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## THE MIDDLE PALAEOLITHIC ARTEFACT FROM THE DĄBROWA TARNOWSKA 37 SITE

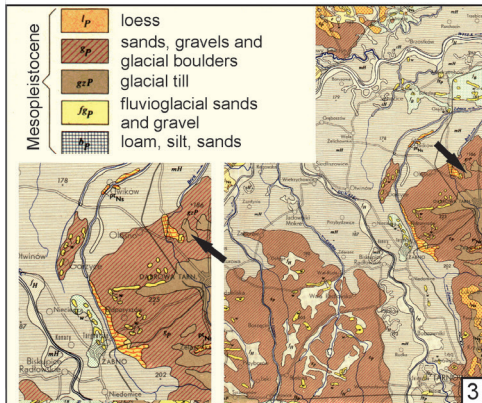
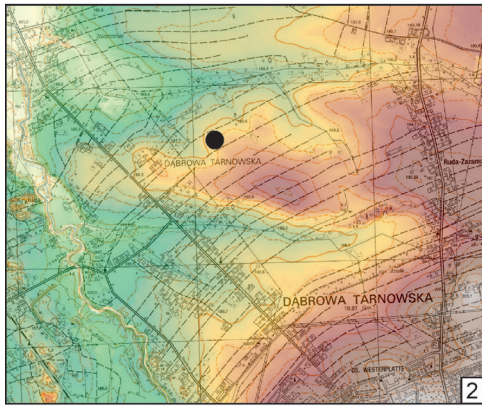
**Abstract:** The paper discusses the discovery of a single lithic artefact from the Dąbrowa Tarnowska 37 site. The lithic, based on its technological and typological characteristics, can be associated with the Middle Palaeolithic. This is an important find due to the fact that, in the area of the Sandomierz Basin, settlement of that period is confirmed by only a few single finds discovered exclusively in the eastern and central parts of the basin. The lithic has been defined as a Levallois point, although a different interpretation, such as its being a by-product of Levallois core shaping, can not be excluded. It was made of Jurassic flint of undetermined provenance, probably originating from moraines. Precise dating of the find is not possible. It was been found on the surface of fluvioglacial deposit of South Polish glaciation (Elsterian) age. The chronological framework of this glaciation preceded the well-proven use of Levallois techniques in the south of Poland (Biśnik cave, Ciemna cave, Kraków-Zwierzyniec 1).

**Key words:** Levallois technique, Middle Palaeolithic, Sandomierz Basin

### I. INTRODUCTION

This artefact was obtained during rescue investigations conducted at the Dąbrowa Tarnowska 37 site (AZP 100-66/74, geographical coordinates: N50°11'26 „E 20° 58'17”), Dąbrowa County, Lesser Poland Voivodeship. Those investigations were related to construction of the Dąbrowa Tarnowska ring road within DK73. The site was discovered during survey carried out by Eligiusz Dworaczyński in 2006. Subsequently, it was sounded in 2014 by Radosław Czerniak, when about 6 ares were tested. In 2016, the site was excavated by Sławomir Chwałek. The excavation, covering an area of around 50 ares documented numerous settlement remains dating to the Stone Age, Bronze Age, and Modern Times (Chwałek, Czerniak 2016).

The site is located on the Tarnów Plateau (512.43, Kondracki 2001), which constitutes the southern part of the Sandomierz Basin (Fig. 1: 1, 2). It borders



with the Nadwiślańska Lowland on the north, the Dunajec Valley on the west, and the Wisłoka Valley on the east. It rises about 200 - 260 m above sea level. It is built tertiary Miocene sediments, that fill the Carpathian Foredeep (Margielewski *et al.* 2008), superimposed by Quaternary sediments of the Pleistocene and Holocene. Miocene sediments are, above all, clays, clay shafts, and siltstones with sand and sandstone inserts, which belong to the Cracovian strata. Pleistocene sediments are visible in the form of aeolian markers, i.e. dunes, residual gravels, inflow cones and boulder clays, as well as sands and sands with gravels. Holocene stratified deposits occur in the form of fine sands, and valley muds and silts. The site is located on the surface of fluvioglacial sands, gravels and glacial boulders of the South Polish glaciation (Elsterian) (Fig. 1: 3).

## II. DESCRIPTION OF THE ARTEFACT

The recovered artefact (Fig. 2, 3) was discovered during exploration of an undated feature (97), where it occurred on its secondary bed (Fig. 4). It differs in its technological and typological traits from several other lithics, which can be generally associated with Bronze Age settlement at the site. The flake is

Fig. 1. Location of the Dąbrowa Tarnowska 37 site on: 1 – a contour map of Poland, 2 – a topographic map 1: 10000 (1965) combined with hypsometry (ISOK); 3 – approximate location of the site on a geological map (Jurkiewicz, Woński 1977)

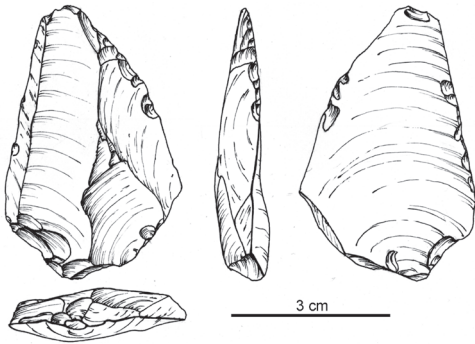


Fig. 2. Dąbrowa Tarnowska 37 site. The Middle Palaeolithic artefact (drawing A. Dziedzic)



Fig. 3. Dąbrowa Tarnowska 37 site. The Middle Palaeolithic artefact (photo A. Susul)

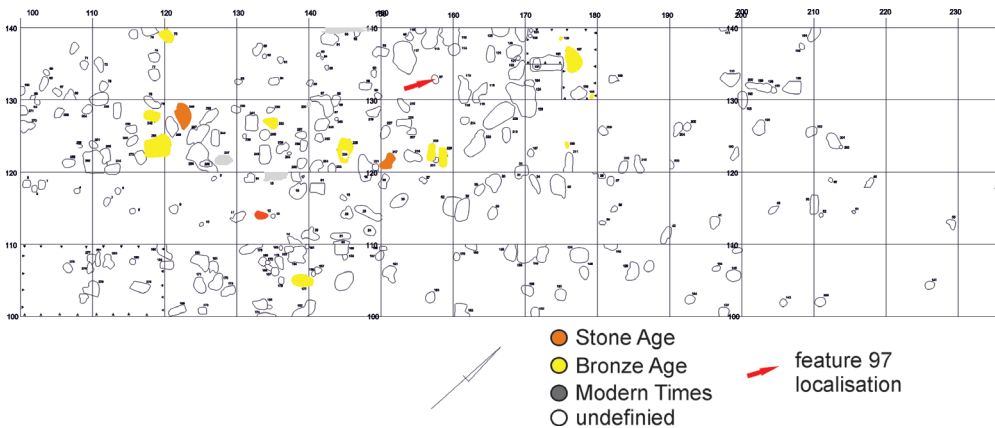


Fig. 4. Plan of the Dąbrowa Tarnowska 37 site (authors: Sławomir Chwałek, Radosław Czerniak, Marcin Serafin)

made of Jurassic age flint of undetermined provenance, probably from a glacial moraine erratic cobble. It is heavily eolised and measures 51mm in length, 36mm in width and 10mm in thickness. The flake is characterized by a prominent, massive, widespread bulb resulting from use of a hard hammer. Its butt, due to strong edge correction, is preserved fragmentarily. On the preserved fragment, it is shaped from the dorsal side and forms a right angle with the flake's ventral side. The flake

was detached as the next in the flaking sequence, e.g., by the recurrent method (Boëda 1995). Its right edge exhibits traces of forming and later correction of its lateral curvature, with the left side formed by a single blow that probably removed the edge of the core (*débordant*). The axis of the tool's symmetry deviates from the flake's axis. The distal part is blunt. The tool has been retouched on its distal right edge. Retouch is regular and semi-steep; creating a slightly denticulate edge. The artefact can be described as a Levallois point, although a regular, bladelike negative on the upper side and an ambiguous order of negatives (grounding of a dorsal ridge) may indicate different interpretations, such as the flake being the by-product of Levallois core shaping.

### III. CONCLUSIONS

This specimen, based on its technological and typological features, can be associated with the Middle Palaeolithic period. That assessment is supported by the artefact's state of preservation, with its clear traces of eolisation. It is not possible to determine a more detailed chronological framework. The artefact was found on the surface of fluvioglacial deposits, which could link it to the period of the South Polish glaciation (Elsterian). Nevertheless, that glaciation is much older than the unambiguous use of the Levallois technique in North Central Europe. In southern Poland, the earliest use of the technique was documented in Biśnik cave since at least the Saalian glaciation (Cyrek *et al.* 2014). It was also present during the Eemian Interglacial, documented by the Levallois-Mousterian assemblage from the Kraków-Zwierzyniec site 1 (Chmielewski 1975, Opara 2006) and the VII cultural level of Ciemna cave (Valde-Nowak *et al.* 2014, Valde-Nowak *et al.* 2016). The Levallois technology lasted until the end of the Middle Palaeolithic. Its presence is confirmed, among others, in the III cultural level of Ciemna Cave, the youngest level of Micoquian settlement at that site and dated to the Interpleniglacial.

The find provides further evidence for settlement during the Middle Palaeolithic period in the Sandomierz Basin. Traces of that settlement in are relatively modest (Fig. 5). They consist of individual finds from the eastern part of the basin, including sidescrapers from Jeżowe and Zdziechowice-Szelina, and a bifacial knife from Opaki (Florek, Libera 2006, Libera *et al.* 1991/1992). An interesting analogy to the discussed artefact is a single Levallois point found during survey in Ruszelczyce (Połtowicz-Bobak *et al.* 2009), which, together with an assemblage from Przemyśl (Tomaszewski, Libera 2007), confirms Neanderthal penetration of foothills belt that borders the Sandomierz Basin on the south. Analysis of the find's context suggests that it is a single find, probably left during short-term penetration of the site area. Despite examination of a significant part of the site, no other artefacts

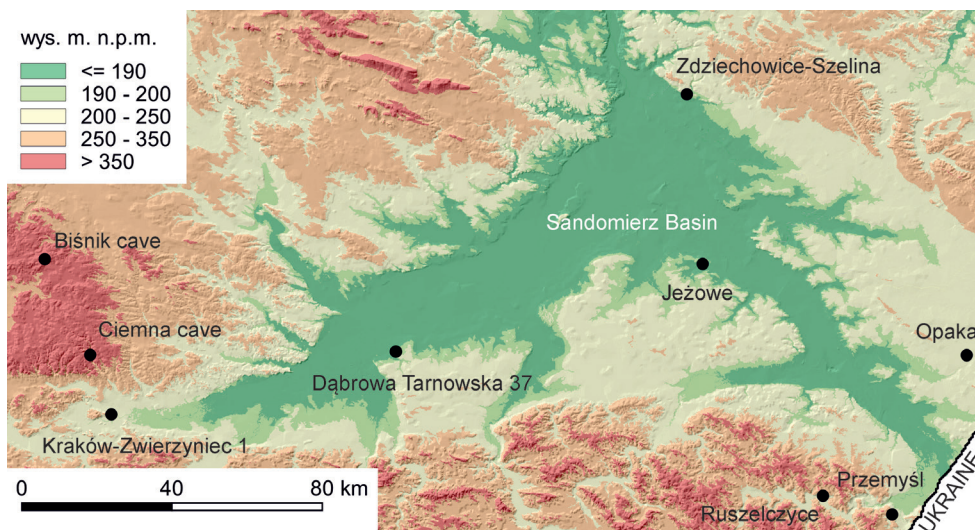


Fig. 5. Location of the Dąbrowa Tarnowska 37 site and other sites mentioned in the text (author Damian Stefański)

were found that indicated the presence of a larger settlement. Similar observations were made at Ruszelczyce, where, despite detailed surface coverage, no other finds associated with the Middle Paleolithic chronological horizon were found. The flint raw material from which the artefact was made is ambiguous. This study assumes it is erratic flint, commonly available in glacial moraines, and not useful in tracking Neanderthal population movements. The nearest settlement centre, which could be a starting point for penetration of the Tarnów Plateau, is a set of archaeological sites in the vicinity of Kraków and the Kraków-Częstochowa Upland. That centre is about 100 km from the Dąbrowa Tarnowska 37 site.

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