

Book reviews - Buchbesprechungen

Klementowice. A Magdalenian site in eastern Poland

Tadeusz Wiśniewski (Ed.) Institute of Archaeology Maria Curie-Skłodowska University, Lublin, 2015, 376 pages, 151 black & white figures, 16 colour figures, 65 black & white plates, 97 tables, and 1 DVD Disc, Hardback, Available online: <http://www.klementowice.eu/index.php/en/> ISBN 978 83 61144 86 1

reviewed by

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The Klementowice monograph, compiled and edited by Tadeusz Wiśniewski, is the fourth monograph published on an important Magdalenian locus in Poland after the works of Gotfryd Ossowski published in 1885, Stefan Karol Kozłowski and others on the Maszycka Cave printed in 1995 and the publication of the Magdalenian winter camp of Wilczyce in 2014. Paradoxically, although slope remodelling phenomena and farming had almost annihilated the site itself well before it was discovered in the 1981 field season, the report on the work done here is a rich and a very attractive book.

There are slightly over 40 Magdalenian sites of differing significance recorded in Poland. Except for one, at Grudusk in northern Masovia, all are in southern Poland in the rolling country of uplands and Carpathian foothills. Most of these sites have been found and excavated in the last few decades, raising a keen interest in the Magdalenian technocomplex after a more than a century-long fascination with the sandy Final Palaeolithic and Mesolithic sites of the North European Plain.

The Klementowice monograph is arranged in four major parts dealing with the archaeology, natural environment, animal remains, petrography and mineralogy. The first part contains four chapters. The opening one, by Tadeusz Wiśniewski, summarizes the history of research at Klementowice, the methods applied in various field seasons, the stratigraphy, chronology and the raw material and artefact structure of the flint assemblages as well as their refittings and spatial distribution.

The site lies on the Naęczów Plateau, the north-western portion of the Lublin Upland, a few kilometres to the south of the northern edge of the loess belt. It is the northernmost Magdalenian site in Poland, with then exception of Grudusk mentioned above. The

Magdalenian camp is set on the western, gentle slope of a low loess hill today occupied by a small village surrounded by cultivated fields, with a small stream running at the foot of the slope in front of the site.

The site was discovered in 1981, and briefly investigated in the 1981-1982 field seasons. The major effort, however, was made in the 2007-2011 seasons. In total, 33 trenches have been cut at the site within the areas of two concentrations of artefacts as well as beyond them.

Undoubtedly, a key to the understanding the Magdalenian settlement at Klementowice is its lithostratigraphy, the scattering pattern of the artefacts and its age. Two neighbouring concentrations of stone artefacts measuring about 18 x 14 m and 20 x 18 m occurred on the surface of the tilled zone on the site, suggestive of a camp comprising two units. Excavation, however, revealed a dense artefacts incidence in the ploughed zone (Ap), the eluvial horizon (Et) and the upper illuvial horizon (Bt1) of the lessive loess soil, down to the interface with the lower illuvial horizon (Bt2). As to the age of the occupation, the direct dating evidence of the mineral deposits is rather limited, considering current standards. On the other hand, the chronological proxy data are soft and limited. Therefore, of the utmost importance is an AMS assay, on charcoal from the base of the upper illuvial horizon of 12'730 ± 90 BP (Poz-54822), or 15'632 – 14'577 calBP. Other radiocarbon assays are clearly stray. A small series of OSL dates from the top part of laminated loess within the lower illuvial horizon (Bt2) gave two ages of 14.36 ± 0.68 ka (GdTL-1746) and 13.93 ± 0.77 ka (Gd-TL- 1745). Another sample in the lower section of the Bt1 illuvium yielded an age of 14.32 ± 0.72 ka (GdTL-1744). Still, a higher sample, from an evidently bioturbated section of the upper illuvium has been dated to the early Holocene. Tadeusz Wiśniewski, using the obtained age determinations, places the occupation of the site in the Oldest Dryas understood as the Late Upper Pleniglacial, or Greenland Stadial 2a, an opinion shared by the reviewer.

The limited excavations in the area of Concentration A exposed a short section of an ice wedge pseudomorph containing a minor assemblage of chipped flint artefacts as well as a small number of bones and teeth of *Equus ferus*, embedded in the loess matrix. The latter are described in the second section of the book. Also, a sizeable fragment of a living floor with the broken sandstone blocks and plates known from other sites with Magdalenian occupation have been recorded in Trench 30/11. A few pages present the results of a few refittings, obviously a hopeless

chore given the damage done to the site by erosion and agriculture.

Most of the chapter written by Wiśniewski comprises discussions of the raw material composition, lithic manufacturing and artefact structure. The siliceous materials used at the camp site are dominated by tools manufactured from Świeciechów flint followed by chocolate flint and Cretaceous erratic flint, all available within a 70-80 km distance. Minor quantities of specimens made of Gościeradów flint and quartzite constitute the remaining portion of the raw material spectrum of the assemblage.

The Klementowice knapping system is based on a single platform blade core processed with the *en éperon* method of detachment. The retouched tool structure is dominated by a group of perforators/groovers, and borers, closely followed by backed bladelets, retouched blades and a significant number of burins, among which *Lacan* specimens are present. In short, it is an inventory that fits well in the Central European formula of the Magdalenian. The presentation of the chipped stone assemblage is accompanied by 65 plates of ink illustrations of the artefacts drawn by several authors, all rather schematic, but of good quality.

Wiśniewski's chapter ends with a text devoted to analyses of artefact densities in the particular pedogenic horizons. The densities were defined based on the number of artefacts per quarter of a metre. The analyses confirmed the substantial agricultural damage done to the site.

The following chapter is on the use wear of the Klementowice flint assemblages. It is the work of Katarzyna Pyżewicz who examined 503 specimen representing a broad range of tool types using a standard metallographic microscope at 50x to 500x magnification. The studied tools show traces of wear characteristic for the hunting (backed bladelets), butchering and processing of animals and their parts. The latter includes a sizable amount of steps in the dealing with carcasses such as fragmentation, cutting and separation of the soft tissue from the bones as well as scraping the hides. Also, the manufacturing of tools from organic matter as well as the processing of minerals and plants have been strongly suggested by the preserved wear traces. The range of tool usage is quite similar to that known from some other Magdalenian flint implement assemblages in Europe.

The last chapter in the section, written by Jerzy Libera, presents a catalogue of Palaeolithic surface finds as well as workshops and living sites recorded on the Lublin Upland. It shows the unusual prominence of the Klementowice campsite in the region.

The section on the natural environment includes six somewhat short texts of which the first, by Przemysław Mroczek and Jan Rodzik, tackles the geo-components of the natural environment in the site area. The authors treat the OSL results from Klementowice as indicative of the G11e – G11d age of

the loess enclosing the artefacts, "referred to respectively as *interphase Meiendorf and Oldest Dryas*". They do not, however, take into account the significant standard deviation of the OSL age estimates and the calibration range of the radiocarbon date. All of these clearly overlap with the Upper Last Pleniglacial and, specifically, with Greenland Stadial 2a. Furthermore, the authors believe that the ice wedge cast at Klementowice is of about the same age as that at Wilczyce, an opinion shared by the reviewer. However, they state that the loess filling of the cast at Wilczyce was "middle Plenivistulian," while its outer parts were much younger and dated to the Last Glacial Maximum. Also, "Despite the different periods during which the above-mentioned archaeological sites were active (Gravettien and Magdalenien), cryogenic structures, which are documented there, in all cases date back to the same era, correlated at least with the Upper Pleniglacial". It appears that this proposition somewhat confuses the ages of the cryogenic phenomena, not to mention mixing up the cultural affiliation of the Wilczyce ice wedge cast content with the Gravettian. According to Łanczont *et al.* (2015), there are two superimposed generations of ice wedge casts at Wilczyce. The older one is largely coeval with the ice wedges and the weathering horizon of Rivne, Ukraine, dating to between about 17 and 23 ka. The younger one, with the Magdalenian (not Gravettian) materials in the central filling of the cast, is in Ukraine contemporaneous with the latest Pleniglacial set of ice wedges overlain by the gley pedogenic phenomenon of *Krasyliv* type aged at 14.5 – 15.7 ka. As seen from the perspective of Wilczyce and Klementowice, the loess deposition most probably ends about the onset of Greenland Interstadial 1e. Most of the text, however, concentrates on the analysis of the local relief, hydrological conditions, characteristics of the soil cover as the way for the reconstruction of the palaeorelief of the settled area.

Stanisław Piotrowicz in the following short chapter presents all the radiocarbon, OSL and TL age estimates obtained at Klementowice together with brief comments on the applied methods and stratigraphic situation of the samples.

Two papers, on soil reconnaissance and soil micro-morphology by Rodzik and Mroczek and Mroczek and Rodzik help to understand the local lessive soils profiles developed in the loess in the Klementowice site area. Przemysław Mroczek follows up these two texts with details on the particle size distribution in the local loess cover.

The find of the horse (*Equus Ferus*) remains embedded in the loess infill of the ice wedge cast is the subject of the following text. Jarosław Wiczyński presents results of archaeological and taphonomic studies of the remains, concluding that the bones and teeth belonged to at least two individuals, a two-year-old adult and a foal below one year of age. A. J. E. Pryor, R. E. Stevens, and A. W. G. Pike discuss the

mobility of the adult horse killed at Klementowice as seen in the light of oxygen, carbon, and strontium isotopic data from the teeth. It is postulated that the horse moved through the neighbouring area before the kill in early autumn. Miriam Nývltová Fišáková, focusing on the cement growth method in the three horse teeth recovered, determines the season of death as the late summer/early autumn. Finally, Magdalena Gryzińska reports on a preliminary study of the mitochondrial DNA isolated from the tooth found in the cast.

The last section on petrography and mineralogy comprises five studies on selected artefacts from Klementowice. The first, by Lucjan Gazda, is a macroscopic petrographic analysis of an assortment of artefacts made of sandstone and quartzite found at the site. It shows that the majority of the samples are of erratic, Scandinavian origin. The second paper by Lucjan Gazda and Miłosz Huber again deals with selected silicate items, this time, however, chipped artefacts. Four groups of raw material have been defined as follows: quartz sandstone, Paleozoic chalcedony, opal-chalcedony and pinkish opal chalcedony. The authors see their origin in the Holy Cross Mountains (opal and opal-chalcedony) and glacial deposits (quartz).

A chapter on red materials found in the soil deposits on the site as well as on the surface of some flint artefacts, written by Joanna Trąbska, Adam Gawęł, Aleksandra Wesełucha – Birczyńska and Barbara Trybalska, discusses the results of the application of several methods, including a range, of microscopic procedures as well as x-ray diffraction techniques to address several problems concerning the origin of the materials, their homogeneity and the methods of processing. The red material lumps and objects, some processed, present in the cultural horizon are believed to be made of haematite of local origin, probably from the Holy Cross Mountains. Several chipped flint specimens found at the site exhibit red powder residues on the surface, the chemical composition of which is high in iron aluminosilicates. However, the matrix of the cultural horizon also contained red micro patches termed *micro-artefacts*. These consisted of concentrations of red powder particles, 0.2-0.1 mm in size. In one instance, some traces of tar seem to be present in the soil matrix of the site. The final text by J. Trąbska, A. Wesełucha – Birczyńska and B. Trybalska considers the spots of black crust on a fragment of backed bladelet. Two types of crust were recognized, type A was composed of iron and manganese composite and clay minerals, while type B spots were of organic origin, probably an adhesive.

An appendix by Tadeusz Wiśniewski and Barbara Niezabitowska-Wiśniewska on the Neolithic, Bronze and Modern Age settlement traces on the site completes the volume.

It is time to wrap up this review. For obvious reasons, the comprehensive publication of the material from Klementowice is an important event in the attempts to understand the significant role of the Magdalenian in changing Late Paleolithic Europe. Despite its jerkwater location in the Magdalenian eastern province, the Klementowice settlement bears all the necessary formal attributes of the full blown east German-Moravian-Polish Late Magdalenian macroregion (for a description of this issue see Połtowicz-Bobak 2013 : 357). This, and the attractive production of the Klementowice book, would make it a *pièce de résistance* on a shelf of any respectable archaeological library.

Literature cited

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