

Using Data Science Tools and Methods to Extract the Story of Tyche of Antioch on Roman Provincial Coinage

Many people today process and learn about the world through memes – and so did ancient people. Memes, which can be defined as ideas, images, or behaviors that are transmitted between individuals and cultures through imitation, can be found all over the ancient world. Eutychides’s Tyche of Antioch statue became one such meme. Minted on coins with altered elements throughout the eastern Mediterranean, this statue was one way people living under the Roman Empire learned about neighboring cities and represented their own community (Stansbury-O’Donnell 1994). This prominent statue, often footnoted in general histories and major works, needs further study to better understand the social, cultural, and political impact it had (Pollitt 1986; Butcher 2003). The width of this phenomenon’s spread on coinage especially and the breadth of its diversity has previously been obscured by the difficulty associated with working in large datasets in the field of humanities.

This paper discusses how the application of tools and methods traditional to data science inquiries can help address this outstanding research question. Isolating a dataset to mine for information was not difficult as the digitalization of the Roman Provincial Coins catalog (rpc.ashmus.ox.ac.uk) has mostly been completed. Programming in the Python language, which comes highly recommended to beginners, made it possible to solidify hundreds of data points (coins with appearances of Tyche) into one cohesive spreadsheet. One of the most critical aspects in cleaning this data was defining what features determined a “Tyche of Antioch” depiction or imitation. In this endeavor and in editing the data, the creation of a codebook, a standard for data management, was crucial. Notably, visualization of the data was key for retrieving and analyzing results. Tableau Public, a free software marketed for a wide variety of

data use, was able to pinpoint the data on a map, showing Tyche of Antioch types on provincial coinage popping up throughout the Anatolian and Syrian regions with sporadic instances among Greece, Mesopotamia, and the Arabian Peninsula. Finally, the creation of a ‘story’ for the SYRIOS project (syrios.uh.edu) utilized user-experience testing to gauge a wide audience’s understanding of this phenomenon and connected its relevancy to modern life.

Through this new application of data science techniques to ancient evidence, the spread of Tyche of Antioch’s imagery on provincial coinage can be identified and studied. While this paper enlightens scholarly and public understanding of the spread of the Tyche of Antioch image, the full extent of its chronological and local context remains to be uncovered along with its wider social and political implications. Further embracing digital humanities approaches alongside traditional historical methodologies is necessary to complete this work.

Works Cited

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