

Day 3 (29 May)

9:00-10:10: lectures

Session VI - Contemporary approaches to reconstructing exchange

9:00-9:20

Moutsiou, T.: Least Cost Pathway analysis of obsidian circulation and social communication in Early Holocene Cyprus

9:20-9:40

Tykot, R. H. - Vianello, A.: Changes in Obsidian Island Source Usage in Northern Italy during the Neolithic: Selection or Availability?

9:40-10:00

Freund, K. P. - Craig, A.: Obsidian Exploitation and Shifting Cultural Identities on Sardinia and Corsica

10:00-10:10

General discussion on session VI

Day 1 (27 May)

15:50-17:00: Poster session

Session VI - Contemporary approaches to reconstructing exchange

Biró, K. T. - Kasztovszky, Zs. - Mester, A.: New-old obsidian nucleus depot find from Besenyőd, NE Hungary

Priskin, A. - Szeverényi, V. - Wieszner, B.: Obsidian exchange in Early Neolithic Eastern Hungary

Gratuze, B. - Tardy, N. - Kalantarian, I. - Perello, B. - Chataigner, C.: The development of obsidian procurement in the cave of Getahovit (NE Armenia)

Least Cost Pathway Analysis of obsidian circulation and social communication in Early Holocene Cyprus

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Session VI - Contemporary approaches to reconstructing exchange

Form of communication: oral

Day 3 (29 May) 9:00-9:20

Obsidian artefacts appear in the archaeological record of Cyprus at the same time when the first human populations establish communities across the island. Geological sources of obsidian do not exist on Cyprus so the material had to be procured elsewhere and then introduced to the eastern Mediterranean island. Recent geochemical analyses using portable-X-ray Fluorescence Spectrometry identified that the Cypriot obsidian derives from multiple geological sources. However, once on the island the material is consumed with no clear preference for specific sources in specific sites. There is, however, a clear distinction between sites that use obsidian and sites that do not. In order to address this distinction, a geospatial model (Least Cost Pathway Analysis, LCPA) was developed to investigate (a) the optimal routes for obsidian circulation in Early Holocene Cyprus and (b) whether the routes delineated in the archaeological record reflect functional or social criteria. This paper discusses the results of the LCPA on obsidian circulation on Cyprus and uses these outcomes to address the paths these first communities used to build their social networks and exchange their goods.

Keywords: obsidian, Cyprus, Early Holocene, geochemistry, Least Cost Paths Analysis, social territories

Changes in Obsidian Island Source Usage in Northern Italy during the Neolithic: Selection or Availability?

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Session VI - Contemporary approaches to reconstructing exchange

Form of communication: oral

Day 3 (29 May) 9:20-9:40

Obsidian was widely used for stone tools in northern Italy during the Neolithic period (ca. 6000-3000 BC), coming from the far-away island sources of Lipari, Palmarola, and Sardinia. The large-scale, continuous inhabitation of Sardinia and Lipari, which was made possible by the introduction of domesticated animals in the Early Neolithic, strongly infers regular maritime travel capabilities, and obsidian was distributed from these island sources throughout the Italian peninsula and beyond to France and Croatia.

For the northern part of the Italian peninsula, the nearest obsidian source is the tiny island of Palmarola, nearly 500 km to the south, while Lipari and Monte Arci (Sardinia) are much further away. The sites tested include Case Catena, Pontetaro, Guidorossi, and Gaione, all near Parma and Early-Middle Neolithic, and Pescale (Prignano) which is Middle-Late Neolithic, and add to previous studies in northern Italy. Obsidian cores have been found at some of these sites, confirming the local production of the final tools.

Analyses were conducted using a portable X-ray fluorescence spectrometer, a non-destructive analytical method that provides calibrated major and trace element data sufficient to attribute artifacts to specific subsources on Lipari (Gabelotto Gorge, Canneto Dentro) and Sardinia (Monte Arci SA, SB, SC) whose usage has been shown to vary over time. The results obtained in this study show striking differences between the sites, with 71% Lipari, and 27% Palmarola at the Parma sites vs. about 87% from Sardinia and 12% from Lipari at Pescale.

These results are compared to address whether the differences observed may be related to chronological change, and if so what that infers about socioeconomic and other changes between the earlier and later Neolithic. The obsidian distribution patterns will also be used to propose potential transportation routes and how and why they may have changed over the course of the Neolithic.

Keywords: obsidian sourcing, northern Italy, Neolithic trade, western Mediterranean

Obsidian Exploitation and Shifting Cultural Identities on Sardinia and Corsica

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Session VI - Contemporary approaches to reconstructing exchange

Form of communication: oral

Day 3 (29 May) 9:40-10:00

Exchange is a central focus of a large portion of modern obsidian studies, and the reconstruction of various exchange mechanisms using provenance data has a long history in the discipline. While modeling the movement of objects across space is revealing, it is also critical to flesh out the implications of exchange relationships and their capacity to create, reify, and reflect distinct cultural groups. Archaeologists often assume that people who share the same material culture also share similar cultural practices, kin relations, or ethnic identities, which in the context of obsidian sourcing has been applied through the analysis of similarities and differences in procurement and exploitation.

Using obsidian as a proxy, this paper takes a long-term perspective on prehistoric group interaction and social identity on the Mediterranean islands of Sardinia and Corsica, where obsidian sources on Monte Arci were exploited from the Neolithic through Bronze Ages. Social network analysis (SNA) is employed to identify the strengths of inter-site relationships through time based on the relative proportions of raw materials from the four main subsources at Monte Arci. We in turn argue that prehistoric social networks in Sardinia and Corsica are complex and reflect a long history of mutable cultural boundaries that were mediated by the flow of goods and information.

Keywords: Central Mediterranean, Network Analysis, Social Identity, Group Interaction, Early Farming Societies

New-old obsidian nucleus depot find from Besenyőd, NE Hungary

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Mester, Andrea (Jósa András Museum, Nyíregyháza, Hungary)

Session VI - Contemporary approaches to reconstructing exchange

Form of communication: poster

Day 1 (27 May) 15:50-17:00

From the archaeological depository of the Jósa András Museum, Nyíregyháza, a new obsidian core nucleus depot came to light recently. The finds were spotted by A. Mester when selecting material for the exhibition *Obsidian in the Tokaj Mountains: an industrial centre in Stone Age Europe*, organised on the occasion of the International Obsidian Conference (IOC 2019, Sárospatak). They were found by a local farmer, Miklós Laskai in course of digging a storage pit for potatoes. The find assemblage was transferred to the Museum in 1947 by Lajos Tar, teacher from the village. It was reported among the new acquisitions of the Museum by Lajos Kiss, curator of the collection, but unfortunately it did not get wider attention.

The finds comprise four medium-to-large obsidian conical blade cores, very similar in form and finish to the famous Nyírlugos core finds, though obviously more modest in size as well as number. We can justly suppose that the similarities with the Nyírlugos depot find are not incidental: Besenyőd is located along the same “Eastern route” leading towards the Transylvanian salt regions as pointed out by M. Roska in 1934.

In our poster we intend to present the cores to the wider public and present provenance data by Prompt Gamma Activation Analysis.

Keywords: obsidian, core, depot, Besenyőd

Obsidian exchange in Early Neolithic Eastern Hungary

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Session VI - Contemporary approaches to reconstructing exchange

Form of communication: poster

Day 1 (27 May) 15:50-17:00

In the autumn 2017, during preventive excavations along the M4 motorway, a unique deposition of obsidian nodules was discovered at the site of Váncsod, Szénás-dűlő. The find contained 13 large nodules and belongs to the Early Neolithic Körös period. According to PGAA results, the source of the raw material can be determined as the Slovakian sites of the Tokaj-Eperjes Mountains (Carpathian C1). Taking the Váncsod assemblage and other finds from Hajdú-Bihar County as our starting point, we analyse access to obsidian raw material, the character of obsidian exchange and interaction networks in the period in Eastern Hungary.

Keywords: Obsidian nodules, Early Neolithic, exchange

The development of obsidian procurement in the cave of Getahovit (NE Armenia)

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Session VI - Contemporary approaches to reconstructing exchange

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The cave of Getahovit-2 is situated in north-eastern Armenia, in the foothills of the Lesser Caucasus which dominate the valley of the Kura. The excavations (2011-2018) have revealed several phases of occupation – Upper Palaeolithic (ca. 22,000 cal BC), Chalcolithic (ca. 4700-4000 cal BC), and early Middle Ages (ca. 900-1200 AD). Although the cave is near outcroppings of flint (lower valley of the Aghstev river), the artefacts found there are mainly in obsidian, whatever the period of occupation.

During the Chalcolithic period, the cave served as a shelter for herds, as seen in the succession of coprolite deposits, the remains of animal excrement that was regularly burned to clean the floor of the cave. The origin of the populations that sheltered their herds in this cave is difficult to determine: did they come from the nearby Kura basin, like the many transhumant groups mentioned in the ethnographic sources? Or did they come from the basin of the Araxes, farther south, where a Chalcolithic culture is well-attested? The study of the provenance of obsidian in the early Chalcolithic provides us with some indications and suggests links with the south.

The procurement of obsidian evolved in the middle Chalcolithic, and the techno-typological study of the material shows in particular that the flakes –a large majority of the assemblage– come only from sources situated in Armenian territory (Geghasar, Gutansar, Tsaghkunyats), whereas a few blades knapped by pressure were imported from more distant sources, Chikiani in Georgia or Sarikamis in eastern Turkey. Among the sources in Armenian territory, the choice of the deposits evolved gradually and in the latest phase of occupation the Tsaghkunyats outcrops represent about two-thirds of the pieces analysed.

A study of the environmental and cultural contexts in the Chalcolithic period enables a better understanding of how procurement developed.

Keywords: obsidian procurement, Northeastern Armenia, Chalcolithic