

## Book Review

**Basile, Salvatore. 2023. *Lucca Romana e Tardoantica. Analisi spaziali e modelli computazionali per lo studio dei paesaggi urbani e rurali*. BAR International Series 3152. Oxford: BAR Publishing; 978-1-4073-6109-3 paperback £53.**

*Lucca Romana e Tardoantica. Analisi spaziali e modelli computazionali per lo studio dei paesaggi urbani e rurali* by Salvatore Basile analyzes the transformations within the city itself and the surrounding *ager Lucensis*, from the foundation of the Latin colony of Luca (modern Lucca) in 180 BC to the Lombard conquest in the sixth century AD. To achieve this, Basile systematized a significant amount of archaeological data and analyzed it using geostatistical methods, primarily kriging, kernel density estimation and logistic regression, to provide a comprehensive view of a diverse landscape gravitating around the town of Lucca.

The 164-page volume, featuring 114 images, is divided into nine chapters. Chapters 1 and 2 introduce the state of research in the study area and the data management methodology. Chapter 3 focuses on the application of geostatistical methods to reconstruct the ancient courses of the *Auser/Serchio* river. Chapters 4 to 8 each concentrate on a specific chronological period of Lucca's nearly eight-century-long history investigated within the book, focusing in sequence on the urban and suburban areas, the floodplain to



the south-east, the mountainous regions in the Serchio Valley and Garfagnana to the north, and the hilly area of Valdinievole to the north-east. The concluding Chapter 9 highlights the historical dynamics that emerged from the analysis of the extensive archaeological dataset assembled during the project.

Chapter 1 briefly summarizes the history of research concerning the city of Lucca, its plain, and the surrounding mountainous and hilly valleys. This extensive research history is then quantitatively analyzed in Chapter 2 based on the types of investigations and their diachronic evolution from before the twentieth century until 2020. This analysis follows an introduction to the relational database used, initially developed in the previous decade for the MAPPa project (Anichini et al. 2012) and more recently implemented in the *MAGOH application*.

Chapter 3 describes the computational models developed to analyze the evolution of the *Auser/Serchio* river within the Lucca plain, undoubtedly the most innovative methodological aspect of the project. While the available data is indeed very limited, the rigorous application of logistic regression has allowed for a more complete reconstruction of the main branches of the *Auser* river during the Roman period. However, further geoarchaeological investigations and targeted dates are desirable to better understand the complex evolution of the various palaeochannels, primarily mapped through remote sensing so far.

Chapter 4 focuses on the late Republican period, from the colony's foundation to the mid-first century BC, examining known archaeological evidence for both urban and rural areas. For the intramural area, in particular, there is a detailed re-analysis of the numerous archaeological finds that have emerged, especially in recent decades, leading to a more comprehensive reconstruction of the city walls and their gates, the main urban and extra-urban road networks, and the known residential and non-residential buildings. The critical systematization of the data on the rural area seems to refute the hypothesis of a double centuriation. The well-known centuriation system with a north-east/south-west orientation was presumably established during the late Republican period, organizing the plain into a grid where a series of houses and productive sites were subsequently inserted, with a greater concentration in the eastern portion. The scarce data from the mountainous and hilly areas suggest a continuation of Ligurian traditions, particularly in funerary practices, which also expanded into the plain area which had previously been under Etruscan influence.

Chapter 5 revolves around the second half of the first century BC and the first century AD, a period characterized by the deduction of a new colony by Augustus between 42 and 27 BC, along with associated land distribution to veterans. As in many other Roman

cities, a widespread process of monumentalization occurred both within the city and in its surroundings. In the urban context, the construction of an intramural theatre at the end of the first century BC and an amphitheatre in the third quarter of the first century AD stand out, with generally accepted dates. Basile offers an interesting reconstruction of the forum, although based on still limited evidence. The deduction of the new colony and contemporary land distribution also seems to have affected the countryside, with numerous refurbishment and improvement works on both roads and agricultural canals. Such works on the hydraulic network may indicate reclamation activities for cultivating new areas south of Lucca and in the Valdinievole.

Chapter 6 centres on the second century AD and the first half of the third century when the abandonment and demolition of both public and private structures intensified after starting in the first century AD. Notably, there is a widespread presence of dark layers, sometimes interpreted as evidence of rubbish dumps and, in other cases, of urban gardens. However, these interpretations lack detailed research, and micromorphology could be extremely valuable in such a context (Nicosia 2018). The first burials within the city walls are also attested during this period, while in the rural context, the lack of maintenance of the drainage system seems to be the cause of frequent flooding events (Basile 2021), contrasting with the widespread restorations of the road network to ensure connectivity with neighbouring centres and territories. The plain experienced significant depopulation, with most known sites being abandoned between the second and third centuries AD. Spatial analysis confirms a tendency for the territory to become marshy, with an absence of sites in the area where the Lake of Bientina developed in the Middle Ages. In contrast, the hilly region of Valdinievole maintained a stable settlement pattern, likely because it was not affected by challenges in managing the water network.

Chapter 7 addresses the second half of the third century AD and the fourth century when numerous restoration works were carried out on the city walls, according to an inscription dated to the reign of Marcus Aurelius Probus, with the addition of projecting towers similar to the Aurelian Walls of Rome. During this same period, the Christianization of the city began, within areas that had disused and abandoned buildings, with the construction of the cathedral of Santa Reparata and its associated baptistery, partly built over a previous thermal complex, and the funerary basilica of San Vincenzo near the amphitheatre. Christianization also slowly started in the plain, where known settlements were very sparse and, as in the previous period, seemed to concentrate in less marshy areas, particularly in the hilly region to the east of the city of Lucca.

Chapter 8 delves into the fifth and sixth centuries AD, a period marked by increased urban burials. Archaeological data indicates that these burials were organized into groups, possibly familial, and were concentrated near religious buildings, as suggested by spatial

analyses. In contrast, abandoned public buildings like the forum, theatre, and amphitheatre were not used as graveyards like in many other Italian cities during Late Antiquity. Despite currently unresolved uncertainties, excavation data suggests that the baptistry of the cathedral of Santa Reparata may have lost its function around the sixth century, when the floor was covered by abandonment layers and cut by burials, before resuming its original function before the twelfth century AD. While the plain and mountainous areas had already shown prolonged settlement crises, even the villas in the hilly regions were abandoned during this period, sometimes retaining only a burial function.

Chapter 9 summarizes the historical processes in the city and hinterland of Lucca based on the archaeological record and the rare written sources, placing these processes within broader phenomena, such as the economic growth of the early Imperial period, the decline of rural and urban settlement patterns from the second century AD onwards, and the progressive formation of hilltop villages with the beginning of the Middle Ages.

In sum, this volume is a well-organized overview of the archaeological evidence available for Lucca and the surrounding countryside. It clearly and thoroughly describes a vast amount of data collected over more than a century of diverse investigations and highlights the close relationship between human and natural factors, primarily the *Auser* river in which the city and much of the territory were 'embedded'. The geostatistical approach employed gives methodological rigour to interpretations, which, despite many uncertainties due to the very nature and limited number of the raw data available for kriging interpolations, help shed light on a vast landscape over a nearly eight-century-long period. Still, there are many data gaps that future work can address, as Basile himself hopes for at the end of this commendable volume, starting from the data he assembled and made openly available on the Mappa Open Data (MOD) archive (Basile 2022). In the meantime, this volume is undoubtedly essential for any scholar of the Roman and Late Antique periods interested in studying Lucca and its *ager*, as well as other regions in the Italian Peninsula and beyond, to compare dynamics occurring between a city and its hinterland within a landscape strongly influenced by environmental factors.

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