

## EDITORIAL NOTES

This section of the 21<sup>st</sup> issue of «Archeologia e Calcolatori» is dedicated to the publication of the Proceedings of the Annual Meeting of the UISPP 4<sup>th</sup> Commission (Data Management and Mathematical Methods in Archaeology) in Budapest, 5-6 June 2009. The venue of the Conference was the Hungarian National Museum.

The special concern of the lectures were “Quantitative Methods for the Challenges in 21<sup>st</sup> Century Archaeology”. The Conference website is still in operation, with the complete program and abstracts of lectures ([http://www.ace.hu/UISPP\\_4/](http://www.ace.hu/UISPP_4/)). The subjects covered general issues of quantitative aspects in archaeology, object classification by quantitative methods, archaeometry applications, databases, landscape archaeology and archaeoastronomy.

The papers submitted for publication involve a review of quantification of different processes, “events” in the archaeological record by F. Djindjian (*Quantifier les processus archéologiques/Quantifying the archaeological processes*). This is history itself, through a very specific though accidental filter, the accumulation and discovery of the archaeological finds.

Clive Orton’s paper (*Fit for purpose? Archaeological data in the 21<sup>st</sup> century*) is mainly concerned with data quality, both in technical sense, i.e. counting and measurement errors, and more important, problems of classification and concept that can distort interpretation, with and without quantitative methods.

Apart from general subjects relevant to data analysis in archaeology, there were several specific problems discussed at the Conference and published here.

The analysis of decoration and style on Prehistoric pottery has always been a key tool for object classification for archaeologists. G. Naumov (*Symmetry analysis of Neolithic painted pottery from the Republic of Macedonia*) goes beyond that, trying to analyse regionality and cultural coherence by the investigation of these features within Macedonian Neolithic pottery.

A very unique problem was raised in the paper by R. Schulze *et al.* (*The Ancient Charm Project: new neutron based imaging methods for cultural heritage studies*). Neutron imaging, a leading new technology in material science which can be used for the investigation of cultural heritage objects, involves a lot of calculations and data analysis. Potentials of neutron based imaging (visualising the interiors of the object) were presented, with special regard to the quantification techniques used in the analysis.

The paper by Zöldföldi *et al.* (*CeraMIS: interactive Internet-based information system on Neolithic pottery*) concentrated also on archaeometrical

application. The accumulation of masses of high-tech analysis data necessitates the creation of specific thematical databases for scientific communities working together or simply interested in the basic data of other teams. The presented database is concentrating on Bükk Culture pottery, a highly decorative “ware” widely distributed in Central Europe, claimed to be the subject of long distance trade.

Phytoliths are parts of the microremains recovered from the culturally affected soil sediments found during the analysis of archaeological sites. The pedological and microbiological investigation of these samples enhances our knowledge on the chronology as well as the actual life in the ancient settlement. The paper by Á. Pető (*Detecting ancient surfaces. Methods of semiquantitative phytolith analysis*) deals with the quantitative aspects of these items.

A Romanian team of archaeologists and archaeoastronomists (I. Szücs-Csillik *et al.*, *Case studies of archaeoastronomy in Romania*) concentrated on features of astronomical connotations on archaeological sites, notably Cernica and Sarmizegetusa-Regia, the Dacian capital.

Another Romanian team (D. Ștefan, V. Sîrbu, *Statistical tools as landscape archaeology*) concentrated on GIS methods over large areas in Buzău County, Romania for cultural heritage protection using Archaeological Predictive Modelling techniques.

Computer assisted archaeology in the 21<sup>st</sup> century looks more a practical rather than theoretical issue, notwithstanding the basic and unavoidable concepts highlighted in the first two papers. Young archaeologists, as a matter of fact, use computer assisted techniques in their daily work, especially on large-scale excavations that are otherwise impossible to be carried out by traditional methods. At the same time, there is still a big lack in the interpretation of data and computer assisted teamwork, both on the level of institutions (e.g., shared inventory databases) and the public. The technical conditions are more or less available but there is still a gap between IT-trained personnel and the scholarly approach to the archaeological sites and finds. I hope the present Proceedings will help to overcome these difficulties.

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