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Post - Classical Archaeologies

Editorial

Since the late 19th century (with the first volume of Theodor Mommsen's Corpus Inscriptionum Latinarum *appearing in 1863), scholars of the past have been concerned with classifying material data, ordering them topographically or by type (e.g. in the* Corpus Vasorum *by Edmond Pottier in 1919). But it is only over the last thirty years that computers have forcefully entered the horizon of archaeologists, for example with the spatial analyses made possible by the georeferencing data using GIS, both to interpret established distributions and to suggest them thanks to predictive analyses. The leap in quality in recent years (see a discussion in A. Barceló* et al.*'s introductory essay to the monograph of this issue), is represented by the development of AI (Artificial Intelligence), through neural networks, a subset of the machine learning – and central element of deep learning algorithms. In other words, machine learning algorithms, based on statistical and mathematical analyses, are capable of identifying meanings and correlations between huge amounts of data (big data). These are the systems that run television platforms, search engines and social networks, and which have been experimented to analyse contemporary texts, material culture, settlements, and architecture through the analysis of data sets (clusters).*

This issue – funded under the "Re-Living the Past" project (POR-FESR funds) directed by Armando de Guio, one of the pioneers in Italy to develop this type of analysis – presents some applications: the simulation and prediction of conditions in the humidity of the soils of the Lower Veronese area in relation to the development of the land-dwelling settlements of the Recent Bronze Age (Burigana, De Guio); the automatic recognition – combining AI and LiDAR – of the cairns in the Marcesina area on the Asiago plateau (Bettineschi, Magnini et al.*); the automatic recognition of ceramics in the ArchAIDE project, about which Francesca Anichini and Gabriele Gattiglia tell us not only in terms of its development and epistemological and hermeneutical aspects, but also ethical aspects. The essay by Salvatore Basile on the distribution of early medieval burials in the city of Lucca also uses automatic spatial distribution analyses. This study is part of a broader project of spatial analysis of the entire territory of Lucca the first results of which, as Basile recalls, have been the object of criticism by Giulio Ciampoltrini, the archaeologist who has most investigated this territory.*

In fact, we are in a phase of the development of AI (of short duration, if we invest in the construction of databases), in which it is necessary to compare the re-

sults obtained with traditional research (based on human neurons) and that based on AI. It is in fact starting from the traditional that the databases (big data) are built and the questions are asked on which the algorithms that allow machine learning are set. We must also take into account two risks we currently encounter: an insufficient or conditioned amount of data (for example, numbers of early medieval burials without grave goods, compared to those that have grave goods, on which the research has focused); or the failure to recognize exceptional cases so that they escape the identification parameters (for example, a particular type of decoration), with respect to which the cluster has been identified.

On the other hand, research on the post-classical funerary world and the anthropological and chemical analyses (to which we dedicated a volume almost 10 years ago) are now consolidated, and this issue publishes two essays on late ancient contexts in Spain (Sarabia et al.*) and the monastic cemetery of San Pietro di Pozzeveri (Lucca) (Fornaciari* et al.*).*

The journal also includes various contributions related to research on important new sites such as the villa del Salar (Román et al.*), an extraordinary late antique villa recently discovered near Granada (Andalusia) and where a detailed excavation has brought new data to the classic theme of the end of villas. There are also contributions on widely known sites such as Castel Seprio, where archaeological excavations and an accurate analysis of the built elevations allows us to propose new arguments in the history of this early medieval* castrum *in relation to the impact of earthquakes on historical architecture (Brogiolo); or Rome itself and its construction sites (Bernardi). New archaeological investigations offer the reinterpretation of the suburban church of Santa Margarida in Empuries, based on the discovery of a monetary treasure in relation to the altar (Bouzas* et al.*). The late medieval period is represented in this volume by the article by Hasan Sercan Saglam on two towers and a castle, part of a maritime defence system built by the Turks.*

In occasion of the 50th anniversary of the 1972 UNESCO World Heritage Convention we have also asked Dennis Rodwell to reflect on the convention with a dense and provoking paper focusing on urban heritage, possibly the major unresolved challenge facing conservation theorists and practitioners in this 21st century. Rodwell discusses the contradictions and challenges of the World heritage principles in relation to inhabited historic cities in the context of the world's diversity and wealth.

The volume is completed by two contributions that discuss methods of collaboration between English institutions dealing with the historic environment (Benetti et al.*) and the project "Under 18" carried out in Rome and derived from the experience of the "Derbyshire Scout Archaeology Badge" (Di Cola).*

In a difficult historical situation – at the end of a pandemic and in the midst of a war in Europe and with the risk of an economic recession – the richness of contents of this volume shows us a remarkable vitality of archeology. Investigating the end of civilizations also invites us to reflect on the crisis of our Western European world to find ourselves prepared for the challenges that await us.