Archaeo-Logos?

Archaeology is undergoing significant transformations thanks to new technologies and multidisciplinary approaches. These changes, on the one hand, accelerate the process of knowledge-building in the archaeological field, but on the other, make the body of knowledge required to practice archaeology increasingly extensive and, therefore, the path to studying this discipline more complex and interdisciplinary. We are certainly facing a phase of transition and transformation in archaeology that, at least partially, may set aside some of the long-held tools of the trade—like the pickaxe, trowel, shovel, buckets, and wheelbarrow. While these tools remain essential for excavations, archaeology as a field is not solely dependent on them.

Considering that archaeology is a Science focused on reconstructing ancient civilizations through the study of material evidence, the role of the archaeologist goes beyond merely unearthing or excavating artifacts. Rather, it involves interpreting the past and navigating a vast array of bibliographic sources and material data to enable historical reconstruction based on direct, tangible, and scientifically verifiable evidence. In this regard, archaeometry has played a fundamental role since its emergence in the early 1950s with William Libby, strengthening archaeology's status as a science. Today, a similar technological push is opening new horizons and enabling scientific connections from survey to data publication. It is these technologies that now accelerate the processes of knowledge-building, documentation, analysis, interpretation, and dissemination of archaeological data.

The use of advanced technologies, such as drones, 3D scanners, lidar, and satellite imagery, allows us to map archaeological sites more precisely and quickly, providing data that archaeologists can use to reconstruct the past. This information is also valuable for conducting preliminary investigations required by institutions or companies involved in territorial planning and preventive archaeology.

The introduction of big data and artificial intelligence techniques has helped to analyze large quantities of information, making the search and interpretation of data and the identification of archaeological sites, as well as the analysis of numerous finds, more efficient. Yet, it is ultimately the responsibility of people—scholars and archaeologists—to manage, analyze, and interpret all of this information provided by technology and to decide how to apply it. Therefore, archaeologists must keep up with the rapidly changing world, as their role involves connecting dots, assembling pieces, and reconstructing the historical mosaic. This transformation can sometimes feel too fast, complex, and overwhelming, creating a large, often cumbersome, volume of data.

We often hear the question, "What do I do with all this information and data?" The answer is, in essence, straightforward: they are testimonies for a future that has not yet arrived and remains unknown. Archaeologists, in particular, must recognize the value of preserving material or digital records of a past that no longer exists. Technology that captures reality and creates digital models serves as a primary, direct record of our present world for a near future that continuously shifts in time and space. In this sense, technology has a dual purpose: to document the current state of Cultural Heritage and accelerating the knowledge process by creating connections that were unimaginable few years ago.

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