some animal bones. This deposit accumulated most probably by ash clearing and removal downslope from the hearth.

Other objects. Several animal bones, larger bone fragments and three limestone blocks were found scattered around the hearth. In the upper area lied a shallow hole containing a smaller stone. These objects, however, formed no meaningfull pattern.

The lithic industry (2179 pieces) was distributed equally over the studied space (Fig. 3): the density is lower compared to the 1st unit, but higher compared to the sorrounding area. The share of red radiolarite (2,5 %) remains the same as in the 1st unit, but the share of green radiolarite increases markedly (14,7 %), especially within certain squares (C-16, C-17).

There were 12 cores, but only one of them made of radiolarite. Pre-cores are represented by a single piece with lateral crests. Upper Paleolithic core types, without dorsal preparation, prevail (4 pieces). Furthermore, there was a pyramidal core, a core with changed orientation and a core with rejuvenated flaking platform. The core assemblage is completed by 5 residuals (small prismatic shapes and flat shapes) and by a core fragment. Percentages of flakes and blades (Fig. 12:18, 22-23) are comparable to the 1st unit, but the share of microblades slightly dicreased.

Retouched tools make only 4,4 % of the artifacts (counted without fragments and chips). Within the total of 39 tools only 2 are made of red radiolarite and 2 of green radiolarite. The endscrapers are represented by 4 pieces (Fig. 12:14, 16). Three burins are on broken blades (Fig. 20:18) and four on concave truncations (Fig. 12:15, 19; Fig. 19:15). Outstanding are two transverse burins (Fig. 12:12, 21). Furthermore, there were dihedral burins (Fig. 12:11, 20), a massive combined burin, combination of burin on broken blade with truncation (Fig. 21:13) and two pieces of burin waste.

The most numerous, again, is the group of 11 backed microblades (Fig. 12:2-3, 5-6, 9-10), accompanied by 3 microsaws (Fig. 12:7-8). Further microliths are represented by 2 obliquely truncated microblades (Fig. 12:4; Fig. 20:17), and 2 microblades, with notches both at the basal end (Fig. 12:1) and distal end (Fig. 20:6). The assemblage is completed by a pointed retouched blade (Fig. 12:17), 2 notches and a small chissel.

Other finds. Bone industry is scarce: a handle cut of antler (Fig. 24:7), fragments of an ivory point (Fig. 24:8) and a bone awl (Fig. 24:13). Decorative objects are represented by 11 Dentalia shells and 3 Melanopsis shells (not pierced). Even if the ochre itself was rare (7 pieces), there were 4 fragments of sandstone plates, possibly for grinding.

THE THIRD SETTLEMENT UNIT (SQUARES CC/10-15)

This unit was limited by an oblong space, 6 m x 5 m, with

Fig. 13 (above). 3rd settlement unit, general view. - Fig. 14 (below). Detail of the depression with fox mandibles.

a large hearth in center sorrounded by system of depressions and holes (Figs. 13, 15).

The hearth is oval-shaped, extended along the slope, up to 3 m long and 2 m wide. The ashy deposit reached maximal thickness of 40 cm in the lower central part. In this area, its base filled an oblong pit of 130 cm x 80 cm, and several other irregularities of the surface. The pit contained ashy layer at the base, overlain by clay layer mixed with charcoal and red-burnt loess, and by two continuous ashy layers at the top (Fig. 15). In the higher (eastern) part of the hearth, a thin layer of charcoal and red-burnt loess was deposited on the flat surface and cut into steps by parallel dislocations. Smaller clusters of burnt limestone blocs were dispersed inside of the hearth; the largest piece reached 20 x 20 cm. Two mammoth ribs were placed on surface of the hearth near its northern margin. Most of the lithics found inside the hearth were burnt, and the burnt pieces reach higher percentage even in the vicinity. The charcoal, dated at Groningen, Prague and Illinois, yielded quite different results:

GrN	15 278	27 070 ± 300 B.P.
CU	747	24 513 ± 876 B.P.
ISGS	1 899	22 630 ± 420 B.P.

The depressions. Attached to the lower margin of the hearth (square D-12) lied a shallow bowl-shaped depression with 1 m in diameter. It contained 8 smaller stones and fragments of bones, including three fox jaws (Fig. 14). Lithic industry included 2 burins (Fig. 20:30), three short pointed blades, a core reutilised as splittered piece (Fig. 20:28) and 60 other artifacts. At the right border of the pit lied a piece of stone plate and a rib, and at the left border fragment of a pebble. The plate fits with another piece found at the other side of the hearth, and fragments of the same pebble were scattered around the hearth as well. These refittings, witnessing the unity of activities in this area, are indicated by the interrupted lines on Fig. 15.

Two irregular depressions with charcoal were located on both sides of the bowl-shaped depression, in the distance of 30 - 40 cm. The right one (square D-13) contained mainly a group of three vertebrae, and the left one (square D-11) yielded other animal bones and some ochre.

Charcoal deposit. A loave-shaped, thick ashy deposit lied near the left border of the central depression. It resulted probably from removal of ash from the hearth, similarly as in the 2nd unit, but it is more voluminous.

Holes. The lower half of the hearth is sorrounded, in the distance of 0,5 - 1,5 m, by an irregular semicircle of 6 kettle-shaped holes. The holes are about 20 - 40 cm wide and up to 40 cm deep. They contained smaller bones and few lithic artifacts, including some remarkable blades. M. Pawlikowski sampled the filling, the marginal zone and the subsoil of one of the holes for microscopic examination. He observed no thermal

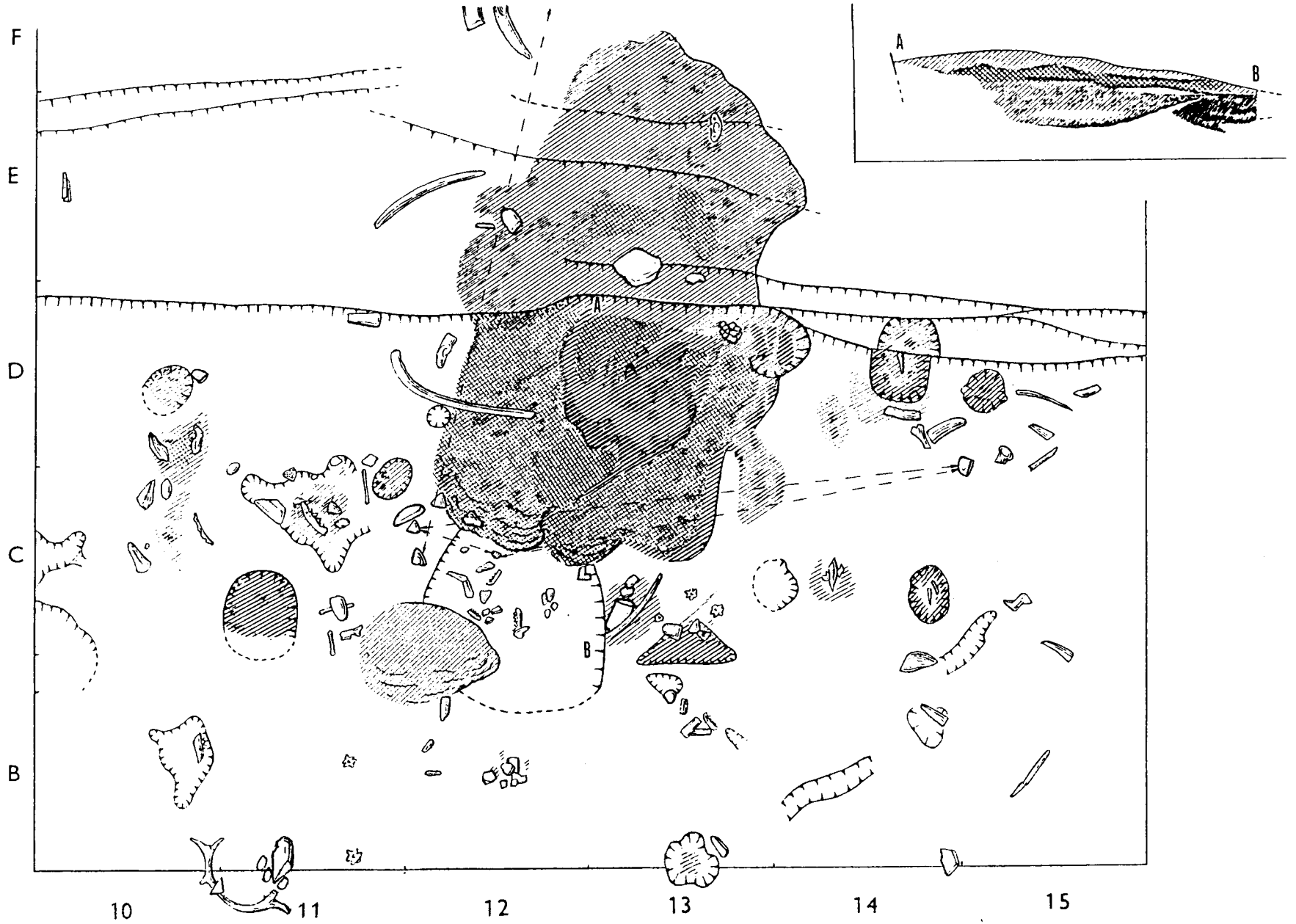

Fig. 15. 3rd settlement unit, plan and section of the central hearth (AB).

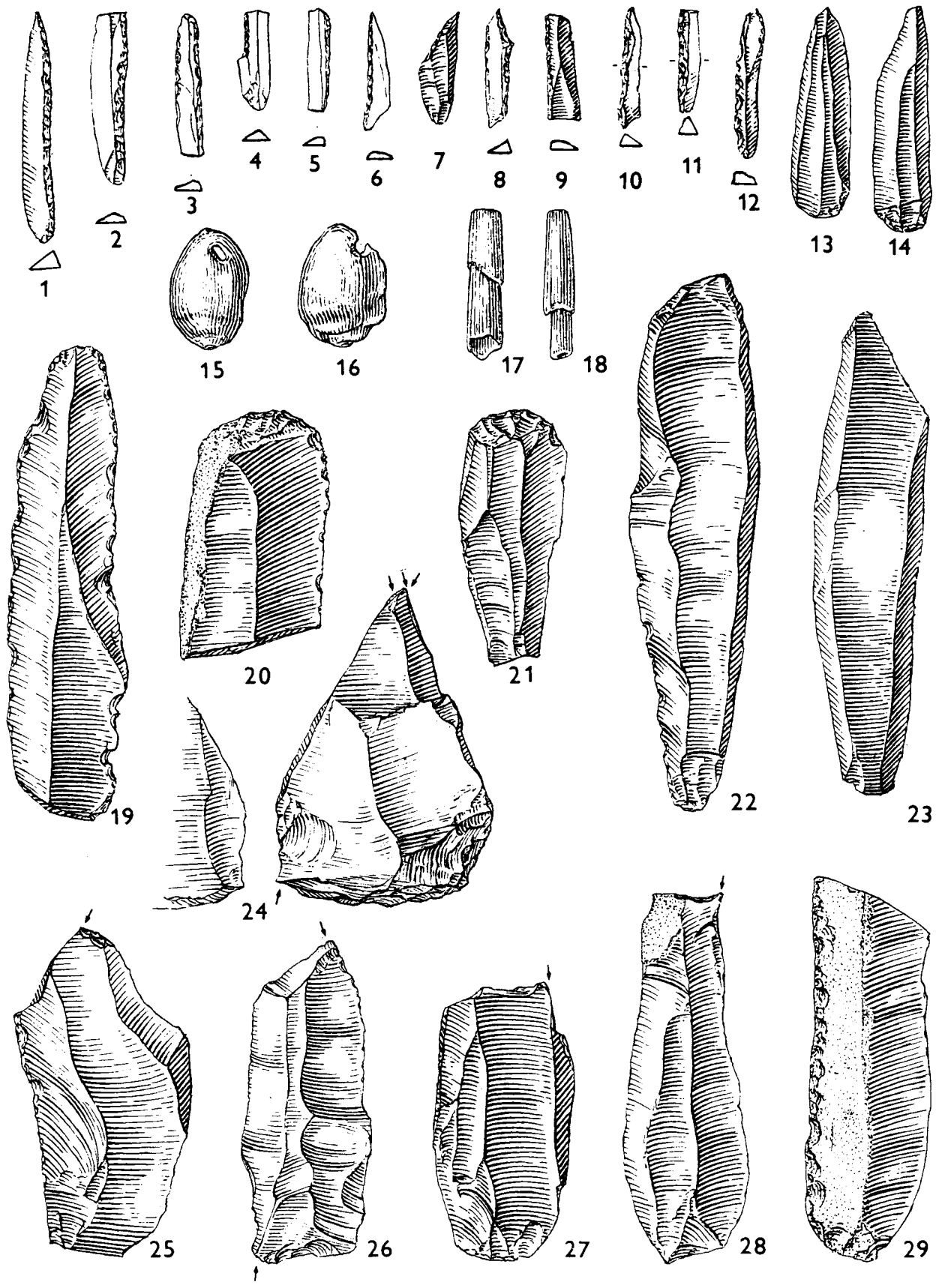

Fig. 16. 3rd settlement unit, selected artefacts.

changes in the subsoil and concluded that there has been no active fire inside the pits. The filling (charcoal, bone fragments, redeposited loess, burnt silices) is, after M. Pawlikowski, of allochtone origin.

The lithic industry (total of 2851 artifacts) was concentrated in the left (northern) part of the area of the unit mainly (Fig. 3). This cluster continues to the NW, outside the delimited area. We may expect intensive activities in this space, related to the shallow depressions at the hearth, and to possible entrance. It should be noted that in the NW direction opens the optimal view to the Dyje valley.

The silicites predominate totally. Compared to the 2nd unit, share of red radiolarite increased to 4,8 %, while share of green radiolarite reaches a mean value of 9,5 %. The both raw materials were distributed rather equally. The core assemblage is relatively numerous (25 pieces), but raw materials other than flint (red radiolarite) are solitary. There are three pre-cores (with lateral crests or with large parts of preserved natural surface). Among the cores under exploitation, the prismatical and cubical shapes, both uni- and bipolar (Fig. 17:6) are slightly more frequent compared to the other units (3 pieces). The most numerous (8 pieces) are nevertheless the Upper Paleolithic-type cores, mostly unipolar, without dorsal preparation (5 pieces), with dorsal crest (2 pieces) or basal crest (1 piece). The technological process is completed by 4 residuals of flat or small prismatic shapes, a flat core residual used as splittered piece (Fig. 18:28) and core fragments. Appearence of the various types of flakes and blades (Fig. 16:13, 14, 19, 22, 23; Fig. 18:11, 13) is identical with the 2nd unit.

The low share of retouched tools (4,9 %) may be compared with the 2nd unit as well. Out of 59 tools only 6 are of green radiolarite and 1 of red radiolarite, while the others are of various flints. Endscrapers are slightly more numerous than in the other units (3 blade types, Fig. 16:20-21, 1 unguiform) and some are combined with burins (3 pieces, Fig. 18:2, Fig. 19:9). The burin group is even larger and most of them are on broken blades (Fig. 16:27). Less frequent are burins on truncations, of convex (Fig. 16:25), straight, concave (Fig. 16:28) or double (Fig. 20:36) shapes. The dihedral burins are variable as well: symetrical (Fig. 20:30) and asymetrical, simple and double (Fig. 16:24). The burin group is completed by a combination of truncated/broken edge burin (Fig. 16:26), by two larger burins on a fragment and on a massive flake, mostly of dihedral type, and by 4 pieces of burin waste. Besides small points with straight back (Fig. 16:6), there was one larger La Gravette point (Fig. 16:1) and a small backed point with a gibbosity (Fig. 16:8). The group of backed implements is completed by 9 microblades (Fig. 16:2-3, 5, 9-12).

Larger blades are retouched unilaterally (2 pieces, Fig. 16:29) and bilaterally (1 piece). Truncations on blades are concave, convexe and oblique; an oblique retouche appears on

a microblade as well (fig. 16:7). Further 5 blades and 1 flake possess notches; a lateral notch, both at the basal and distal ends, was applied on microblades (Fig. 16:4). The tool assemblage is accompanied by a massive bec (Fig. 20:38) and by a splittered piece.

Other finds. The bone industry comprises fragments of an ivory point (Fig. 24:11) and of a bone awl. Compared to the other units the chipped mammoth bones become more frequent; two of them lied directly inside of the hearth. Some of these bone fragments are retouched (Fig. 25:4).

Alltogether 11 Dentalia shells were found, and in 2 cases two and two pieces have been inserted in each other (Fig. 16:17-18). These shells were distributed in the northern part mainly, similarly as the lithics. Three Melanopsis shells, all pierced (Fig. 16:15-16) were dispersed in the area, together with another Tertiary mollusc shell. The ochre was markedly numerous: besides a larger ochre plate there were 44 smaller pieces. Sandstone plates were frequent as well: 5 were sharp--edged fragments and 4 were oblong, with rounded edges, of a kind which is absent elsewhere. Some of them show traces of pounding along the edges (Fig. 21:3).

AREA OUTSIDE THE SETTLEMENT UNITS

Southern field. Southern end of the settled area is divided into steps by dislocations. An irregular depression with unclear margins lied on the lower step, near the 1st settlement unit (area of square Aa-23). It contained numerous bones of smaller animals and artifacts. Higher, in the area of square C-23, was found a small kettle-shaped hole with cummulation of bones and 2 limestone fragments around. Two large mammoth bones lied along the southern margin of the settled area and a carnivore skull at the eastern margins. This "centrifugal effect", i.e. location of larger objects in marginal parts of settlements, is repeatedly observed in certain Upper Paleolithic sites. At the same time, density of small lithic industry dicreases towards the margins, especially to the SE (Fig. 3).

Northern field. No remarkable features were observed in this area. At places (squares D-2, E-6) the charcoal and objects were cummulated; bones and stones were scattered; at the northern margin, again, some larger mammoth bones and heavier artifacts appeared, such as a siltstone core or a pebble with traces of utilization (Fig. 21:1). The density of lithics decreases in the direction to N (Fig. 2, Fig. 3).

Western field. A zone 3,6 m wide at the western margin of the etage, separated by disturbance 10,5 m wide, was investigated. Several depressions with charcoal seem to be due rather to irregularity of the original surface than to artifical features. Their outlines were not clear (cf. squares Y-18, Z-17). Animal bones lied scattered around the square Z-14, while lithics were most numerous in the zone of squares X-18 to X-21. Thus, no coincidence between the terrain features