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As there are no graphite deposits in the nearest surrounding of Nitra, it is apparent that the graphite was imported from other regions as a raw material or in form of graphite doped vessels. The graphite ceramics is present in all studied localities but the content of this ceramic is very variable from locality to locality. Sherds from various localities in Nitra (Sindolka, Chrenová II and III, Martinský vrch, Mikov dvor) were chosen for the mineralogic and petrographic characterization. Four main types of graphite doped ceramics were distinguished according to the mineralogic and petrographic composition of non-plastic inclusions. Comparing the experimental data with already published data and/or with geological settings of graphite deposits it was partly possible to determine the provenance of the graphite raw material. The graphite raw material from petrographic type I comes from Moldanubikum (southern Bohemia and Lower Austria), type II and type III comes from the Moravia–Silesia region. Especially the type III comes from the Velkovicová dome (nearest surrounding of Jeseníky Mts.

**ARCHEOMETRICKÁ CHARAKTERIZÁCIA LATÉNSKEJ SÍDLISKOVEJ KERAMIKY Z LOKALITY NITRA-MIKOV DVOR**

Mineralogicko-petrografická a technologická charakterizácia

Miloš Gregor – Gertrúda Březinová

Archaeometric Characterization of La Tène Household Ceramics from Nitra-Mikov dvor. Mineralogical, Petrographical and Technological Characterization

This paper presents the results of ongoing study of La Tène household ceramics from Nitra-Mikov dvor. This paper focuses mainly on the ceramic raw material provenance, modeling techniques and firing conditions of the household ceramics. The results suggest that ceramics from petrographical group MD1 as well as MD2 were made from local raw materials including Upper Pleistocene and Quaternary fluvial deposits and also Quaternary deluvial deposits. Presence of low metamorphed rocks in group MD3 suggests that this ceramics were imported. The modeling techniques as well as the firing conditions are very variable within the petrographical groups. In general the thin-walled ceramics were made using potters wheel, whereas the thick-walled ceramics were hand made. The firing temperature was estimated between 700–800 °C for ceramics with anisotropic matrix and 800–900 °C for ceramics with isotropic matrix and partially decomposed calcite.

**INVESTIGATION OF THE GRAVEYARD OF THE ALL SAINTS CHURCH IN METYLOVICE**

Martin Moník – Michal Chrámecký

Investigation of the Graveyard of the All Saints Church in Metylovice

In the fall of 2009, a rescue excavation of a section of Modern period graveyard at the All Saints church in the Metylovice village took place. In all, 28 certain and 4 possible skeleton graves were discovered. On the basis of pottery fragments it may be assumed the graves date to the end of 18th or the 19th century. Anthropological analysis made it possible to reconstruct the age at death of most skeletons. The sex and stature of most individuals, however, were impossible to estimate due to poor preservation of the skeletons.

**NAJNOVŠIE VÝSLEDKY NEDEŠTRUKTÍVNEJ PROSPEKCIE ZOBORSKÉHO KLÁŠTORA V NITRE**

Marián Samuel – Ján Tirpák

The Newest Outcomes of the Non-Destructive Prospection of the Zobor Monastery in Nitra

The paper presents the outcomes of geophysical exploration on the premises of the former monasteries (the medieval Benedictine Monastery of St. Hippolytus and the modern Camaldolese Monastery of St Joseph) in Nitra and their...
confrontation with the outcomes of archaeological exploration. Several marked anomalies on several areas have been measured through geoelectric and GPR methods. The subsequent archaeological research found out that the measured anomalies reflect the presence of perished walled architectures, or their destructions. The anomalies of apparent specific resistance acquired in the area south of the ruins of St. Joseph’s Church corresponded with the position of unearthed walls from the destructIon of the Baroque monastery. The layer of stones originated after the perishing of the Camaldolese monastery (1782), probably only during the terrain adjustments at the end of the 19th century or in the 1st half of the 20th century. Other anomalies captured in this area were caused by stone paving, foundations of polygonal summerhouse and remains of stone walls of the Baroque water conduit.

VOJENSKÉ MAPOVANIA UHORSKÉHO KRÁĽOVSTVA NA JUŽNOM SLOVENSku A DIAĽKOVÝ PRIESKUM

Ivan Kuzma

Military Mappings of the Kingdom of Hungary in Southern Slovakia and Remote Sensing

The paper is an introduction to the problem of the study of historical maps in connection with remote sensing, either by aerial prospection, orthophoto images, satellite images, and so on. Historical maps have always been a precious source for historians, historical geographers and archaeologists. Through their documentary value they provide possibilities for the application of several methodological approaches as well as for the search of new ones. However, the criteria for research work are fulfilled, as regards their form and content, only by the maps coming from the first up to the third military mapping. Especially the connection with remote sensing often brings a new view of the facts which could be hardly realised without it. The maps from military mappings capture the information not only about particular categories of the use of landscape, settlements and significant objects from the military point of view, but contain also indirect information about archaeological objects from which many things may be confirmed by means of remote sensing. They include several categories of objects, either directly visible in the terrain, such as prehistoric and medieval fortifications, barrows, as well as other ones. Depending on several factors, however, the facts/objects may be drawn on historical maps more or less inaccurately. On the contrary, an aerial image is an accurate evidence of the existing state, inaccurate could be just the interpretation of its content. In favourable cases, if objects can be identified on aerial images, data from the maps could be corrected as well. Naturally, during the study of maps from the aspect of archaeology several problems emerge, such as, for example, the marking of the objects of the same nature by various marks, a limited number of marks in the map key, or some circumstances not understood by cartographers, as in the case of barrows, and many other ones. I believe, however, that through constant and detailed study of maps from military mappings, as well as through the use of other sources, many questions will be adequately answered.

PREDBEŽNÉ VÝSLEDKY ARCHEOLOGICKÉHO VÝSKUMU A GEOFYZIKÁLNEHO PRIESKUMU NA OPEVNENOM SÍDLISKU BADENSKÉJ KULTÚRY V PREŠOVE

Eva Horváthová – Ján Tirpák

Preliminary Results of Archaeological Research and Geophysical Surveys in the Fortified Settlement in the Baden Culture Prešov

In 2009–2012, the Archaeological Institute of the Slovak Academy of Sciences carried out rescue researches in the southeastern extraregion of Prešov, borough of Solivar, on the hill fort rising in Chmeľové-Tichá dolina. The initial rescue research in 2009 was carried out along the lines of construction of access roads and utilities. The following rescue researches from 2010–2012 focused on prospection of ten building sites where family houses are being built. By autumn 2012, 43 settlement objects were recorded. Polycultural character of the site settlement is represented by objects from the Neolithic, Eneolithic, late Bronze Age and late Roman era. 25 of them correspond with the middle Eneolithic settlement by the Baden culture people. Then, a fortified settlement protected by a ditch and rampart was built in the westernmost part of the site. Results of the geophysical measuring and terrain configuration suggest that size of the fortified settlement reached 55 x 75 m at least. The eastern part of the fortification was interrupted by the settlement entrance. Placement of the Baden culture objects along the inner and outer lines of the fortification suggests organized construction of residential and farm buildings, which has no analogies available in the current state of research within the Tisza region.
Iron Concretions in the Senec-Svätý Martin 11th–12th Century Settlement

In two features from 11th–12th century were found ten pieces of iron concretions. Their limited number gives cause for doubts that this raw material could be technologically processed for raw iron. There was found no equipment or other pieces of evidence of metallurgical activity in this settlement. For this reason is such production of iron in rural settlement little probable. More real could be the consideration that the iron concretions, which were found, were picked in order to produce red pigment which was used for staining. Results of mineralogical study of the Fe³⁺-rich concretions by optical and back-scattered electron image microscopy (BSE), electron microprobe (EMP A) and X-ray diffraction analysis (XRD) indicates a presence of hydrated and silicified goethite, Fe³⁺O(OH), as the main component of the concretions. The iron content of the concretions attains 72 to 80 wt. % Fe₂O₃ and 3.5 to 5.2 wt. % SiO₂. Textural and geochemical data support the natural origin of the iron concretions, probably by sedimentary precipitation of goethite from Fe-bearing solutions in wet swamp or lake environment.

Natural Sciences and the Research of the Old Mayans

In 2009 and 2010 were conducted the first Slovak archaeological excavations in the geographic area of Mesoamerica. Headed by prof. M. Kovac, excavations were organized by the Slovak Archaeological and Historical Institute. Here we present a brief summary of the results and basic informations about the first two seasons in the Mayan city of Uaxactun focusing on the application of various methods in archeology, borrowed from natural sciences. This is a preliminary report as further exploration of the site is in progress. Particularly important results are the identification of volcanic ash used as temper in Maya ceramics and identification of the optimal method for geophysical survey. We expect interesting results by palynology and archaeobotany.

Basic Anthropologic-Archaeological Characteristics of Burial Place from the Turn of 9th and 10th Century in Mužla-Čenkov

Burial place with 25 graves was excavated in the southwestern part of fortified settlement in Mužla-Čenkov. It belonged to a community with higher social status according to the elements of funeral rite and articles. High number of children living in families and a building of large area, which was in the neighbourhood, confirm indirectly this status. The burial place was used 30–40 years at the turn of 9th and 10th century. Skeletal remains of 30 individuals were detected with use methods of osteoanthropological analysis; there were found inhumation of two individuals in one grave in four cases. In one case, there were found inhumations of three child in one grave.

GPR Survey of the Roman Catholic Church of the Nativity of the Blessed Virgin Mary in Socovce

In the summer of 2009 a GPR survey was carried out in the interior of the Church of the Nativity of the Blessed Virgin Mary in Socovce which was part of the rescue archaeological research. According to some historians, the church in Socovce belongs to the oldest sacral buildings in the Turiec Basin. The construction-historical exploration confirmed its latest...
existence in the first half of the 13th century; unearthing older foundations archaeological exploration shifted this dating to the period before the 13th century. Such dating is also supported by the finds of stone monolithic grave stones, such as occur in Slovakia mainly from the 11th to the 13th century. GPR survey completed the information obtained through architectonic-historical and archaeological exploration. A marked anomaly measured in the western part of the sacristy perhaps reflects the presence of Baroque(?) crypt of the Rakovský family. The most important outcome of GPR survey was the measuring of the anomaly indicating the presence of older masonries under the floor of the present presbytery and sacristy. The shape of the anomaly indicates the presence of an assumed older quadratic presbytery. Such interpretation, however, may be verified only by planned archaeological exploration in the church’s interior.

NEDEŠTRUKTÍVNY PRIESKUM ZANIKNUTÉHO STREDOVEKÉHO KOSTOLA V PRÁZNOVCIACH

Marián Samuel – Ján Tirpák – Ján Hunka – Martin Bartík

Non-Destructive Exploration of the Perished Medieval Church in Práznovce

The non-destructive exploration (GPR measuring, geodetic surveying) of the perished medieval church in Práznovce identified a ground plan of the All Saints’ Church consisting of a smaller aisle with a rectangular ground plan, a sanctuary and a prebuilt tower. The coins found through a metal detector indicate that the little church had perished already before the mid-16th century.