaps there was no indoor hearth, and the inhabitants used the above-described outdoor hearth (flint concentration No. II). This description of the division of the tent is based on general ideas concerning the organisation of space in small dwellings.[10]

In any case, all the data indicate that within this third flint concentration or possible tent location, the initial processing of hunted game was performed and hunting equipment was rejuvenated, and that the tent was used for a single short hunting visit.

CONCLUSIONS

At the end of the Late Glacial, the valley of the River Daugava was the main migration route for reindeer and reindeer hunters into what is now the territory of Latvia. There is evidence of particularly dense occupation along the lowermost course of the river, where the Salaspils Laukskola settlement site was located. Typological uniformity can be observed among all the concentrations identified here, indicative of Swiderian cultural traditions. A study of the horizontal distribution of flint finds in the two flint nests described here did not lead to the discovery of any particular tendencies in the distribution of different artefact categories. It appears that the flint material had been brought to the site in the form of 'ready made' equipment and prepared blades, and that only some rejuvenation work was performed on the spot. Differences between these two 'kshemenitsas' appear in terms of the size of the area of

flint distribution, in the amount of the burnt flint, in the amount of use-wear observable on the flint artefacts and in their functional significance. The hypothetical conclusion may be advanced that one of these concentrations (No. II) could correspond to a single hearth between the tents, used repeatedly for an extended period, while the other concentration discussed here (No. III) represents a rounded tent feature, perhaps used during one short seasonal hunting visit. The other flint concentrations discovered at Salaspils Laukskola have more numerous flint finds and the distribution of flint within these concentrations suggests a more complex history of formation and range of functions.

Both of the concentrations analysed here, although situated quite close together, differ in terms of the structure of the main types of tools and activities undertaken. Both of them, however, constitute remains of visits, whether short or long, by groups of people represented by assemblages with tanged points, whose economy was based on hunting and processing of game. The presence of artefacts made of raw materials imported from very remote regions indicates that this was a very mobile society, while the extremely economic use of raw material confirms that this material was difficult to obtain.

Acknowledgments

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PIRMAIS IESKATS TELPAS ORGANIZĀCIJĀ LATVIJAS VĒLĀ PALEOLĪTA APMETNĒS*

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Dzīves telpas organizācijas problēmām Ziemeļeiropas vēlā paleolīta apmetnēs īpaša uzmanība tiek veltīta Rietumeiropas pētnieku darbos. Austrumbaltijā – Salaspils Laukskolas apmetnē veiktie novērojumi ļauj arī mums izteikt dažas piebildes šo jautājumu risinājumā. Rakstā analizētas divas apmetnē atklātās kramu koncentrācijas vietas, izmantojot dažādu krama rīku kategoriju planigrāfisko izvietojumu. Pirmo reizi Latvijas akmens laikmeta izpētes vēsturē krama materiāla analīzē izmantota arī trasoloģiskā metode. Abas kramu koncentrācijas vietas, kaut situētas tuvu viena otrai, atšķiras pēc galveno krama rīku struktūras, kā arī pēc apmetnē veiktajām aktivitātēm.

Atslēgas vārdi: vēlais paleolīts, Latvija, apmetnes, telpas organizācija, krama rīki.

Kopsavilkums

Senās mītņu vietas, to izvietojums telpā un tajās iegūtie materiāli ir izcils arheoloģiskais avots seno kopienu saimnieciskās dzīves, sociālo struktūru un garīgās dzīves pētniecībā. Rietumeiropā pētnieki arvien vairāk pievēršas akmens laikmeta telpas organizācijas jautājumiem apmetnēs, uzsverot, ka jāņem vērā kramu horizontālais izvietojums apkārtnē, to morfoloģiskā, tehnoloģiskā un funkcionālā analīze. Savu ieguldījumu pašu senāko dzīvojamo mītņu izpētē var dot arī Latvijas teritorijā – Salaspils Laukskolas apmetnē veiktie novērojumi (1. att.). Rakstā analizētas divas apmetnē atsegtās kramu koncentrācijas vietas – otrā (2. att.) un trešā (3. att.) kramu ligzda, veicot gan krama

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atradumu tipoloģisko un planigrāfisko analīzi (I. Zagorska), gan arī iespēju robežās nosakot rīku pielietojumu, t.i., veicot trasoloģisko izpēti (M. Viņarska-Kabacinska), kas Latvijā darīts pirmo reizi.

Otrajā kramu ligzdā atradumi konstatēti apmēram 2 m garā, metru platā joslā, līdz 1 m dziļumam, atradumu starpā daudz degušu eksemplāru. No rīkiem vislielāko daļu veido kasīkļi, griežņu ir uz pusi mazāk, atrasti arī fragmentāri bultu gali, nuklejs un tā fragmenti, šķilas un atšķilas (4. att.: 1, 2, 7–15; 5. att.: a). Kasīkļu pārsvars norāda uz intensīvu jau pažāvētu ādu apstrādi. Šķiet, ka otrajā koncentrācijas vietā bijis ilgstoši lietots pavards.

Trešajā kramu ligzdā atradumi aizņem 6 × 7 m lielu, ieapaļu laukumu, atradumi nav intensīvi un gaišajās smiltīs konstatēti apmēram 60–90 cm dziļumā. Šoreiz atradumos dominē griežņi, mazāk kasīkļu, atrasti seši bultu gali, arī daudz atšķilu no griežņiem (4. att.: 3–6, 16–21; 5. att.: b). Iespējams, ka te bijusi īslaicīgi izmantota telts vieta, kurā iegūtie rīki ir bez ilgstošas lietošanas pazīmēm, kasīkļi galvenokārt izmantoti svaigu ādu apstrādei, savukārt griežņi – kaula un raga rīku veidošanas darbos.

Abas analizētās kramu koncentrācijas vietas, kaut atrodas tuvu viena otrai, atšķiras pēc galveno rīku sastāva, tajās veiktajām aktivitātēm un izmantošanas ilguma. Tomēr abas kramu ligzdas veidojušās seno mednieku īsāku vai garāku pārgājienu rezultātā, pārstāvot t.s. kātveida bultu galu kultūrai piederīgās ciltis, kuru iztikas stratēģija galvenokārt balstījās uz ziemeļbriežu medībām.

ATTĒLI

1. att. Salaspils Laukskolas apmetnes daļa ar I–III kramu koncentrācijas vietu

2. att. II kramu koncentrācijas vieta (apzīmējumi: kvadrāts – kasīklis, trīsstūris – grieznis, bulta – kātveida bultas gals, taisnstūris – nuklejs vai tā daļa, krusts – citi atradumi, pildīti apļi – atšķilas, tukšās figūras – deguši atradumi)

3. att. III kramu koncentrācijas vieta (apzīmējumi – kā 2. attēlā)

4. att. Krama rīku izlase. II kramu koncentrācijas vieta: *1, 2, 7–15*; III kramu koncentrācijas vieta: *3–6, 16–21*. R. Lazdiņas zīmējums, M. Viņarskas-Kabacinskas trasoloģiskie norādījumi

5. att. Krama rīku sastāvs II un III kramu koncentrācijas vietā

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