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A LATE PALAEOLITHIC AND MESOLITHIC SITE AT WITÓW,  
DISTRICT ŁĘCZYCA

From the area of Central Poland numerous Late Palaeolithic and Mesolithic sites are known. The sites, mostly situated on deflated dunes, have yielded flint artifacts alone, whereas relics of organic material and traces of culture layers were absent. Single objects of bone or antler have also been found, yet usually without flint artifacts. The Tardenoisian grave at Janisławice, district of Skiernewice,<sup>1</sup> is exceptional in this case. Assemblages of flint implements from dune sites of Central Poland were mainly discovered during surface examination and for this reason lacked stratigraphic observations. Consequently, various methods offered by natural sciences and particularly by pollen analysis could not be applied for chronological determinations. Hence the chronology of the finds was defined on the basis provided by typological and comparative analyses alone.

The investigations of the site at Witów were undertaken in 1955 by the Palaeolithic Department of the Archaeological and Ethnographical Museum in Łódź. We hoped that the obtained material and observations will allow the dating of flints artifacts from Witów by means of methods offered by natural sciences, the more so, since the dune of Witów is situated in the close proximity to two peat-bogs. In 1937, during the exploration of peat, 4 antler spearheads and fragments of antler were discovered there.<sup>2</sup>

The site of Witów lies in the foreland of the Upland of Łódź, between its northern edge and the Warsaw—Berlin *pradolina* (Urstromtal — glacifluvial valley). The region is marked by dunes and sandfields, separated by isolated clay patches and swampy spots. The dune with the site forms a bow-like ridge, whose chord is 4 km. long. It lies close to the northern border of a water reservoir, named “Silne Błoto” (Strong Bog). The bog, stretching from SW to NE, measures about 300 m. in length and in some places reaches similar width.

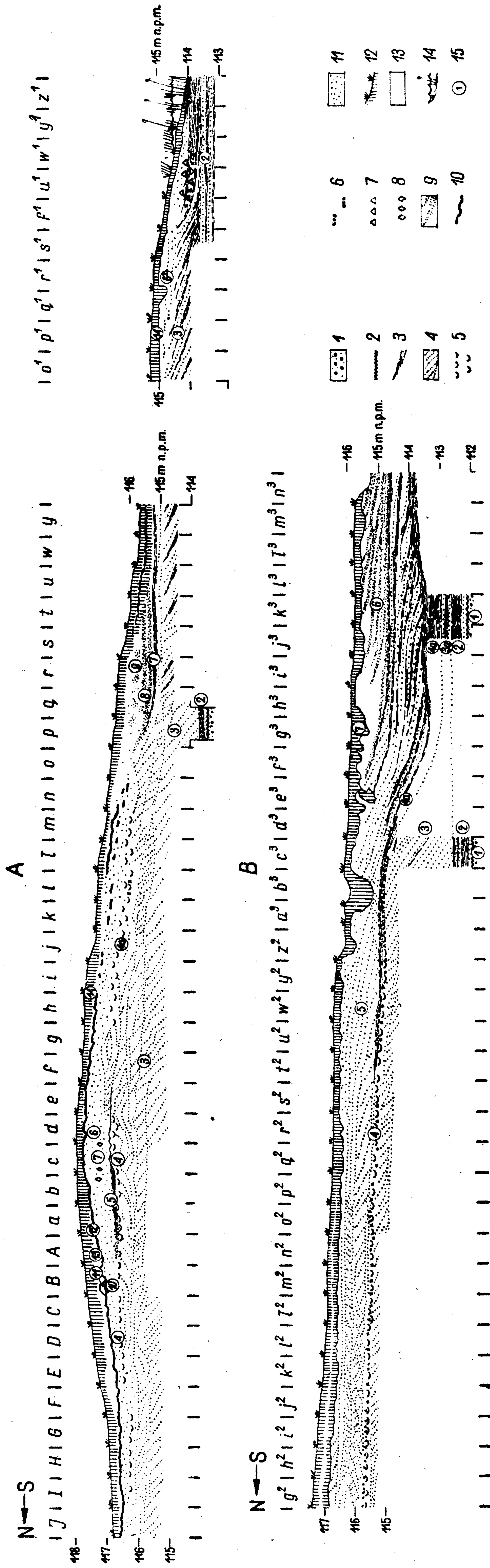


Fig. 1. Witów, site 1. Section through the dune in the metre 60 (A) and in the metre 263 (B). (Drawn by A. Puksza)

1 — sand with gravel; 2 — layer of mossy peat; 3 — Gytja and similar formations; 4 — fine-grained stratified sand; 5 — whitish sand (Alleröd soil); 6 — charcoal;  
 7 — pine-cones; 8 — artifacts of Upper Astartian flint (Middle Swiderian level); 9 — culture layers; 10 — ferruginous crust; 11 — fine-grained structureless sand;  
 12 — soil; 13 — whitish-greyish sand (subsoil); 14 — water level in "Silne Błoto"; 15 — numeration of layers

Some 700 m. to ENE of "Silne Błoto" another peat-bog, though considerably smaller in size, is lying. It is named "Małe Błoto" (Small Bog). Against it lies the head of the Witów dune, considerably deflated and broken into several residual hills, separated by deflation hollows. Within the hollows, several Neolithic and Mesolithic flint artifacts have been found. This is site 2 of Witów.

The investigations carried out in the period 1955—1960 comprised an area covering 1715 square m. The excavations were carried out in three places. The largest excavation area, situated on the ridge of the dune, was designated the "Main Cutting". In the western part of the site, close to the peat-bog, an area of 200 square m. was examined. The trenches dug here were named "Cuttings by the Bog". A small trench, named "Cutting by the Bridge" was located in the eastern part of the site, near the ditch which drains "Silne Błoto".

In numerous sections, intersecting the dune from N to S, its sandy deposits were correlated with the organogenetic deposits which occur on the southern slope of the dune, near "Silne Błoto" (fig. 1). These deposits produced materials for pollen analysis which has allowed to date the numerous flint assemblages discovered on the dune of Witów. The "Cutting by the Bog" is particularly significant in this respect. The pollen diagram obtained in this portion of the site, worked out by K. Wasylikowa, provides us with information on the sequence of flora in the discussed area from the close of the Oldest Dryas time to the beginning of the Holocene. In the "Main Cutting" a few deep shafts were dug. They yielded organogenetic formations, dating from the close of the Oldest Dryas time and from the Bölling oscillation. From north-west these deposits were superimposed by two dunes: the lower in the Older Dryas time and the upper in the Younger Dryas time.

The first concentration of flint artifacts was found in the eastern part of the "Main Cutting", in 1955—1956.<sup>3</sup> The considerable majority of flint artifacts contained in the concentration appeared within structureless sand, designated on the profile as layer 7b. The diameter of the concentrations which may be encircled by an oval line measured some 5 m. There were approximately 60 relics to one square metre. Two such concentrations were revealed in layer 7b. Where the top layers of the dune have been stripped and deflated, the artifacts appeared on the surface. The top layers of the dune consist of: modern soil (layer 14), whitish-grey subsoil with a purple shade (layer 13), underlying ferruginous crust (layer 12), ancient subsoil, preserved but in parts in the NE section of the "Main Cutting" (layer 11), and another ferruginous level (layer 10), only partly preserved in form of isolated patches and sometimes connected with layer 12.

The flint artifacts derived from these concentrations are chiefly made of erratic flint. They exhibit a microlithic character. Cores are short, predominantly with several platforms, then with single platform (fig. 2: 1), while only few have two platforms. They are considerably worn. Among the implements,

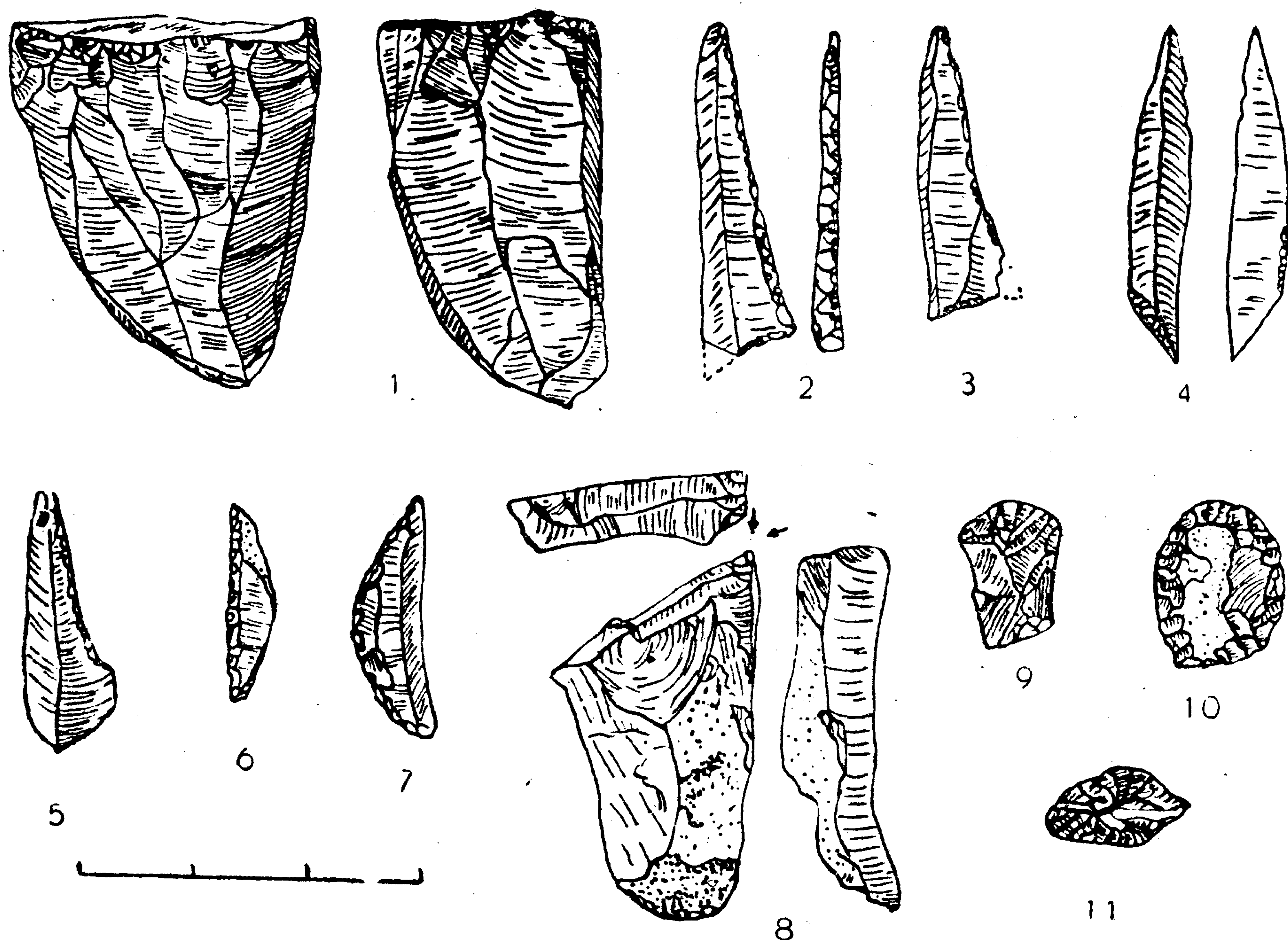


Fig. 2. Witów, site 1. Flint artifacts from layers 7b and 8. (According to W. Chmielewski drawn by A. Puksza)

the scrapers, mainly round and semi-round (fig. 2: 10), predominate in number. They are accompanied by curved or straight end-scrapers on shortened blades (fig. 2: 9).

Burins are less numerous than scrapers. Among them, there occur massive burins with facets on squat flakes (fig. 2: 8), sometimes rejuvenated.

The group of points comprises small microlithic forms. Small tanged points are also encountered. They are retouched almost round the whole edge, sometimes showing a surface retouch near the bulb of percussion at the bottom side. Other types of implements, like awls and concave scrapers, are represented by single specimens.

Some 4 m. to the S of the described groupings we have encountered traces of post-holes, which marked the outline of an oval hut, possibly associated with the concentration of flint artifacts. Inside the hut, only a very small number of mainly untypical relics were found.

The association of groupings from layer 7b with flint artifacts discovered in layer 8, in the margin of site 1, cannot be excluded. Layer 8 consisted of somewhat peaty sand, blackish in colour, with considerable amount of charcoal dust and crumbs. Its thickness ranged from 2 to 6 cm. It appeared in all trenches dug in the marginal sections of the "Main Cutting".

The implements from layer 8 comprised short scrapers and microlithic geometric points. The absolute lack of trapezes is notable.

Still another assemblage of microlithic character was revealed in the western part of the site, in layer 6 of the "Cutting by the Bog". A small area of some 50 square cm. has yielded 5 microlithic geometric points. On account of the small number of relics found in this Cutting and the limited size of the uncovered area, it is difficult for the present to define the relation of this find to the microlithic assemblages from the eastern and south-eastern section of the "Main Cutting". From the observation of profiles and from the pollen analysis of the "shaft" in the "Main Cutting" and of the "Cutting by the Bog" the inference may be drawn that the mentioned assemblages developed in the Early Holocene and represent a group of the Tardenoisian culture.

To the west of the above discussed concentrations from the eastern part of the "Main Cutting", we have encountered slight traces of a culture layer, represented by greyish sand filling up a trough-like cavity. Within it appeared groups of flint artifacts, chiefly of the Upper Astartian material. They comprised tanged points with differentiated tangs (fig. 3: 1, 2, 3), side and middle wedge burins on blades or on massive blade flakes (fig. 3: 5, 7) angle burins (fig. 3: 6) blade scrapers and squat scrapers on flakes (fig. 3: 8—10), some double-ended (fig. 3: 11). Cores are scarce in this assemblage. The revealed cores present a relic form, are heavily worn and usually have two platforms.

The described types of implements are associated with the Middle Swiderian (Pludy) assemblages, marked by the occurrence of tanged points with differentiated tangs and of squat massive scrapers.

Layers of sand with remains of organic material were observed in the southern marginal portion of the "Main Cutting". They yielded single crumbs of charcoal together with flint artifacts, typologically associated with the Middle Swiderian assemblage found in the eastern part of the "Main Cutting". Similar traces of Swiderian occupation were encountered in the "Cutting by the Bog".

Remains of a culture layer, designated on the plan as layer 7, were discovered about 20 m. west of the described concentration of Swiderian artifacts. In ground plan the layer stood out as a belt, 5 m. wide, composed of sand with an admixture of small crumbs of charcoal. It was 15 cm. thick. Its appearance was particularly distinct in the western section of the "Main Cutting". Within layer 7 several groupings of worked flints were disclosed. The proportion of Upper Astartian flints is here rather considerable, though lower than in layer 7a. The inventories from the two layers differ also in types of implements. In the inventory from layer 7, the elements characteristic of the so-called Tarnowa industry clearly preponderate. It comprised numerous short scrapers, round and semi-round scrapers, a few end-blades, double scrapers on short blades or flakes, small number of small backed points, besides angle and wedge burins, often with several facets. Apart from flint artifacts, two small sandstone slabs

were found. They showed grooves left by the polishing of objects of wood, bone and antler. Half-finished products were mainly represented by flakes. Tanged points were missing.

Similar to layer 7a, layer 7 also occurred within sand, yellowish-brown in colour and stratified in places (layer 6 in the profile). For the present it is difficult to define which of the layers is older. Since single specimens of tanged points, typical of Swiderian assemblages, were found slightly above the remains of culture layer 7, it is permissible to suppose that the Swiderian assemblage is the younger.

A trial trench, dug in the central section of the dune ridge at the close of the 1956 season, has yielded more pronounced traces of another culture layer (layer 5). A portion of this layer was lying beneath layer 7, separated from it by a horizon of sterile sand of layer 6, about 30 cm. thick. This isolating layer of sand thinned out in some places, whereas in others, insignificant in size, both layers merged.

The uncovered top of layer 5 formed a concentration of greyish and blackish stains. The blackish colour was due to the considerable admixture of charcoal crumbs and dust. The examinations have revealed that the concentrations of dark patches which formed elongated oval figures are the remains of dwelling objects, namely of huts. Outlines of four huts have been brought to light. On the margin of dark patches, which marked the extent of the culture layer of particular huts, traces of small, mainly oval, shallow holes were revealed. The holes are doubtlessly connected with the building of huts. The least regular distribution of holes was observed at the north wall of the huts, where the culture layers were heavily destroyed by later vegetative processes of great intensity. Traces of single holes, occurring in central parts of huts, suggest that the roofs were supported by poles.<sup>4</sup>

Each hut yielded remains of a hearth and in hut 2 traces of 2 hearths were found. The structure of hearths consisted of a pit (in huts 3 and 4 and the western hearth in hut 2) or of two pits, either connected with a groove (in hut 1) or not (western hearth of hut 2). The depth of the hearth-pits varied from 10 to 20 cm. below the bottom of the culture layer of a hut. No stones were used for the building of hearths. The hearth-pits were filled up with charcoal mass.

Apart from post-holes and hearth-pits, several pits, some considerable in size, were revealed inside each hut. The longitudinal axes of all huts were orientated from east to west. The huts were rather spacious. Their respective lengths are: hut 1 — 9 m., hut 2 — about 13 m., huts 3 and 4 — about 14.5 m. From the arrangement of relatively shallow post-holes it follows that the huts were built with the use of poles, whereas in shape they were similar to a gabled roof. They were overground structures built on the surface of the ancient soil. Only the pits and post-holes had cut through the bottom of the Alleröd soil. Outside the south wall of hut 4, the remains of Alleröd soil with remnants of culture

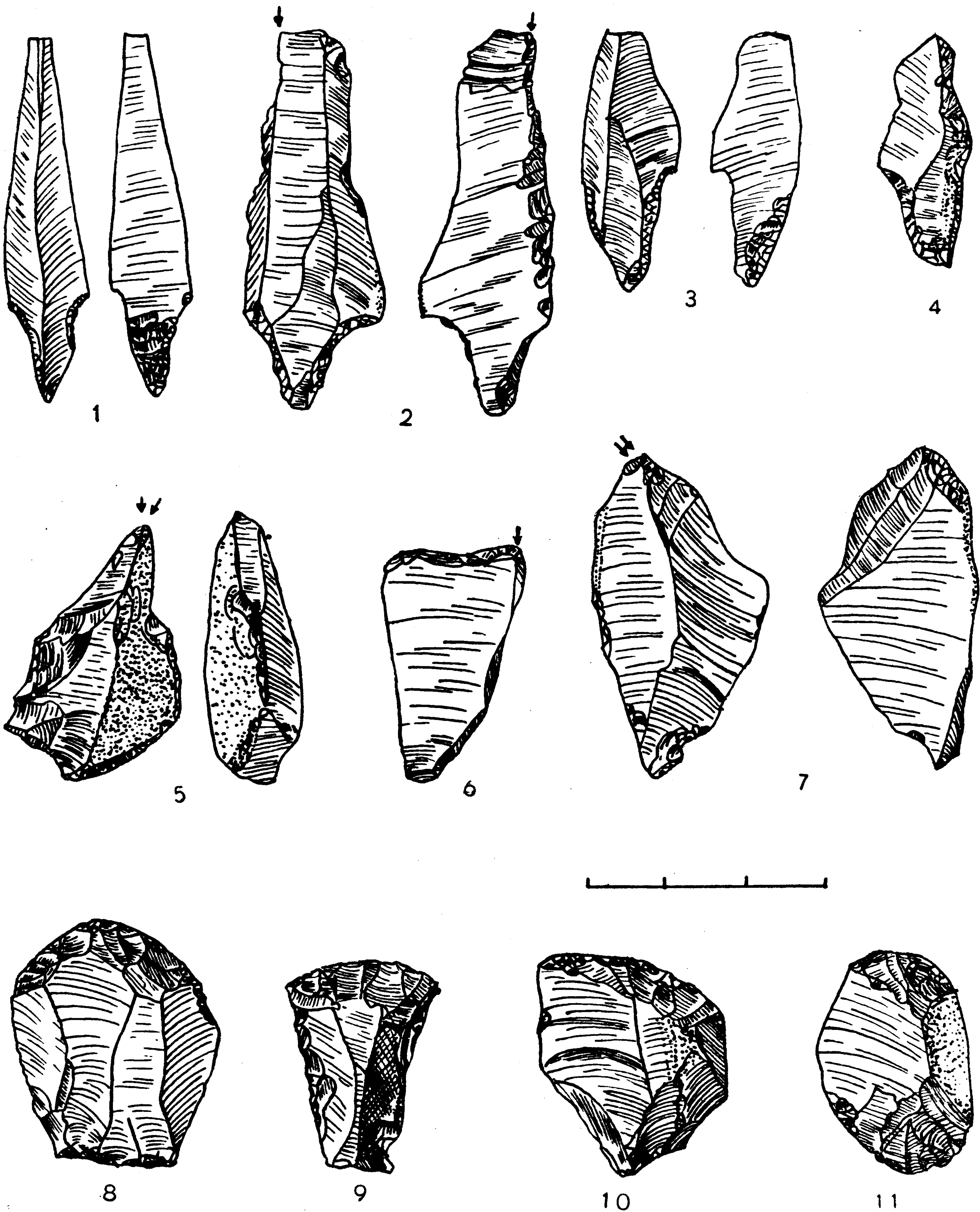


Fig. 3. Witów, site 1. Flint artifacts of the Middle-Swiderian assemblage from layer 7a. (According to W. Chmielewski, drawn by A. Pukszta)

layers from the hut were disclosed. All flint relics were found inside the huts. On the outside, only a few specimens were found. This fact and the presence of hearth within the huts indicate that they were occupied during the winter.

Archaeological material found within huts comprised flint artifacts, small lumps of haematite, small crumbs of amber, scarce fragments of sandstone slabs, quartz pebbles and their crumbs. Though the number of recovered flint relics is not large, yet the proportion of implements is high. Erratic flint was almost exclusively used for their production. The Upper Astartian flint was found but in small numbers in huts 3 and 4. Among the implements points, knives, burins and scrapers were found. Other types of tools, as concave scrapers and borers, were only revealed in single specimens, moreover not in all huts.

Segments form the most characteristic group among the points (fig. 4: 4). Two massive points with tangs were also revealed. They differ, however, from the tanged points of the Swiderian assemblages. We have also discerned microlithic knives with curved backs (fig. 4: 3), straight backed knives and simple obliquely blunted knives. Large backed knives include forms analogous to the microlithic knives with curved backs, mentioned above (fig. 4: 2). Transverse knives are less numerous than the mentioned backed knives. They are made from blade-flakes.

Angle burins, accompanied by wedge burins, preponderate in number (fig. 4: 5). Also core burins and those with several burin facets occur. All huts yielded angle and wedge burins, remade from massive scrapers on flakes. Scrapers are short on primary flakes. Most numerous are scrapers with oblique scraping edges (fig. 4: 8, 9), and short scrapers on flakes with curved or straight scraping edge. Fan-shaped scrapers are scarce. Scrapers of the blade, round, semi-round and double-end types miss entirely.

Among the single implements, a fragment of a flint adze, found in hut 1, merits attention.

Cores, found in all huts, were either remade or only served as gouges, massive transverse knives or planes (fig. 4: 1). Usually the cores are short with a single platform. Numerous fragments of broken hammerstones were found.

One of the sandstone slabs displayed traces of working, suggestive of preparations for an adze. Abundant flakes and spalls, fitted to each other, corroborate the internal conformity of flint assemblages from particular huts.

Even from this brief description of flint material from layer 5 it follows that it differs considerably both from the above mentioned assemblage, marked by "Tarnowa" elements and from the Swiderian assemblage found at Witów. Thus it has no association whatever with the Late Palaeolithic assemblages known from Poland. Some analogues are provided by very distant sites of the Crimea, namely by the Shan Coba cave, whose lower layers yielded broad knives with curved backs together with segments and short scrapers.<sup>5</sup> Yet the great space separating both sites prevents from the drawing of further conclusions.

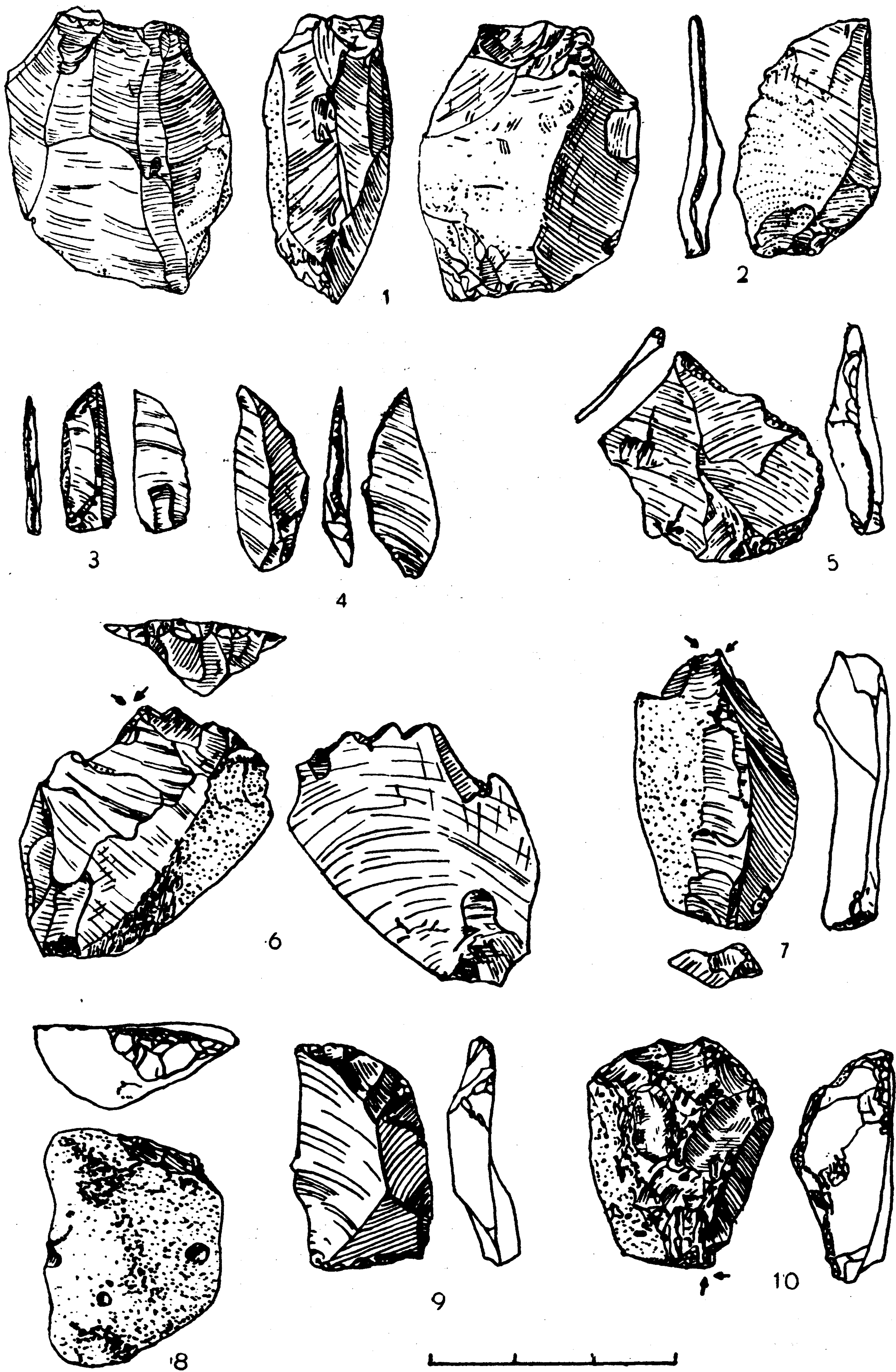


Fig. 4. Witów, site 1. Flint artifacts of the Witów assemblage; 1—5,7 from hut 4, 6 from hut 2, 8—10 from hut 1. (According to W. Chmielewski, drawn by A. Puksza)

In the autumn of 1960 an assemblage of flint artifacts was discovered at the village of Katarzynów, distant some 11 km. to SW of Witów. This find displays some association with the Witów assemblage. Since the dune of Witów yielded different assemblages, the determination of their age and mutual chronology is of major importance. The relative chronology of particular assemblages follows from the above presented stratigraphy. Since the absolute age of charcoal derived from the hearth of hut 1 is  $10,815 \pm 160$  (Gro 828), thus coinciding with the close of the Alleröd oscillation, and moreover since this determination agrees with the results of pollen analysis, we are able to date the remaining assemblages to the Late Pleistocene and Early Holocene. In the marginal sections of the "Main Cutting" and "Cutting by the Bog", layer 6, within which layers 7 and 7a are lying, passed into a series of sands with organic layers. The pollen analysis dates this series to the Younger Dryas time and consequently, the assemblage with the "Tarnowa" elements and the Świderian assemblage as well are datable to this period. Assemblages, characterized by microliths, developed in the Early Holocene.

These facts shed some light on the cultural relations prevailing in Central Poland during the final phase of the Pleistocene. It has become apparent that some Swiderian assemblages developed simultaneously with those of "Tarnowa", whereas the discovery of the "Witów" assemblage indicates that since the close of the Alleröd oscillation the discussed area had been occupied by human groups representing still another tradition.

The revealed remains of huts provide information on some aspects of life of the Late Palaeolithic groups. The huts represent winter camps of a human group comprising 4 or 5 families. Probably each family was an independent unit. Flakes and spall fitted to each other, sometimes very numerous, were limited to a hut. Lumps of haematite and amber suggest some form of barter, whereas the huts themselves indicate a seasonal occupation.

#### NOTES

<sup>1</sup> M. Chmielewska, *Grób kultury tardenoaskiej w Janisławicach, pow. Skierniewice* [A Tardenoisian Grave at Janisławice, Skierniewice District], "Wiadomości Archeologiczne", Vol. XX, 1951, p. 23—46.

<sup>2</sup> H. A. Koszańska, *Ostrze rogowe z Witowa w pow. łęczyckim sprzed 10 000 lat* [An Antler Point from Witów, District of Łęczyca from before 10 000 Years], "Z otchłani wieków", Vol. XVI, 1947, p. 50—52.

<sup>3</sup> M. Chmielewska, *Badania stanowiska mezolitycznego w Witowie w pow. Łęczyckim* [Researches on the Mesolithic Station of Witów, District of Łęczyca], "Sprawozdania Archeologiczne", Vol. III, 1957, p. 11—21. M. Chmielewska et W. Chmielewski, *Stratigraphie et chronologie de la dune de Witów, dist. de Łęczyca*, "Biuletyn Peryglacjalny", Vol. VIII, p. 133—141.

<sup>4</sup> M. Chmielewska, *Huttes d'habitation épipaléolithiques de Witów, district de Łeczyca*, «Acta Archaeologica Universitatis Lodziensis», 1961, n° 10.

<sup>5</sup> G. Boncz-Osmołowski, *Résultat de l'étude du paléolithique de Crimée*, in: *Transactions of the II International Conference of the Association on the Study of the Quaternary Period in Europe*, Leningrad—Moscow 1935, p. 113—187.