

consistently engaged with the topic since the mid-nineteenth century, discussing not only the events themselves, but the reasons for them and their greater historical consequences. During the last two decades, a large quantity of new data has emerged from the field of archaeology. The first significant archaeological excavations were connected to motorway construction, but later these discoveries were followed up by targeted investigations. The new archaeological data has been intensively discussed in Central and Eastern European scholarly circles, but it has not been represented in the recent discussions on the archaeology of the Mongol Empire.

The main aim of this session is to present new data representing different branches of archaeological research (battlefields, settlements, burial sites, material culture, etc.) and to discuss interpretations connected to the catastrophic events. Important research questions such as population movements, settlement desertion, nucleation and urbanization processes will be presented together with various interpretational frameworks of archaeological and historical research. Papers presenting methodological aspects of the short-term changes detected by archaeology and their historical interpretations will also comprise some of the topics of the session.

ABSTRACTS

1 CHURCHES, TREASURES AND THE MONGOL INVASION OF HUNGARY – A COMPARATIVE ANALYSIS OF NETWORKS

Abstract author(s): Vargha, Maria (Universität Wien)

Abstract format: Oral

It is a generally accepted theory in Hungarian history that the Mongol invasion have accelerated changes in social structures, which had an impact on various levels, from private fortifications to changes in social class, or the church network. The emergence of the parish as a legal entity, and thus the organised parish network in church law can only be traced from the thirteenth century onwards, even in Western Europe. In Hungary, this phenomenon has collided with the Mongol invasion, which restructured the settlement and with that church network as well. There have been previous attempts to recover the destruction of the Mongol invasion, and a correlation between the density of treasure troves and destroyed villages has been discovered. In the present paper, this thought is carried on a little further, by comparing the twelfth-century church network with the appearance of hoards, and finally, the newly founded churches of the thirteenth century, to have a closer image on the effects and changes of the Mongol invasion on the rural population.

2 THE TOWNS OF MEDIEVAL HUNGARY IN THE PERIOD OF THE MONGOL INVASIONS: WRITTEN AND ARCHAEOLOGICAL EVIDENCES

Abstract author(s): Nagy, Balázs (Eötvös Loránd University, Budapest)

Abstract format: Oral

The Mongol invasions of Hungary in 1241-42 caused the most significant disaster in the medieval history of the country. Although the main events of the military campaigns were reconstructed by the scholarship of the last decades, but many details of the events have not been clarified yet. One of them is the role and significance of the towns in the defense strategy of Hungary. Usually, it is assumed that the Mongols were not prepared for town sieges, but several examples from their campaigns in the territory of the Kievan Rus' prove their capacity and skills to perform successful sieges, e.g. in Vladimir, Suzdal, and Kiev.

In Hungary, the siege and devastation of the towns marked the process of the invasion of the country, but there were significant differences in the level and gravity of the campaigns. The variances can be explained partly by the location of the given settlement and partly by the structure of fortifications. Some of the main urban centers have been completely destroyed others escaped the sieges.

Among the narrative sources usually, the texts of Thomas of Spalato and Master Roger and used to reconstruct the destruction of the urban centers, but by now the overview of archaeological studies might give a chance to reconstruct the fate of towns in the period of the Mongol military campaigns in a more complex way. The paper will make an attempt to synthesize the written and archaeological evidence on that issue.

3 MILITARIA WITH CONNECTION TO THE MONGOL INVASION OF 1241-1242 NORTH OF THE DANUBE

Abstract author(s): Holeščák, Michal (IA SAS)

Abstract format: Oral

Militaria, weapons and warrior equipment, are one of the main archaeological sources that can shed more light on the military conflicts and battles. Presented paper shows the spread of the eastern types of weaponry, mostly arrowheads, spearheads and maces, that can be connected with the Mongol invasion of 1241-1242 from the territory north of the Danube, nowadays western and part of the central Slovakia. This area was hit by the Mongol troops led by Orda, son of Jochi, moving from the won battle at Legnica in order to join the main column of Batu. They passed the researched territory and pillaged the countryside, camping for a few months north of the Danube, until the river froze and they crossed it close to Estergom. This presence is documented by various types of archaeological finds, from solitary artefacts to clusters of burned objects, leaving behind them weapons, which analysis shows the

typological similarity to the material culture of eastern steppe nomads of Late Medieval Period: tanged arrowheads with specifically shaped blades, narrow spearheads with quadratic cross-section and maces with pyramidal knobs. Mapping of these artefacts shows much higher level of the Mongol presence than the relatively scarce literal sources from the area of present day Slovakia.

4 ROLE OF THE PRIVATE TOWERS IN THE 13TH CENTURY URBAN METAMORPHOSIS IN CENTRAL EUROPE

Abstract author(s): Szoboszlai, Gergely (Central European University)

Abstract format: Oral

From the middle of the 13th century onwards, in the newly established cities of the Hungarian and Polish kingdoms, large number of private towers were appeared from the early phase of their urbanization after the Mongol invasion. However, this phenomenon is not without precedent, we can find similar buildings other than the urban towers of Buda, Bratislava, Sopron or Krakow. In comparison, they have many common features with the central structures of the so called 'tower castles'. Also, analogous private towers were already erected in the cities in Lower and Upper Austria, also in Vienna and Prague from the 12th and early 13th century.

However, several issues complicate the interpretation of these buildings. Many towers were dismantled or merged into the fabric of their cities that were overgrown them in a short period. Thus, their interpretation is problematic at several points due to the scarcity of available architectural and archaeological data. Their structure and its similarities with the castle architecture of the region suggest a specific military function. To supplement this, according to the charter sources, most of their builders were part of a specific military nobility, who could have used the towers for residential and defensive purposes. On the other hand, the urban environment, their topographic and social situation, and the archaeological data, suggest a much more diversified situation in terms of tower's functions.

In my presentation, I would like to examine the role of the towers within the city after the Mongol invasion. How did they appear and fit into the newly emerging urban space, and what function did they play? Also, how can they be linked to their builder's social status? I would like to present this by a structural and comparative analysis of the remained structure while also examining their topographic situations and charter sources.

5 TVER KREMLIN (RUSSIA): EVIDENCE OF THE SIEGE BY BATU KHAN HORDES

Abstract author(s): Zinoviev, Andrei (Tver Science and Research Center in History, Archaeology and Restoration; Tver State University; Higher School of Economics)

Abstract format: Oral

One of the old Russian cities, Tver was sieged and ransacked by Batu Khan Hordes on March 5th, 1238 during the invasion of Mongol-Tatars in Rus' in the 13th century. Unlike some other Russian cities, destroyed by hordes, where the cultural layer remains relatively undisturbed, the historical part of Tver, its stronghold where the wooden Kremlin once stood, underwent massive reconstructions. This went to the conclusion that no traces of the early events are preserved. Archaeological excavations of the last ten years revealed that this statement is wrong. Scattered parts of adult and mature male skeletons are associated with the defenders of the stronghold who died during the siege of 1238. Besides, several persons, such as elderly women, disabled man, young woman, and a kid, who died under the burned building are the victims of the siege among civilians seeking protection inside the walls of the stronghold. Remains of the domestic animals among charred human bones indicate that they were probably brought in the place of hiding for the same purpose. A careful study of the osteological material can reveal traces of the long-gone events despite all the later perturbations.

464 TRAUM - TRACING REALITY IN ARCHAEOLOGY USING MACHINE LEARNING

Theme: 1. Networks, networking, communication: archaeology of interactions

Organisers: Girotto, Chiara (Goethe University Frankfurt) - Price, Henry (Imperial College London)

Format: Regular session

There has been much hype on the use of applicability of Machine Learning (ML) and Artificial Intelligence (AI). However, its fundamental use is to extract complex patterns which humans do not necessarily see. These methods, especially when multiple are stacked, provide the possibility to highlight patterns previously unknown to the observer. Multi-model approaches, predominantly used in finance and to provide consumers with personalised suggestions are especially powerful in large and fuzzy datasets and in combination with an expert's opinion reduce the amount of theory based assumptions and approximations within a model.

Whilst providing explanatory insights and subtle new ideas their current framework has to be re-evaluated to harness their power for research in the fields of humanities. Their potential, especially in archaeological research is tremendous and has been explored, e.g. to re-assemble 3D pottery shreds into an object, visual recognition of script or coins, and other object based approaches.

In our session we aim to discuss how ML and AI model outcomes can be used to negotiate different narratives of the past and how to design a framework, to ensure reproducible and documented research. We particularly welcome theoretical and methodical papers as well as case studies.