Archeologia e Calcolatori
36.2, 2025, 9-10
doi 10.19282/ac.36.2.2025.01

PREFACE

The ongoing development of quantitative methods in the study of cultural heritage has become an increasingly significant avenue for scholarly exploration across disciplines, particularly in the fields of archaeology and art history. One of the most notable advancements in this domain has been the convergence of these traditional humanities disciplines with tools and methodologies derived from the sciences, such as data analysis, statistical modeling, and machine learning. This cross-disciplinary dialogue is at the heart of contemporary research, as it fosters innovative approaches to understanding and interpreting the past, while also addressing the complex nature of historical and archaeological evidence.

In this context, the international symposium titled *Exploring the Legacy of the Past in Venice: Networks and Quantitative Methods in Archaeology and Art History* – held at the Ca' Foscari University of Venice on December 5th and 6th, 2024 – served as an essential milestone for scholars working at the intersection of these fields. The symposium was part of the activities of the PNRR, Spoke 8, Unit Ca' Foscari Venice, and aimed to present some of the preliminary results of ongoing research within the framework of national and international projects that are testing the potential of quantitative methods in archaeology and art history. Venice, with its unique documentary, art-historical, and archaeological assets, is an ideal setting for such an exchange. As a city whose historical layers stretch back centuries and whose monumental heritage has made it a focal point of cultural significance worldwide, Venice serves as both a case study and a laboratory for experimentation with innovative research methodologies. Its architectural splendor, vibrant artistic tradition, and layered history have attracted scholars from all over the world for centuries, yet the sheer complexity of its heritage – comprising countless objects, monuments, archival records, and artworks – poses significant challenges for traditional research methods. The integration of quantitative tools has thus emerged as a promising way to unlock new insights and facilitate a deeper understanding of this multifaceted city. Indeed, by leveraging methods such as network analysis, spatial modeling, digital mapping, and machine learning, we are able to analyze vast datasets, reconstruct historical connections, and generate visualizations that would have been previously unthinkable.

The symposium, which brought together specialists from archaeology, art history, and physics, exemplified the potential for collaboration across disciplines. Not only did the event provide a platform for presenting cutting-edge research, but it also encouraged a wider reflection on the broader impact of these methodologies on the way we understand the past. In this sense, the

symposium represented more than just a gathering of experts – it was an opportunity to rethink and reframe the very nature of heritage scholarship, by asking how the combination of quantitative approaches and traditional humanities can enrich our interpretations of historical data.

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