

GIS Reconstructions of Roman Roads: How and Why

In preparation for a forthcoming dissertation chapter, this paper traces the development of GIS approaches to reconstructing Roman roads. In the last few decades, there has been a steady progression in the use of GIS to better understand and reconstruct the ancient landscape, the people who inhabited it, and the ways they moved through and interacted with the space around them (van Dalen et al. 1999). A digital revolution has transformed how archaeological data is recorded, stored, and analyzed, and methods and toolsets developed for a range of different disciplines have been increasingly applied in archaeological investigations (Sharon et al. 2004). Considering projects from across the Roman world, this paper highlights key theoretical and methodological developments that addressed the concerns of prior scholars, as well as issues that have yet to be satisfactorily resolved. In turn, it lays out how the associated dissertation project will fit into this burgeoning field of archaeological research and explains how the results of this project and those like can help us achieve better understanding of the classical world.

The paper and dissertation project it builds towards were both inspired by Prignano et al. (2019), which utilized social network analysis to explore degrees of connection between ancient Italic sites. The results of this analysis are themselves interesting, but so too is the explicit choice to not conduct more precise GIS analysis such as least-cost path methods to provide specific variables, citing a lack of necessity for such high-resolution data given the difficulty of such analysis with limited influence on the study in question. However, these explanations could not be sustained as the project continued, and Fulminante (2023) dedicates a chapter to the use and integration of those same GIS methods and their implications for the results of the social network analysis. The application of GIS tools and methods in reconstructing Roman roads, and classical

archaeology in general, only continues to grow, particularly as new techniques and theoretical approaches are adopted to address the concerns raised in prior scholarship. By considering recent developments in least-cost path approaches to Roman roads (Lewis 2021) and adapting them to new research questions, this paper aims to contribute to the growing body of GIS analysis on Roman roads and demonstrate how much we can still learn by considering archaeological data through the lens of geographic methods.

Bibliography

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