

## CONFERENCES FOR STONE TOOL INVESTIGATORS IN HUNGARY

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*At the end of October Miskolc hosted the 11<sup>th</sup> SKAM Lithic Workshop, the 2014 meeting of the Polish Flintreaders Society (Stowarzyszenie Krzemieniarskie SKAM). 44 researchers from 6 countries, including 10 Hungarians, took part in this international conference held in the new exhibition building of the Herman Ottó Museum, the Pannonian-Sea Museum. The central topic was the bifacial technology of stone tools. In the beginning of December at the Eötvös Loránd University Institute of Archaeological Sciences the Hungarian stone tool investigators met at their 2014 round-table conference. At both events the presentations and posters discussed the issues related to prehistoric stone tools from various approaches. Alongside the traditional archaeological issues (archaeological sites, cultures, typology and chronology) the use wear studies mathematical statistics and experimental archaeology also played a role.*

It is a well-known fact that in the earliest phase of human cultural history, the people living in the Palaeolithic Age made and used knapped stone tools. Often knapped stone represents the only archaeological remains that survive for us from the sites of this period. However, it is less well known that knapped stone tools were still in use all the way to the Bronze Age, although they of course played a less important role at that point. While stone tools changed a great deal in the 2.5 million years that passed from the beginning of the Palaeolithic Age to the end of the Bronze Age, research into them demands the same methods and expertise. Therefore, the results of experts dealing with the examination of stone tools from differing periods can provide many lessons for the community. This serves as a foundation for initiatives that bring together experts expressly researching stone tools. The past year two events like this took place in Hungary: the SKAM Lithic Workshop and the Lithic Research Round Table.

The latter is a conference for Hungarian experts, which began in 2010 in Miskolc, with the intent of providing a forum for results concerning the Palaeolithic and Mesolithic periods, as well as for the introduction and discussion of ongoing research. However, it soon came to light that in Hungary there were many new investigations in relation to stone tool kits from more recent periods of pre-history that should have a place at the round table due to the aforementioned common research interest.<sup>1</sup>

While the SKAM Lithic Workshop is a conference for Polish researchers, from its beginnings foreign experts have participated as well. It has been held every year since 2006, but its roots reach back even further. In the 1980s in Western Europe the technological trend in the study of stone tools gained momentum, due to which numerous new research methods were developed. These methods and the approach itself also found many followers in Central and Eastern Europe at the beginning of the 1990s, particularly amongst the younger generation of archaeologists.<sup>2</sup> The Polish prehistorians interested in technological research organized their first conference in 1996,<sup>3</sup> where the need for the formation of a working group arose, while at their second conference in 2002<sup>4</sup> they laid the foundation for the creation of a society. The Polish SKAM Flintreaders Society<sup>5</sup> was formed in 2003 precisely for the purpose of promoting the wider propagation of the new, technological methods of investigation in Polish archaeological research.<sup>6</sup> Its second main objective was to integrate the professional/scientific life at research centers, academic institutions and universi-

<sup>1</sup> The programs for the series of conferences can be seen at the home page of the *Litikum* on-line periodical: [www.litikum.hu](http://www.litikum.hu)

<sup>2</sup> In Hungary this appeared in the work of Katalin Simán, Katalin T. Biró and Zsolt Mester.

<sup>3</sup> 1<sup>st</sup> Flint Knapping Workshops in Rybno, Warsaw

<sup>4</sup> 2<sup>nd</sup> Flint Knapping Workshops in Wojnowice, Wrocław

<sup>5</sup> Stowarzyszenie Krzemieniarskie SKAM

<sup>6</sup> Wiśniewski, Andrzej: A new archaeological society in Poland – SKAM. *Sprawozdania Archeologiczne (Kraków)* 56 (2004), 541–543.

ties that had become more isolated, thereby resulting in joint research projects between the institutions. This latter objective was also served by the fact that the centers for palaeolithic research in Poland – Wrocław, Warsaw, Lublin, Szczecin, Poznań, Kraków and Toruń – in turn provided the sites for the SKAM conferences.<sup>7</sup> However, since archaeological problems related to stone tools always extend beyond borders, an ever expanding group of researchers from other countries also joined. Therefore, the SKAM Lithic Workshop became more and more international. As a logical consequence the conference itself also hopped the border, and the 9<sup>th</sup> meeting was held in the Czech Republic at the Brno Museum.<sup>8</sup> The Miskolc conference was the 11<sup>th</sup> in the series, and the first that was held in Hungary.

These programs always place a focus on a particular sphere of issues in the study of stone tools: methods of production,<sup>9</sup> types of tools, objects that appear to be stone tools but were made by natural processes, use wears and function, retouch,<sup>10</sup> raw materials,<sup>11</sup> and spatial organization. At Miskolc the main topic – in accordance with the spirit of the location – was the bifacial technology of stone tools.<sup>12</sup> It was precisely by this process that the famous finds discovered in this city were made, the stone tools that began the systematic research of the Palaeolithic in Hungary:



Fig. 1: “Hand axe of the Bársony’s house” number 2, which is held in the collections of the Herman Ottó Museum in Miskolc (photograph: Péter Szolyák)



Fig. 2: The leaf points discovered in the Szeleta Cave and now found in the collections of the Herman Ottó Museum, as they appear on the logo of the conference (design and photograph: Veronika Watah)

<sup>7</sup> Web sites accessible on the internet: <http://www.archeo.univ.szczecin.pl/mu/conference/index.php?s=0&ln=1>; <http://www.ma.krakow.pl/krzemien/>; <http://www.skam10.archeologia.umk.pl/index.php/Home>

<sup>8</sup> <http://skam.mzm.cz/>

<sup>9</sup> Wiśniewski, Andrzej – Płonka, Tomasz – Burdukiewicz, Jan Michał: *The Stone: Technique and Technology* (Wrocław: Uniwersytet Wrocławski Instytut Archeologii – SKAM Stowarzyszenie Kremieniarskie, 2006).

<sup>10</sup> Nowak, Marek – Stefański, Damian – Zając, Mirosław (red.): *Retusz – jak i dlaczego? „Wieloperspektywiczność elementu twardego”* (Prace Archeologiczne 66, Kraków: Instytut Archeologii UJ–Wydawnictwo i Pracownia Archeologiczna „Profil-Archeo”, 2013).

<sup>11</sup> Nerudová, Zdeňka – Neruda, Petr (eds): Special Issue: SKAM „Stowarzyszenie Kremieniarskie”. *Anthropologie (Brno)* 50/3–4 (2012).

<sup>12</sup> The program as well as abstracts of the presentations and posters are available at the web site of the conference: <http://skam.pannontenger.hu>

the “hand axes of the Bársony’s house” (*Fig. 1*) and the leaf points found at Szeleta Cave (*Fig. 2*).<sup>13</sup> Indeed, in 1953 František Prošek designated the Early Upper Palaeolithic culture with leaf points in Central Europe the Szeletien after the Szeleta Cave.<sup>14</sup>

Bifacial technology was present in every period in the history of prehistoric stone tools. Among other objects, it was used to make chopping tools in the Early Palaeolithic, hand axes in the Lower Palaeolithic, bifacial knives (Keilmesser) in the Middle Palaeolithic, leaf points in the Upper Palaeolithic, axes in the Mesolithic and Neolithic and triangular arrowheads and daggers in the Copper Age and Bronze Age. The 25 presentations and 13 posters at the conference touched upon nearly every one of these periods as well, all of this within the broad geographical context of Central and Eastern Europe thanks to the Polish, Hungarian, Czech, Slovak, Ukrainian, Russian and French participants.<sup>15</sup>

The main focus was naturally on the Late Middle Palaeolithic and the Early Upper Palaeolithic. On the one hand this is due to the fact that in these two periods archaeological cultures – the Micoquien, the Jerzmanowicien and the Szeletien – that are famed for their bifacial tools played a crucial role in this part of Europe. On the other hand it is due to the fact that the issues surrounding these stone industries play a key role in the problems of the transition between the Middle and Upper Palaeolithic, which has been a prominent topic in international research for the last two decades. Furthermore, this transition is made particularly dramatic by the fact that it was at this time that anatomically modern humans appeared in Europe, and their spread led to the full extinction of the Neanderthals living here in less than ten thousand years.

However, the research considers the stone tools of the three archaeological cultures mentioned here to be the handiwork of Neanderthal man. In the case of the Micoquien this is self-evident, since it was present from Germany to the Caucasians in the Middle Palaeolithic, long before the appearance of modern humans in the area. The stone tool kits belonging to this culture in this expansive geographical area are typically characterized by bifacial knives with asymmetric cross-sections. Due to this, in recent decades the designation of this culture in the international literature has instead used the Keilmesser group name at the suggestion of German researchers. In his presentation at Miskolc Jan Burdukiewicz pointed out that Stefan Krukowski, who had a great impact on Polish research, already represented this approach in his concept of the Prondik Cycle in his 1939 monograph. Magdalena Sudoł provided a comprehensive profile of Polish bifacial knives. From her analyses it came to light that the development of these tools was affected to a great degree by the access the Neanderthals had to suitable stone raw materials, dependent upon the movement of the ice sheet during warming and cooling periods in the Ice Age. In the cooling periods they were more economical with the materials, and the re-use of worn out tools was much more common. A similar phenomenon was pointed out by Yuri Demidenko in the Micoquien culture of the Crimean Peninsula. The Crimean Neanderthals only rarely altered their stone tool manufacturing techniques, but as a result of intensive re-use and reshaping a deceptively large variation of forms from the aspect of archaeological typology can be seen in their tool kits. The essential constancy of the technology employed is also shown in the more northern areas of the Micoquien culture from the results of the most recent research performed at the Khotylevo 1 site. According to the investigations of Aleksander Otcherednoy the tool kits of the various cultural horizons only differ in their combinations of types. In light of recent geoarchaeological data, this site already represents the end of the Middle Palaeolithic, when in Central Europe the cultures with leaf-shaped tools of the transition from the Middle to Upper Palaeolithic developed on the basis of the Micoquien culture.

In the international and Hungarian research of recent years focus has been placed on the technological analysis of leaf-shaped tools and chronological issues for these cultures. This is understandable, since it is primarily through the study of these issues that the problems of the transition and development during the change between these two periods can be uncovered and understood.

<sup>13</sup> Kadić, Ottokár: Ergebnisse der Erforschung der Szeletahöhle. *Mitteilungen aus dem Jahrbuche der königlichen Ungarischen Geologischen Reichsanstalt* 23/4 (1916), 161–301.

<sup>14</sup> Prošek, František: Szeletien na Slovensku (Le Szeletien en Slovaquie). *Slovenská Archeologia* 1 (1953), 133–194.

<sup>15</sup> The international character of the conference was further enhanced by the fact that a Spanish university student who is studying at the University of Wrocław through an Erasmus scholarship also attended.





Fig. 3: The Pannonian-Sea Museum, the semi-subterranean new exhibition building of the Herman Ottó Museum. From Szolyák, Péter: *Tizenhét bükkábrányi óriás, avagy hogyan született a miskolci „Pannon-tenger Múzeum”* (Seventeen Bükkábrány Giants, or How the “Pannonian-Sea Museum” Was Born in Miskolc). *Geoda* 24/2 (2014), fig. 11.

Numerous presentations at the conference dealt with technological issues. Zdeňka Nerudová and Petr Neruda showed that the manufacturing of leaf points in the Moravian Szeletien culture followed the technological traditions of the Micoquien culture. In addition to this, the other similarities between the two cultures, such as settlement strategies, raw material economies and chronological parallelsism make it possible to state that the bearers of the Szeletien culture – at least in Moravia – were Neanderthals. The specific tools of the Slovakian Szeletien culture are the Moravany-Dlhá type poplar leaf shaped points. In their report introducing their ongoing research, Adrián Nemergut and Laurent Klaric pointed out that the production of leaf-shaped tools followed two models. However, in addition to the extraordinarily standardized, well worked points, atypical examples are also found that raise the possibility that they originated from people with different levels of knapping skill. In their recently begun new research Andrzej Wiśniewski, Małgorzata Kot and Witold Gruzdź look into similar problems in connection with the points of the Jerzmanowicien culture. In addition to their technological and morphometrical analyses in their examination of the points found at the key site of the culture, Nietoperzowa Cave, they are also using experimental archaeology to reconstruct what may have led to the development of the different variants. The young researchers Kamil Serwatka and Gergely Nagy are applying statistical tools in morphometrical examinations. In this manner they attempted in their presentation introducing their preliminary results to grasp the regularity hidden behind the formal diversity of the bifacial tools. Another new method, geographic information systems, was applied by Péter Szolyák and György Lengyel in their study of leaf-shaped tools. Through this they were able to show that the two largest examples of “hand axes of Bársony’s house”, despite their formal differences, were made according to the same design, and therefore possibly the work of the same knapper.

The chronological problems of the leaf-shaped tool find assemblages in many cases arise from the fact that they were unearthed by old excavations or that they only come from surface collection. The latter are just as significant from a scientific aspect since they provide data on the issues of geographical spread and the mobility and relationships of communities. This kind of new information was reported on by Ľubomíra Kaminská, Adrián Nemergut and Ondrej Žaár from western Slovakia, Adriána Voľanská from eastern Slovakia and Mónika Gutay, Attila Péntek and Krisztián Zandler from northern Hungary. The problems of long ago excavated sites that still play an important role in research was also covered at the conference, including Brno-Bohunice (Petr Škrdla), Kraków-Zwierzyniec (Damian Stefański and Maria Oleksy), Nietoperzowa Cave (Magdalena Krajcarz, Maciej T. Krajcarz, Bolesław Ginter, Teresa Madeyska and Piotr Wojtal), Szeleta Cave (Zsolt Mester, György Lengyel and Péter Szolyák). Although it is true that in the case of long ago

excavated sites there is no hope for answering all of the questions that arise, the more recent research results always succeed in resolving a detail, and thereby contribute to the research rethinking the entire problem.

The other archaeological period that received greater emphasis at the conference was the period of the Late Neolithic and the Bronze Age.<sup>16</sup> Of the bifacial stone tools from these periods, the triangular arrowheads and the axes did not only play an important role in everyday life, but also in rituals. Tadeusz Wiśniewski, Katarzyna Pyżewicz and Barbara Niezabitowska-Wiśniewska did not find evidence of use on the pieces found from the tumuli excavated in Ulów belonging to the Corded Ware culture. In contrast with this, the traces on the surfaces of the tools from their hafting and their storage in a quiver were definitively recognizable. It is possible to conclude from all of this that the arrowheads and axes were made for the burial as grave goods. A similar issue arose in connection with a Polish type of stone tool, the bifacial knives made from Ożarów flint, the function of which has been debated since the 1970s. Two positions oppose one another in the literature: according to one they were used only for ceremonial events, and the other purports that they were also used for everyday purposes. Dominik Kacper Płaza, Witold Grużdź and Katarzyna Pyżewicz raised the debate to a new dimension by performing a technological and microscopic analysis of use wears on two examples that were found in rather good preservation in 2013 near Dwykozy. While Katarzyna Pyżewicz in her use wear study clearly showed that in the Early Bronze Age bifacial sickles were primarily tools of everyday use, the bifacial daggers filled a much more symbolic role. We know of settlements from the Neolithic and Bronze Age that were already specialized, where these tools, particularly the axes, were manufactured. These settlements were most commonly located near the sources of the raw materials, where large quantities of good quality flint-type rock were produced by mining. At the conference, reports on settlements such as these were presented from the Chełm Hills region in eastern Poland (Jerzy Libera, Marcin Szeliga and Tadeusz Wiśniewski), from the “Zełe” site of Wierzbica in the



*Fig. 4: The SKAM conference in the lecture hall of the Pannonian-Sea Museum (photograph: Norbert Faragó)*



*Fig. 5: The participants of the SKAM conference in Balla Cave (photograph: Norbert Faragó)*

“chocolate” flint source area of central Poland (Dagmara H. Werra, Richard E. Hughes and Rafał Siuda), and from the northeastern part of the Bükk Mountains (Zoltán Henrik Tóth). Antonín Přichystal and Petr Škrdla provided new information in relation to the source of the Carpathian 1 type obsidian, the lithic raw material that was very important to the prehistory of Central Europe. During their most recent research they discovered a new geological source to the east of the previously known one. On the basis of their observations in the field, much larger blocks of obsidian can be found in the source area to the north of Brehov than even in the area of Viničky.

<sup>16</sup> In the more northerly areas of Europe the Copper Age cannot be as precisely differentiated as it can be here in the Carpathian Basin.



Fig. 6: Wine tasting at the Molnár cellars at Szépasszony-völgy in Eger (photograph: Norbert Faragó)

The Herman Ottó Museum in Miskolc's new exhibition building, the Pannonian-Sea Museum (Figs 3–4) provided a special atmosphere for the conference. This underground space provides a home to two permanent exhibits. In connection with the fossil trees of a 7 million year old swamp-cypress forest found at the Bükkábrány lignite mine, one exhibit presents the world of the Miocene Epoch through geological tableaux, palaeontological remains and interactive exhibition elements. The second lays out the world of Carpathian Basin minerals to visitors through the museum's extraordinarily rich collection. The fossils and rocks provided a quite atmospheric framework for the exchange of ideas on stone tools. During the field trip on the third day of the Miskolc conference, the participants

visited some of the prehistoric sites of the Bükk region, the Szeleta, Subalyuk and Balla caves (Fig. 5). Even the pouring rain could not deter them from climbing up to the renowned caves. The enjoyment of the first SKAM conference in Hungary was made complete by getting to know the famous wines of the region at the Szépasszony-völgy (Valley of the Beautiful Women) in Eger (Fig. 6).

The Lithic Research Round Table took place at the beginning of December under much more modest circumstances, but was no less successful. Although these events are not numbered, this year was the fifth meeting and the second hosted by the Eötvös Loránd University Institute of Archaeological Sciences. Nor did the Round Table lag behind the SKAM conference in relation to its topics. Here as well there was room for getting to know new sites, the technological and statistical analysis of stone tools, the use wear study, the evaluation of stone tool kits from the aspects of spatial organization and household archaeology, experimental archaeology and the petrological/archaeometrical research into lithic raw materials. In accordance with the period being studied, the presentations ranged from the Palaeolithic to the Bronze Age. The professional program encompassing nine presentations and three posters provided the opportunity for a true round table conference. Through the commentary following the presentations, the participating prehistorians – including the dean of Hungarian research Viola T. Dobosi – as well as amateurs, doctoral candidates and university students enriched the discussion of the topics with their experiences and questions. Due to this the conference became a kind of scientific workshop discussion.

The presentations and posters from both conferences will be published in written form over the course of the year 2015 in *Litikum*, the on-line periodical of the Lithic Research Round Table.

#### RECOMMENDED LITERATURE

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