

Day 3 (29 May)

10:30-12:50: lectures

Session VIII - Exploring the allure of obsidian: Symbolic, social, and practical values for obsidian

10:30-10:50

Orange, M. - Le Bourdonnec, F.-X. - Gratuze, B. - Berthon, R. - Marro, C.: Humans and materials in motion in the Southern Caucasus: exploring the role of mobile pastoralists in the exploitation and diffusion of obsidian

10:50-11:10

Torrence, R. - Rath, P. - Dickinson, P. - Kononenko, N.: Producing value: obsidian stemmed tools from West New Britain, Papua New Guinea

11:10-11:30

Sobkowiak-Tabaka, I.: Obsidian in context

11:30-11:50

Werra, D. H.: Investigation the sources and uses of obsidian during the Neolithic in Poland – preliminary review

11:50-12:10

Šošić Klindžić, R.- Kasztovszky, Zs. - Kalafatić, H. - Tripković, B.: Fashion is tradition. Obsidian on Northern Balkans Copper Age sites

12:10-12:30

Campbell, S. - Kuzmin, Y. V. - Healey, E. - Glascock, M. D.: Reflection of the *magus*: The provenance of an obsidian mirror associated with the sixteenth century polymath, John Dee

12:30-12:50

General discussion on session VIII

Humans and materials in motion in the Southern Caucasus: exploring the role of mobile pastoralists in the exploitation and diffusion of obsidian

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Session VIII - Exploring the allure of obsidian: Symbolic, social, and practical values for obsidian

Form of communication: oral

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Recent research on the Chalcolithic period and the Bronze Age in the Southern Caucasus has highlighted the seasonal movement of mobile pastoralists groups from north-western Iran towards the rich pasturelands of the Azerbaijani and Armenian highlands, where obsidian sources abound. Such links between Iran and the Caucasus are for example suggested by the excavations of Godedzor (Armenia) and Uçan Agil (Nakhchivan), both seasonal campsites presenting similarities with the sites of the Urmia region, and corroborated by the presence of Armenian obsidian material (mostly from the Syunik outcrops) at numerous north-western Iranian sites, such as Kultepe-Jolfa or Dava Göz.

While different routes between these two regions have been suggested, i.e. through the Araxes valley and the Vorotan valley, none of these hypotheses has so far been substantiated by sufficient data to confirm either possibility. This is especially the case for the Araxes valley alternative, which involves the crossing of Nakhchivan, a region where only a handful of obsidian artefacts had been analysed until recently. However, new data from two recent research programs has brought key information regarding the role of mobile pastoralists in the exploitation and diffusion patterns of obsidian in the Southern Caucasus from the Neolithic to the Bronze Age (6200–1500 BC). By investigating the obsidian industries found on numerous mobile pastoral campsites located in the mountainous areas of Nakhchivan, these projects offer crucial new insights into the complex socio-economic systems in place in the Southern Caucasus during the Chalcolithic.

Keywords: Southern Caucasus, Iran, Prehistory, obsidian, pastoralism

Producing value: obsidian stemmed tools from West New Britain, Papua New Guinea

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Obsidian has many inherent physical characteristics that might explain why this raw material has frequently been valued by societies around the world: e.g. shiny, reflective physical appearance, translucence, black colour, consistent conchoidal fracturing, spatially constrained location of outcrops, etc. All of these traits probably contributed to the appeal of large obsidian retouched tools that circulated over long distances in Papua New Guinea during the mid-Holocene. Within this specific cultural context, however, the physical characteristics of the artefacts were not sufficient to establish their worth as prestigious objects. A key component in the creation of social value for stemmed tools was a production system that operated through networks of craft specialists. Using a combination of raw material characterisation, replication, lithic analysis, and use-wear analysis, we reconstruct a complex manufacturing process distributed across space, possibly involving several sets of knappers, and at times conducted in secret. We argue that in addition to its attractive physical characteristics, the social networks created during the production of stemmed tools were central to their role as ceremonial items.

Keywords: valuables, exchange, production, Papua New Guinea, Holocene

Obsidian in context

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Day 3 (29 May) 11:10-11:30

Obsidian sourcing, using and distributing studies have been conducted in various parts of the globe for over a century. This product of volcanic activity, due to its outstanding physical properties and aesthetic quality, was widely used by prehistoric populations. Even today obsidian fascinates people. It is commonly viewed as “magic” mineral, affecting spiritual and emotional human sphere or is a significant prop in one of the most popular video game. But how was it seen by communities of the remote past and what factors influenced on its long-distance or even super-long distance movement? In the archaeological literature one can meet two contradictory hypotheses. On the one hand, assuming the results of use-wear analyses, obsidian items are considered as common raw material for making similar items and using in an identically way as tools made of any kind of raw material. On the other hand, implements made of obsidian in spite of sharp edges, were less resistant and effective at work and therefore might have born non-utilitarian meaning.

In this paper I would like to discuss occurrence of obsidian items within Neolithic assemblages distributed in present-day Poland, changing intensity of its inflow and the potential role which obsidian items might have played in particular cultural context. Was the changeable share of obsidian artefacts in total amount of assemblages result of further location from the outcrops, or weaker intensity of exchange and trade, or maybe weaker participation in network system? Maybe obsidian, among other items, i.e. Spondylus shells, certain type of vessels or their decoration, applications of black wood-tar pigments was just an element of cultural set? Yet another possibility for presence obsidian artefacts is relation to the areas from which originated the Neolithic societies, settled areas of present-day Poland. Ideas from various scientific fields, i.e. archaeology, ethnology and sociology will be applied to explore this striking issue.

Keywords: Neolithic, obsidian, network system, cultural set

Investigation of the sources and uses of obsidian during the Neolithic in Poland – preliminary review

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One of the more important problems related to studies of the Stone Age is determining the social mechanisms responsible for long-distance distribution of siliceous rocks. Obsidian is an excellent raw material for implementing such investigations.

There are no natural outcrops of obsidian in Poland, so all of the artifacts and nodules recovered from archaeological sites must have been conveyed there by some means (exchange, direct access, mobility, etc.) at different times in the past. Since 'exotic' (i.e. non-local) raw materials are marked as special by humans cross-culturally, we imagine that prehistoric peoples may have made analogous distinctions.

The oldest traces of using obsidian by prehistoric societies in Poland are dated to the Middle Palaeolithic. In Palaeolithic and Mesolithic we find single specimens as very rare examples of a more numerous presence of obsidian artefacts (ex. Rydno, ochre mine). A dramatic increase in using obsidian begins with the arrival of first Neolithic societies to Polish lands.

The oldest Neolithic materials are connected with the first phase of the Linear Pottery Culture, with an increase in the second (Music note style), and in the end stage (especially in Źeliezovce style). The dramatic increase of the use of obsidian is noticed in inventories related to Malice Culture and the Lengyel-Polgár Complex. But obsidians are also observed in younger material connected with the activity of communities from the end of Neolithic and the beginning of Eneolithic – Wyciąże-Złotniki group or Baden Culture.

In Poland we have obsidian recovered from more than several dozen Neolithic sites, in addition to those with single finds. In the presentation we would like to present preliminary review concerning the sources and uses of obsidian during the Neolithic in Poland.

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Keywords: obsidian, long-distance distribution, Neolithic, Poland

Fashion is tradition. Obsidian on Northern Balkans Copper Age sites

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It is common in archaeological studies that cultural changes in prehistory were significant markers of past reality, representing changes in other aspects of social or economic life of prehistoric communities. In the Northern Balkans the transition from Neolithic to Copper Age had strong and manifold cultural manifestation. These include: change in settlement organization; change in the pottery style and technology of production; introduction and use of copper objects; smaller quantity of decorated items; different types of stone tools and materials used etc. All of these point to a complex social dynamics at prehistoric settlements. Yet, one aspect of material culture remained the same for over 1500 years: the appearance of obsidian. During Late Neolithic to Copper Age timeframe it was common thing to have obsidian artifacts in some quantity at any settlement of the region.

Compositional data obtained by PGAA of obsidian from four Copper Age sites showed that they are all of Carpathian origin, from Carpathian I sources in Slovakia. Still, there were different practices observed during Neolithic (more abundant obsidian assemblages, more intensive use of obsidian, both Hungarian and Slovakian sources), while on Copper Age sites there is a reduction in the use of obsidian, but it remains constantly present. Obsidian presence on sites more than 400 km from the source in a form and quantity that is most certainly not utilitarian is an indication of social relationships on a scale we have yet to determine. In this paper, therefore, characterization and distribution of Croatian obsidian was put in its cultural and geographic settings to create new perspective on obsidian at territorial margins of its distribution. We will try to observe this obsidian occurrence as a possible example of *longue durée* and start a discussion about the significance of this practice as a source of information on prehistoric population in the Northern Balkans.

Keywords: obsidian, Copper Age, Northern Balkans, PGAA

Reflection of the *magus*: The provenance of an obsidian mirror associated with the sixteenth century polymath, John Dee

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Day 3 (29 May) 12:10-12:30

John Dee (1527–1609) was a mathematician and astronomer and advisor to Queen Elizabeth I of England. He was also interested in optics and mirrors, and along with his medium, Edward Kelly, he also became involved in the occult. The instruments that he and Kelly used are on display in the Enlightenment Gallery in the British Museum and include an obsidian mirror.

Such mirrors are usually associated with the Aztecs (as described by Sahagun in the *Codex Florentinus*), although they are also known in other central American contexts (obsidian mirrors of a different type are also documented in the Neolithic Near East and from Rome). It is thought that some were brought to Europe after the conquest of Mexico by Hernando Cortés between 1527 and 1530 or perhaps later, as the *Kingsborough Codex* (a native legal document dating to 1554) suggests. It is not known where John Dee obtained his mirror from, but it may be no coincidence, given Dee's reputation in his later days, that in the Post Classic period in Central Mexico obsidian mirrors are associated with the god/deity Tezcatlipoca, Lord of the Smoking Mirror, the supreme deity and trickster.

Our paper will not only describe the recent portable XRF analysis of John Dee's mirror but will also compare its geologic source to two similar mirrors and other obsidian objects in the British Museum and elsewhere.

Keywords: obsidian mirror, John Dee, British Museum, sourcing