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City-Hinterland Relations on the Move? The Impact of Socio-Political Change on Local Economies from the Perspective of Survey Archaeology

Panel 11.3

Tymon De Haas
Dean Peeters
Luigi Pinchetti (Eds.)

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Edited by

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Cover illustration: View of the Pontine plain from the Roman colony of Norba (Lazio, central Italy).
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PREFACE

On behalf of the 'Associazione Internazionale di Archeologia Classica (AIAC)' the 19th International Congress for Classical Archaeology took place in Cologne and Bonn from 22 to 26 May 2018. It was jointly organized by the two Archaeological Institutes of the Universities of Cologne and Bonn, and the primary theme of the congress was 'Archaeology and Economy in the Ancient World'. In fact, economic aspects permeate all areas of public and private life in ancient societies, whether in urban development, religion, art, housing, or in death.

Research on ancient economies has long played a significant role in ancient history. Increasingly in the last decades, awareness has grown in archaeology that the material culture of ancient societies offers excellent opportunities for studying the structure, performance, and dynamics of ancient economic systems and economic processes. Therefore, the main objective of this congress was to understand economy as a central element of classical societies and to analyze its interaction with ecological, political, social, religious, and cultural factors. The theme of the congress was addressed to all disciplines that deal with the Greco-Roman civilization and their neighbouring cultures from the Aegean Bronze Age to the end of Late Antiquity.

The participation of more than 1.200 scholars from more than 40 countries demonstrates the great response to the topic of the congress. Altogether, more than 900 papers in 128 panels were presented, as were more than 110 posters. The publication of the congress is in two stages: larger panels are initially presented as independent volumes, such as this publication. Finally, at the end of the editing process, all contributions will be published in a joint conference volume.

We would like to take this opportunity to thank all participants and helpers of the congress who made it such a great success. Its realization would not have been possible without the generous support of many institutions, whom we would like to thank once again: the Universities of Bonn and Cologne, the Archaeological Society of Cologne, the Archaeology Foundation of Cologne, the Gerda Henkel Foundation, the Fritz Thyssen Foundation, the Sal. Oppenheim Foundation, the German Research Foundation (DFG), the German Academic Exchange Service (DAAD), the Romano-Germanic Museum Cologne and the LVR-LandesMuseum Bonn. Finally, our thanks go to all colleagues and panel organizers who were involved in the editing and printing process.

Bonn/Cologne, in August 2019

Martin Bentz & Michael Heinzelmann

The Impact of Roman Expansion on the Pontine Marshes

Tymon de Haas – Gijs Tol

Abstract

In this paper we reflect on the theme of changing city-hinterland relations on the basis of recent research carried out within the long-running Pontine Region Project. We discuss new evidence on the impact of Rome's expansion on a specific part of the Pontine region, the so-called Pontine Marshes, an inhospitable area that was rendered suitable for habitation and exploitation through substantial infrastructural works, land reclamations and settlement foundations. We argue that these data show the fundamental yet heterogeneous impact of Roman expansion on town-country-relations.

Introduction

The Pontine Region, situated c. 60 kilometres south of Rome, is a coastal plain bounded by the Tyrrhenian Sea, the Alban Hills and the Lepine Mountains. The coastal plain itself consists of a system of higher marine terraces along the coast and, further inland, a lower lying area generally known as the Pontine Marshes. Written sources attest to the complex history of Roman expansion in the Pontine region, starting already in the late 6th century B.C. Colonies were founded in two phases in the late 6th / early 5th century and in the later 5th and early 4th century; these colonies were later to become the main urban centres of the region.[1] Slightly later, written sources also mention the foundation of rural tribes, indicating that by the late 4th century B.C., parts of the region were incorporated in the *ager Romanus*. Around this time, the *Via Appia* was also constructed, leading straight through the Pontine Marshes to the harbour town of *Tarracina*, and road stations were installed along it to service passing travellers. At the same time the *Decennovium* was dug, a canal that ran from *Forum Appii* parallel to the *Via Appia* towards the Tyrrhenian Sea. This canal formed the main waterway draining the lower pontine plain and must have contributed to the reclamation of the Pontine Marshes.

The Minor Centres Project

Archaeological fieldwork in the region has been carried out as part of the Pontine Region Project (PRP) since the late 1980s. So far, c. 36 km^2 have been surveyed with intensive systematic methods, mostly in the surroundings of Archaic Latin centres and Roman towns, such as *Norba*, *Setia*, *Antium* and *Satricum* (fig. 1).[2] Within the most recent, fifth phase of the PRP, here referred to as the Minor Centres Project, we focused on the role of what we call minor centres – non-urban nucleated sites – in the regional

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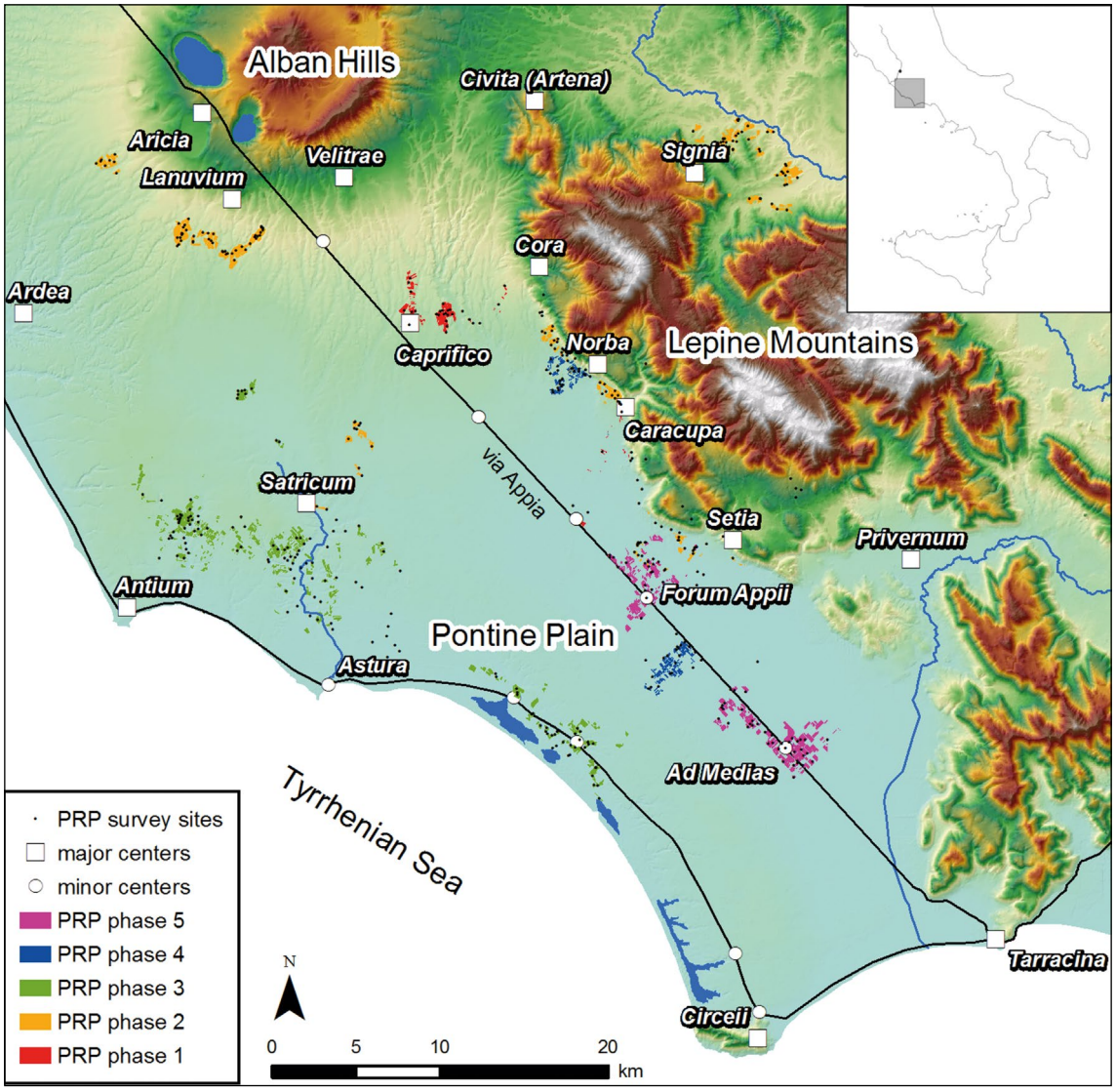

Fig. 1: The Pontine region with PRP survey areas and sites mentioned in the text.

economy. Concretely, we wanted to investigate what central place functions such sites could have, and how they interacted with both larger towns and smaller isolated rural settlements. To this end, we performed new archaeological research on and around the minor centres of *Forum Appii* and *Ad Medias* in the lower Pontine Plain.[3]

In order to reconstruct the functions of *Forum Appii* and *Ad Medias* and patterns of settlement and land use in their surroundings, two non-invasive methods were adopted: First, geophysical prospections were carried out at *Forum Appii* and *Ad Medias* to identify buried structural remains; and second, systematic field walking was carried out both on these two sites and in their rural surroundings. At the two road stations the field walking surveys were carried out in 25 × 25 m grids, systematically collecting artefacts with

the aim of reconstructing the chronological development of these sites and, with the geophysical prospections, their layout and functional zoning. Outside *Forum Appii* and *Ad Medias*, site-oriented field surveys were used to map the chronology and distribution of rural settlements and to elucidate their ties, both spatially and materially, with the minor centres. Both on the minor centres and in their surroundings, we applied highly intensive ceramic collection strategies in order to acquire accurate dating evidence and to analyse the assemblages of these sites in light of functional zonation and patterns of production and consumption.[4]

The results from the field walking confirm that both *Forum Appii* and *Ad Medias* were founded in the late 4th century B.C. (roughly contemporaneous with the construction of the *Via Appia*), but developed quite differently over time.

Forum Appii

The black gloss pottery recorded at *Forum Appii* suggests that already during its earliest phase the site occupied a large area. Considering the widespread occurrence of pottery such as terra sigillata and building materials, the site reached its maximum extension during the late Republican and early Imperial period (1st century B.C. – 1st century AD) when it covered at least 12 ha (fig. 2 A). While there is substantial evidence for continued settlement throughout the Imperial period, the site was probably abandoned in the 6th century. The collected materials also point to the presence of several functional zones: finds of human bone on the surface confirm the presence of tombs (corroborating observations made during previous studies) and two large millstones (found out of context) suggest the presence of a bakery. To the north, a separate cluster of misfired fragments of pottery and building ceramics of the second and first-centuries B.C. represent a ceramic workshop. Directly along the *Decennovium* Canal, many slags were found, suggesting on-site metal production.

The results from the field-walking are supplemented by those from the geophysical prospections. At *Forum Appii* structural remains were mapped throughout the settlement area, although the data is often noisy and much of the buildings must have been destroyed by ploughing. To the northwest, four kilns were revealed, flanked by a small square structure and a possible fifth kiln. Also, various anomalies were mapped in and around the ceramic workshop: these may indicate refuse pits that contain the production debris that was encountered on the surface. A larger anomaly is tentatively interpreted as an area for the extraction of clays, and c. 50 m southwest of these pits there is a cluster of three or possibly four kilns. South of the *Via Appia*, a long linear anomaly parallel to the canal is perhaps to be interpreted as the remnants of a road. More to the south, several large structures are recorded close to the canal. One rectangular anomaly measures c. 40 × 5 m and to its north and east, it may be flanked by the remains of a second, similar structure. Approximately 20 m to the southeast there is another large

structure of c. 25 × 20 m. Based on associated surface ceramics, we think both buildings date in the early and mid-Imperial period. Parallels may be found at *Portus*, where they are interpreted as warehouses. These warehouses probably relate to the river harbour that is also mentioned in written sources.[5] To the southeast, finally, the magnetic signal may reflect a small industrial zone, confirming what we surmised from the presence of slag in this area.

The importance of *Forum Appii's* river port is clearly reflected in the quantities and variability in the imported amphorae we find at the site: the site had access to wine, oil and other foodstuffs from a wide range of production areas. This contrasts starkly with *Ad Medias* and rural sites, where only few types of amphorae are found, and in much smaller quantities. This would suggest that *Forum Appii* functioned as a regional trade hub where goods coming in through the main port of *Tarracina* were redistributed.[6]

Ad Medias

Even though part of it may be overbuilt, *Ad Medias* was much smaller than *Forum Appii*, and the collected materials suggest that *Ad Medias* already declined in the last centuries B.C. and was only sparsely inhabited during the first two centuries AD: black gloss pottery is found in abundance, while later wares such as terra sigillata and African red slip are only sparsely present. Three main scatters were recorded, two of which with a clear productive connotation (fig. 2 B). On the two scatters, situated south of the *Appia*, the presence of slags hints at metal production, whilst one scatter also yielded numerous fragments of perforated plaques belonging to a muffle oven. North of the *Appia*, a scatter of mid- and late Republican ceramics was found. To the north of this scatter fragments of misfired pottery and building ceramics were observed, suggesting the nearby presence of a ceramic workshop.

The geophysical prospections only mapped scant structural evidence. A small rectangular anomaly along the *Via Appia* may represent a burial monument, whereas to the north a two-room structure was revealed. South of the *Via Appia*, two noisy areas correspond to pottery scatters that were recorded during field walking. One of these contains a clear kiln of some 2,5 m in diameter, the presence of which was already suggested by the muffle fragments found during fieldwalking.

Of special interest in light of early Roman expansion are several large north-south and east-west oriented linear anomalies of some 6,5 m wide. Based on the results from corings, we know that these anomalies represent ancient ditches and canals that are part of a much larger land division (or centuriation) scheme, traces of which were previously identified in cartographic sources and on aerial photographs.[7] The system consists of blocks measuring 10 × 10 Roman *actus* (c. 355 × 355 metres) and covers an area of more than 120 km^2; it could therefore have provided allotments for thousands of colonists. Although we cannot date this system directly, it seems very likely that it pertains to

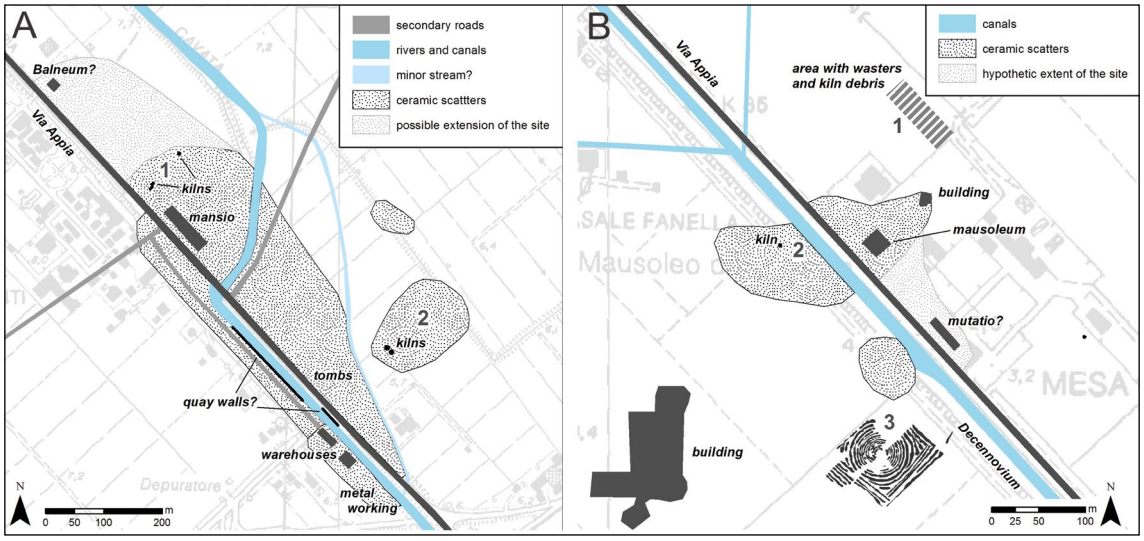

Fig. 2: Reconstructed plan of the sites of *Forum Appii* (A) and *Ad Medias* (B)

roughly the same period as the earlier discussed infrastructural improvements, and the foundation of the sites of *Forum Appii* and *Ad Medias*. Additional evidence for this comes from the rural surveys in the centuriated area around *Forum Appii* and *Ad Medias*.

Rural Surveys

These rural surveys reveal a landscape dotted with small habitation sites with highly standardised ceramic assemblages, comprising some tile, transport amphorae, utilitarian pottery, loom weights and fragments of black gloss. Particularly revealing is the occurrence of many fragments preserving small circular stamps of the so-called *petites estampilles* tradition, providing firm evidence for their occupation during the final decade of the 4th or the early years of the 3rd century B.C. This start date is actually confirmed for almost all sites on the basis of black gloss wares, coarse wares and transport amphorae.

Interestingly, around both *Forum Appii* and *Ad Medias*, many of these rural settlements were rather short-lived: Only half of them continued to exist in the 2nd and 1st centuries B.C., and around *Ad Medias*, continuity into the early Imperial period is restricted to only a handful of sites (fig. 3). Around *Forum Appii*, which as we saw itself flourished in the Imperial period, rural sites more often show continuity into the Imperial period. Also, compared to the sites around *Ad Medias* they are generally larger and some exhibit the use of elaborate architecture. The longer life span of sites in this area may relate on the one hand to the fact that the area is situated somewhat higher, but on the other to the proximity of *Forum Appii* as a centre of production and trade: these larger sites seem to have been involved in commercial wine production.

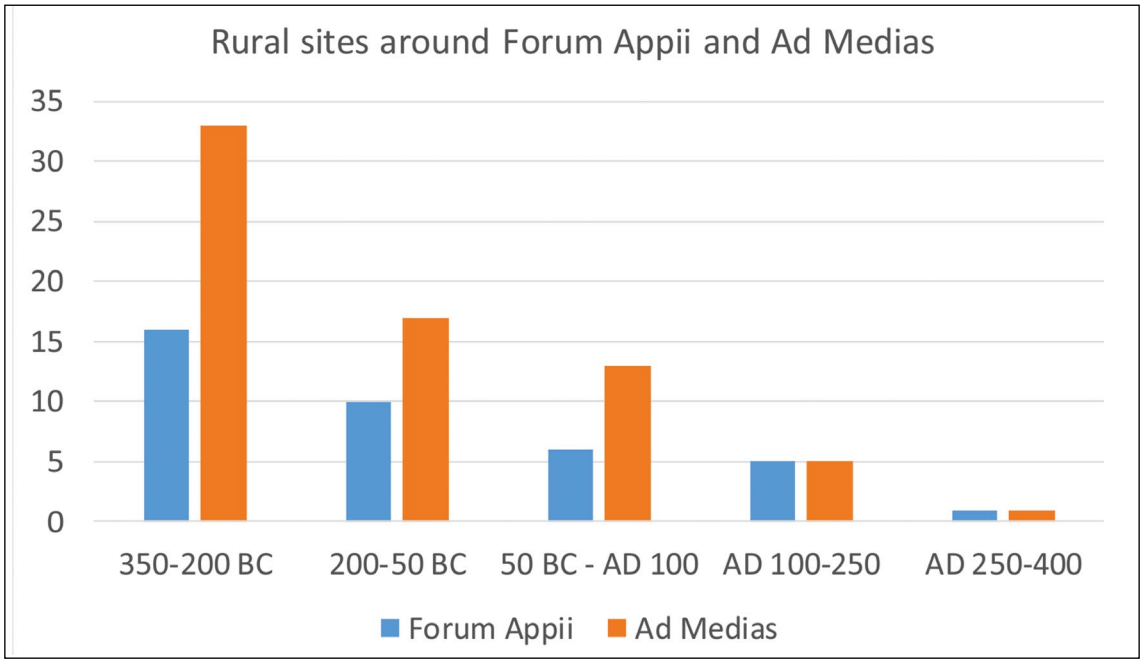

Fig. 3: Rural settlement trends around *Forum Appii* and *Ad Medias*.

So, to summarise the outcomes of our intensive field research in the pontine marsh: it seems clear that both *Forum Appii, Ad Medias* as well as the rural sites and associated centuriation were founded in the late fourth century B.C., and were perhaps part of a single phase of colonial expansion and large scale investments to render this area suitable for colonist settlement. But while *Ad Medias* was a small local centre servicing (and declining along with) the farms in its surroundings, *Forum Appii* with its forum and strategic location (especially with its river port), developed into a centre of regional importance, with a clear redistributive role in economic networks.[8]

Minor Centres and City-Hinterland Relations

To conclude, let us briefly return to the theme of changing city-hinterland relations. In the Pontine region, these relations were clearly fundamentally affected by Roman expansion: the foundation of colonies in the early Republican period had already changed the regional urban landscape, and *Forum Appii* and *Ad Medias* are only two of a series of nucleated settlements newly founded along the *Via Appia* in the mid-Republican period. The main *raison d'être* of these new foundations really seems to have been to service their rural surroundings. But even if these were modest sites not comparable (in size, layout nor functions) to contemporary urban centres, the case of *Forum Appii* clearly shows that such minor centres could become more sustained regional centres not only dependent on their direct surroundings.

A second observation concerns the complexity of such town-country relations, which were not simply about a town servicing its hinterland or the countryside provisioning a single urban market. Rather, much more heterogeneous and overlapping relations existed, involving multiple central settlements of different size and complexity: for obtaining day-to-day goods links with local minor centres would have been important, while for less regular exchanges, perhaps also religious and social gatherings, larger urban centres may have been points of reference for rural populations. And finally, we should not lose sight of the more distant but certainly no less important socio-political links to Rome itself – after all, the centuriated marsh was part of the *ager Romanus* and hence the colonist farmers in this area were from the start Roman citizens, and may also have produced for the Roman urban market.

On a methodological level, the kind of integrated field approach we have adopted here, combining various archaeological methods, seems to be a highly productive way of uncovering these complex and changing relational networks between central settlements and rural areas.

Notes

[1] On the early colonization of the region: De Haas 2011; Attema et al. 2014; De Haas 2017a.

[2] For an overview: De Haas – Tol forthcoming.

[3] For preliminary publications of the data: Tol et al. 2014; De Haas et al. 2017; Tol – de Haas 2016. The final publication of the project is currently in preparation by the authors. The project data have been archived at: <https://easy.dans.knaw.nl/ui/datasets/id/easy-dataset:67156> (11.08.2019).

[4] Tol – Borgers 2016; Borgers et al. 2017; Borgers et al. 2018.

[5] Hor. Sat. 1, 5.

[6] Tol et al. 2014; Tol 2017.

[7] For the coring: De Haas 2017b. On the centuriation: Cancellieri 1990; De Haas 2011.

[8] For Ad Medias: cf. Coarelli 2005; for Forum Appii: Bruckner 1995.

Image Credits

Fig. 1–3: by the first author.

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A Tale of five Cities: Comparing Survey Finds from Boeotian Poleis from the Early Iron Age to the Roman Takeover

Vladimir Stissi

Over the last 20 years, I have had the honour of being part of a team of scholars who by now have almost finished cataloguing several hundreds of thousands of sherds from five cities in Boeotia, Central Greece (Thespiai, Hyettos, Haliartos, Tanagra and Koroneia) and their surroundings, including smaller and larger rural sites.[1] At least half of these finds, often more than 80%, are roughly dateable and smaller but substantial numbers can be classified by shape and/or function. From the Archaic period onwards, this pottery allows good impressions of typical domestic, funerary and occasionally religious use of pottery, including changing preferences in use, typology and decoration through time.

While these finds and the information they provide have mainly been studied to produce publications of individual areas, together they offer a unique regional collection, allowing both diachronic and intraregional comparisons of results from sites or groups of sites. First explorations by several members of the specialists' team, including myself, of some of this information have already offered interesting new insights in spatial and social aspects of formation of polis centres, and differences in what one may label as 'ceramic culture', related to both production and consumption, in between urban centres, but also between towns and their rural surroundings. As can perhaps be expected, urban pottery assemblages appear to be more sophisticated and 'luxurious' than rural ones, and some cities yield 'richer' materials than others.

However, not all variation can easily be related to practical or economical factors. The types of lekanai (large open multipurpose vessels) in use in Hellenistic Koroneia and Hyettos, for example, show remarkable and long lasting differences, not only in the kinds of fabrics and the types of surface finish which were mostly used, but also in preferred details of shape, which have no functional connotation at all. Similar differences can be seen in our tile finds from various areas. One could speculate that our surface finds reveal specific local ceramic cultures, which go beyond the practical, and might have been significant to consumers. This would be an interesting counterpart to a phenomenon already known from the Greek world: the continuous shifts in popularity of specific shapes or types of shapes, particularly within the broad range of drinking vessels.

In the context of survey archaeology, such insights in ceramic culture are not only a fascinating historical phenomenon, which deserves further study, but also an aspect of our assemblages which affects interpretations. A close look at our databases shows that especially more precise dating categories often depend on few recognisable shape details, kinds of finish or decoration or functional shapes. We can easily recognise and

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precisely date Archaic and Classical cups, but many types of later drinking vessels tend to have more fuzzy dates; the amounts of imported transport amphoras steadily increase over time, and many of the types that are easiest to recognise are Hellenistic or later. Some categories, like unguentaria or mould-made bowls, are very specific for relatively short periods. On the other hand, small fragments of cooking pots are often hardly dateable within less than 500 years.

As a result, single-period pottery assemblages can be quite skewed or incomplete and large groups of items, which must have been in use in all periods, but can only be dated very roughly, like cooking pots, are hovering in the margin of our functional and chronological analyses. Of course, some of such biases are relatively easy to spot and take into account; others can be filtered out by detailed number crunching. The overrepresentation of fine wares in pre-Hellenistic finds, for example, seems directly related to our problems in tracing and dating utilitarian pottery of the period.

Interestingly, possible local ceramic traditions, so differences in the assemblages between our areas, may both help us to address such issues, by offering more specific parameters to focus on, and complicate our work, by interfering with patterns, that may seem uniform at first sight. The preference for very coarse lekanai at Hyettos for example, offers us a unique possibility to date utilitarian, rough pottery very precisely, but as there are no comparable phenomena elsewhere, we cannot extrapolate the results.

Note

[1] There is no overall summary of the work in the various phases of the Boeotia surveys. A short introduction can be found online: <http://www.boeotiaproject.org/site/project-history/> (visited 26/8/2018); some important summaries can be found in Bintliff – Snodgrass 1985; Bintliff et al. 2004–2005; Bintliff et al. 2007 and now Bintliff et al. 2017 (the last two also offer many references to earlier publications); see also Stissi 2011; Stissi 2012; Stissi 2016 for some targeted studies on Boeotian finds.

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Some Observations and Thoughts on the Approach of Local Economies and (Micro-)Regions based on Ceramic Production, Circulation, and Consumption in Late Antique Boeotia

Dean Peeters

Late Antiquity can be characterised as a period of substantial socio-economic change.[1] Changes in imperial administration, taxation, and legislation, the expanding roles of the Church, and wandering crowds of violent 'barbarians' are in the literature commonly seen to have affected the character and operation of late antique settlement- and socio-economic systems.[2] At the same time, however, it appears to be the case that the ways, in which such events, processes, and changes crystallised on the ground and shaped socio-economic development or (in the common (neo-institutional) terminology of today) economic performance varied on the local scale.[3]

This is not different for the area that was already in antiquity known as Boeotia in Central Greece. Boeotia might be seen as a 'region', on the basis of certain general characteristics of the landscape, the development of a certain regional awareness into (long-lived) institutional structures (the Boeotian League) by the mid-5th century BCE, and the observation that 'Boeotia' still in some way existed in the geography of the later Roman Empire.[4] When we turn more specifically to trends in late antique archaeological data, we indeed see certain 'shared' developments in Boeotia. For instance, urbanscapes see changes in their outlook and character, while the countryside gets repopulated and agricultural production appears to intensify.[5] Yet, alongside these 'shared' changes (that are also identifiable elsewhere in the Eastern Mediterranean), there are convincing indications for variety in natural landscapes, the operation of more local socio-economic systems, and/or different exchanges and interactions throughout the area on a (micro-)regional level.

This paper aimed to contribute some snapshots that highlight that socio-economic activities, developments, networks, and/or something which we might call 'performance' can diverge considerably within areas that are traditionally seen as some kind of region. This includes Boeotia at large and on a smaller spatial scale also individual Boeotian cities and their territories (*chorai*). Especially for the Late Antique period, which is for Boeotia characterised by a relative silence of the historical sources, archaeological data provide an ample base of evidence to explore the diverse, fluid, and changing character of local economies and the ways in which economies were functioning in space. By building upon the ceramic data that were generated by the long tradition of the Boeotia Project field surveys since 1978,[6] this paper took upon this potential of archaeology to contribute to debates on the (changing) character*s* of local late antique economies. The surveys of urban Thespiae, the Valley of the Muses, and Tanagra and its surroundings

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were taken as comparative cases for this paper. These surveyed areas were selected on various grounds that appear in some way relevant for any study on ancient economies. Firstly, these areas are situated in different parts of Boeotia in landscapes with their own character (fig. 1). Secondly, the main centres of habitation in these areas (Askra vs. Thespiae and Tanagra – a large town/small village vs. nucleations with 'urban' features) appear different in character and had different settlement histories. Thirdly, ceramic studies reveal that these areas housed flourishing late antique ceramic industries and were both participating in larger networks of exchange, though in different manners.[7] In the remainder of this paper, the four main aims and messages that were preached for in this paper will be specified and fed with ceramic evidence to provide some snapshots of the complexity, diversity, and fluid nature of 'the' ancient/late antique economy.

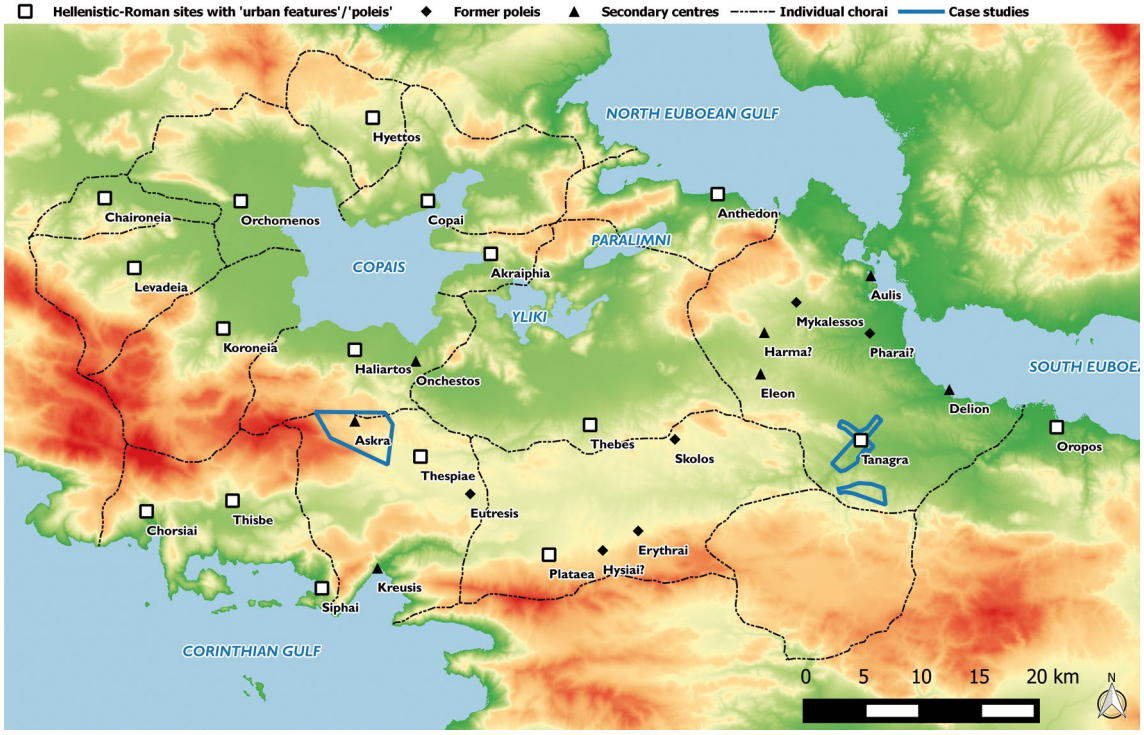

Fig. 1: Topographical (elevation) map of Boeotia and the location of the case studies (the chora areas and the maximum extent of (the now drained) Lake Copais are after Farinetti 2011). This elevation map is generated on the basis of version 1 of the ASTER EU-DEM raster dataset with a resolution of c. 30 metres.

(1) As a start, this paper aimed to illustrate the potential of ceramic-based quantitative analyses to explore economies in a diachronic way and on the very local scale. The methodological framework of the (Late) Hellenistic – Late Roman ceramic studies in the Boeotia Project provides many possibilities for exploration.[8] By building upon the fabric, morphology, and surface finish of each individual surface sherd, a (rough or more

precise) provenance, chronology, and primary functional application can be ascribed or postulated. Alongside a better understanding of the ceramics under examination, this also provides rough proxies or parameters on the basis of which economies can be explored. For instance, the production of storage vessels in an area hints at the presence of a certain agricultural basis (or at least a certain need for (ceramic) containers), which on a basic level tells us something about activities that are commonly characterised as 'economic'.

When we make a step towards the data from Boeotia for some first comparative analyses, it becomes apparent that the number of storage vessels (and other categories with supposed primary functions) in fabric groups that can be associated with various Boeotian lines of ceramic production varies (in some cases substantially). For instance, the output that was generated by the Late Hellenistic – Late Roman potters in (or in the close proximity of) urban Thespiae comprises a comparatively small percentage of storage vessels: c. 23% of the sherds that were encountered in Thespian fabrics is identified as (table-)amphora, jar, and/or jug.[9] For the fabric group associated with nearby Askra, which was produced some 6 km to the northwest, this percentage is with c. 42% (on a total of 454 sherds) much larger. It should be emphasised that Askran and Thespian fabrics are not easy to distinguish (macroscopically and chemically),[10] which possibly colours these comparative figures in some way.[11] Nonetheless, these not unsubstantial apparent differences in the functional make up of these fabric groups, which both have their chronological point of gravity in the Late Antique period, are likely to reflect that economic activity in Askra and the surrounding Valley of the Muses was more geared towards agriculture. Quantitatively speaking, however, the figures for Tanagra appear most impressive: c. 75% of the 4,583 sherds in the fabric group that is associated with Tanagra and/or its hinterland is identified as a storage vessel, thereby reflecting the presence of a strong ceramic production, as well as a substantial agricultural basis, in this fertile corner of Boeotia.

(2) This paper aimed to highlight the different and changing ways, in which areas in Boeotia were tied up in larger webs of interaction and exchange. Although ceramic-based patterning only provides us with a snapshot of some kind of interactions and/or material traces of the exchanges of some type of products, quantified insights regarding the provenance of pottery from individual sites or areas hold much potential for the exploration of past economies. On the simplest level, the number of sherds in individual fabrics or the percentages of local, Boeotian, and imported ceramics can be compared, providing a rough sketch of the spectrum of pottery that was in circulation at any place (and span of time). Within a proper framework, such insights can feed several lines of exploration, including assessments of the 'self'-sufficiency of communities regarding the provisioning of ceramics or agricultural goods and the exploration of flows of exchange, spheres of interaction, and the places of individual sites in larger networks. The potential of detailed explorations of ceramic circulation is increasingly shown. Studies by Bes, Lund, Malfitana, and Bonifay, for example, respectively highlight that

individual areas in the Eastern Mediterranean, on Cyprus, and on Sicily have their own 'profiles' in terms of the circulation of imported pottery, which appear to be far from stable over time.[12]

The ceramic evidence for the circulation of goods from farther afield throughout Boeotia appears not different in this respect: the circulation of imported tablewares and amphorae varies considerably from area to area, as well as in time.[13] Exemplary are the differing trends in the presence of African Red Slip Ware (ARSW) in Tanagra and Thespiae, as these vessels reached this latter site in substantially smaller quantities after the late 4th–early 5th century, whereas these Tunisian tablewares identifiably circulated in Tanagra into the 7th century CE.[14]

(3) A third and related aim of this paper was to illustrate the different ways and quantities, in which imported ceramics not only reached certain areas in Boeotia differently, but also individual zones and rural sites within the *chorai* of urban centres. While cities and their hinterlands certainly appear to have been part of the same spheres of circulation/exchange (on the basis of the analysed ceramic spectrum), the urban collections from Boeotia are generally comprising larger quantities (and also a larger variety) of imported pottery. To continue with an already discussed example, the absolute quantities of ARSW and the relative presence of these vessels (in percentages of the total number of tablewares) in the Valley of the Muses and Askra is much smaller than in nearby Thespiae and on the 'rural' sites closer to this urban centre.[15] By extension, the circulation of these imports in the Valley of the Muses appears to have been even more focused within the limits of the early 3rd/4th and late 5th century CE than in Thespiae, while other imported mid-late Roman tablewares (i.e. Phocaean Red Slip Ware/LRC) remain to be identified for this vale.[16]

At least instinctively, such observations suit analyses and explorations along the lines of so-called fall-off curves, the locations of market places and consumers, and/or market integration. I do, however, believe that there is more to such differences in circulation on the very local scale, including factors, processes, and explanations that touch upon consumption preferences and the usage of ceramic material culture in socio-economic(-cultural) display. Although particularly consumption preferences, related dynamics that are commonly characterised under the umbrella of 'identity', and also the active role of material culture in shaping the actions of agents are traditionally not often analysed as part of 'economic archaeology', there are also for the highlighted examples reasons to do so. To highlight this line of thought, I would like to shortly discuss the work by van Oyen, who argued that particularly high-quality (imported) tablewares might not only commonly have arrived or passed through a city, but might also have been 'perceived by its consumers as "coming from the city" – as an urban commodity'.[17] The factors that would initiate the process of seeing such goods as 'urban' do not necessarily differ from the lines of explanation that were noted at the start of this paragraph. Yet, it should be clear that the extra quality and meaning that such goods might have had for the ancients could potentially have coloured ceramic distributions

in their own right. More importantly, such meanings might well have differed from place to place. Also in terms of socio-economic(-cultural) display, the role and meaning of goods might differ considerably on the local scale, which might on its turn shape ceramic circulation(-consumption) patterns. Tensions between 'supply' and 'demand', 'wants' and 'the capabilities of individuals to satisfy those wants', and also the way, in which wealth is distributed across communities might, for instance, differ from place to place (and throughout time). This will likely have resulted in situations, in which good X was perceived as an 'elite good' in community or area A, but a good that was acquired and consumed across broader echelons of society in community or area B.

Although there are enough reasons to approach archaeological (survey) data cautious in this respect (e.g. 'are we really able to recognise the material traces of the very poor in the archaeological/surface record?'),[18] it appears that matters of socio-economic display in some way colour ceramic consumption in certain settings in Boeotia. To stay with the now common example: those sherds of imported ARSW that reach the Valley of the Muses are in four out of six cases collected on sites that appear to have been inhabited by individuals that certainly not belonged to the poorest in society.[19] To make a step to the survey collections from the non-urban sites in Thespiae's 'close hinterland' (i.e. not more than 2–3 km from the city), it appears that such imported tablewares were not only identified in larger counts and percentages,[20] but also on more sites and on sites for which proxies for 'status' remain to be identified. An interesting exception in this respect appears to be provided by site LSE7, which is situated some 1,5 km south of Thespiae. Based on the relatively 'poor' encountered surface remains, this Late Antique site was interpreted by the surveyors as a place that saw 'the presence of a great mass of tiled buildings here, with a villa complex at its heart, together with a village of probably dependent *coloni*'.[21] Whether this reconstruction is exact or not, the inhabitants of this site appear to have had their own taste or preferences for tableware: ARSW and Western Anatolian were not identified in the surface collections, whereas the presence of five 4th–5th century Athenian/Attic red- or dark-slipped 'flanged rim/high keel' bowls with white-painted spiral decoration appears remarkable on a total of 13 collected Mid-Late Roman tablewares.

(4) Building upon some of the highlighted ceramic patterns and cases, the closing aim of this paper was to foreground 'more endogenous' or 'internal' processes and dynamics in an attempt to explain how and why socio-economic variety and change was shaped and touched ground.[22]

Certain top-down initiated processes definitely trickled down throughout states or empires and others rippled out through 'horizontal' interactions that went beyond the sphere of local economies. I do, however, believe that there are enough reasons to be cautious with using terms such as 'connectivity' or 'integration' in explaining economic activity, development, and performance. I, at least, would like to argue that we should define such terms in a 'light' way (i.e. for integration, not a 'uniform, pre-determined model', but an 'ongoing dialogue between local and global').[23]

Would something that we might call connectivity or integration look the same for each site or area? Probably not. Larger degrees of integration, high intensities of interaction, or more than incidental movements between sites might in some cases be accompanied by the exchange of goods or the spread of morphological and stylistic ideas and fashions, but less so for others (for a whole range of potential reasons). Case in point, is the observation that the story of 'lesser connectivity or integration' of the Valley of the Muses that can be written on the basis of the relatively low numbers of tableware imports is not echoed by the way in which tablewares that were produced in this vale circulated out of their sphere of production to other Boeotian sites (as well as Athens and Corinth).[24] By extension, other imports (in this case particularly imported Late Roman Amphora 2s) reached the Valley of the Muses not uncommonly, highlighting that also goods from farther afield found their way to this area. What we might learn from such observations is that the absence of late 5th–7th century tableware imports (at least for the Valley of the Muses) only appears to tell part of the story we try to reconstruct. In such cases, we should ask ourselves why it is that integration, connectivity, and/or socio-economic or cultural change are not materialised in the same way for each site? I believe that there will be not only one answer to this, in some way illustrating that a more thorough exploration of institutions (formal-informal and locally structured-locally structuring) institutions, as well as socio-economic, -cultural, and -ecological actions and interactions on the very local scale, are needed.

Notes

[1] This paper was based upon the research that was carried out for the Ph.D. project of the author with thetitle 'Shaping regionality in complex economic systems. Late Hellenistic-Late Roman pottery production, circulation, and consumption in Boeotia, Central Greece (c. 150 BCE–700 CE)', which is currently in preparation to be published at Archaeopress (Peeters forthcoming). This thesis project was carried out within the framework of DFG Graduiertenkolleg 1878 'Archaeology of Pre-Modern Economies'.

[2] E.g. Jones 1964; Whittaker 1983; Liebeschuetz 2001; McCormick 2001; Sarris 2006; Cameron 2012 and Haldon 2015.

[3] Cf. North 1981 and North 1990. See Lavan 2015 for a bundle of important papers highlighting the complexity and operation of many local Late Antique economies.

[4] See Farinetti 2011 for an extensive GIS-based exploration of the Boeotian landscapes and activity herein. See particularly Mackil 2013 for a recent characterisation of the nature and the workings of the Boeotian League. See Martin – Grusková 2014, 108–109 for the notion of a certain 'Dexippos, who for the fifth time held the position of arché among the Boeotians'. This Dexippos was a commander of the defensive forces at Thermopylae at the time of the Herulian invasions (c. 267–269 CE). See the inscriptions IG VII 24 from Megara and SEG 42.262 from Corinth (401/402 CE) for the grouping of the Boeotian cities as 'Boeotian'. These inscriptions note that the cities are themselves responsible for the provisioning of taxes to the imperial horrea at Skarpheia (see also Trombley 1989).

[5] See Trombley 1989; Bintliff 2013 and Bintliff 2014 for discussion of these developments.

[6] See Bintliff et al. 2007 and Bintliff et al. 2017 for the monographs of the surveys of urban Thespiae and its hinterland. The final publications of the surveys of other areas in Boeotia (including the urban centres and hinterlands of Hyettos, Haliartos, Tanagra, and Koroneia) are currently in preparation.

[7] The ceramics from Thespiae, Askra and the Valley of the Muses were initially studied by Hayes in the 1980s-90s, after which a series of study-campaigns between 2008 and 2011 and 2014 and 2015 was devoted to the restudy of the ceramic material from Thespiae (Bes and Poblome), Askra (Bes) and the Valley of the Muses (Bes and Peeters). The ceramic analyses for urban Thespiae have been published in Bes – Poblome 2017. The ceramics from LSE7 in Thespiae's vicinity that will be discussed in this paper were restudied by the author in the framework of his dissertation. From 2001 onwards, the pottery from Tanagra and its hinterland has been under examination by Poblome and Bes, while the survey collections from this site were revisited by Peeters and Bes from 2012 onwards to catch up with more recent ceramological insights. Here, I would like to thank Philip Bes and Jeroen Poblome for their support and for providing me the possibility to also explore still to be published data that were generated by them within the framework of the Boeotia Project.

[8] See Poblome et al. in Bintliff et al. 2004–2005 and Bes – Poblome 2017 for discussion of this ceramic methodology.

[9] See Bes – Poblome 2017, 323 for the data for urban Thespiae

[10] See Peeters in preparation for discussion and explorations of such Boeotian fabrics along the lines of portable X-Ray Fluorescence analyses.

[11] Some fabrics, which are also identified for storage vessels, 'fairly closely resemble the Thespian fabric group', though are not ascribed to this production (Bes – Poblome 2017, 327). Including or eliminating such bodies of ceramics from quantitative analyses when exploring 'local' (or 'close regional') production will in the end shape the results.

[12] Bes 2015; Lund 2015 and Malfitana – Bonifay 2016.

[13] E.g. Willet 2012 and Bes – Poblome 2017, 327 f. table 12.8.

[14] See Peeters 2016, fig. 2 and Peeters et al. forthcoming.

[15] Peeters et al. forthcoming.

[16] Peeters in preparation.

[17] van Oyen 2015, 289.

[18] E.g. Sanders 2016.

[19] Flat slabs of marble, so-called 'nippled' tiles (not uncommonly retrieved in baths), and/or Hayes' identification of pieces of opus figlinum hint at certain architectural investments on these sites.

[20] Peeters et al. forthcoming.

[21] Bintliff et al. 2007, 156.

[22] E.g. Ma 2000, 113; Wickham 2005, 819 and Poblome 2014, 626–627 for similar expressions of thought.

[23] Witcher 2017, 36.

[24] Cf. Hayes 2008, 255; Slane – Sanders 2005, 262. 270; Hammond 2018, 683–684. Koroneia appears to be another Boeotian example in this sense: although preliminary checks of the database reveal that less than 5% of the total tableware count for the Roman period is constituted by imports (Cf. Bes 2015, 150), Koroneian tablewares (and other vessels) circulated in large numbers to Hyettos on the other side of the former Lake Copais (Bes – Poblome 2017, 325).

Image Credit

Fig. 1: by the author.

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The Economic Meaning of Settlement Hierarchies: a Case Study from the Roman Upper Volturno Basin

Luigi Pinchetti

After 70 years of archaeological surveys, many scholars agree that, between the 3rd and the 6th century AD, the countryside of the Italian peninsula suffered a strong demographic contraction.[1] Nonetheless, due to its methodological limitations, the contribution of survey archaeology to clarify the economic nuances of this trend is still minor[2] and debate is yet ongoing on fundamental issues as the intensity of land exploitation, the emergence of minor centres and the role of towns in this declining period. Amongst others, a crucial methodological problem lies in the conflict between the fixity of archaeological site classification compared to the dynamism of rural settlement hierarchies that it is meant to describe. This article shows that a more flexible approach to settlement categorisation can be obtained by linking the size of ceramic scatters to the fertility of settlement catchments. This approach has the potential of highlighting changes in the organization of rural economy while also including cities in landscape histories. Using two survey datasets in the Upper Volturno Basin (UVB, central Italy), this research reviews legacy data with a dynamic site categorisation and adds new important details on the emergence of "minor centres" and on their economic relation to cities.

The UVB is one of the widest valleys in the Apennines, dividing the Mainarde from the Matese, and hosts, on a travertine outcrop to the east, the Roman colony of *Aesernia* and, on a plateau just below the Mainarde massif, the Late Antique site of San Vincenzo al Volturno (fig. 1). The availability of two survey projects, the San Vincenzo Project (SVP)[4] to the west and the Colonial Landscape Project (CLP)[5] to the east, allows a seamless reconstruction of the demographic history in this region and contextualises the histories of the two sites within their shared territory. The thirty years elapsed between the two projects created a significant methodological gap, thus a comparison could only be achieved after a thorough reanalysis of the ceramic material and a resurvey of specific areas of the SVP.[6] There is no space here to get in the details of this process.[7] Suffice to say that this reanalysis mitigated the negative outlook provided in the final publication of the SVP, but settlement trends clearly show a seamless quantitative decline from the Republican until the early Medieval period, when it reaches its all-time low (fig. 2a).

Traditionally, survey archaeologists distinguish site types depending on the size of their ceramic scatter.[8] This categorisation is problematic, as size is only one feature defining the socio-economic role of a settlement:[9] a large scatter could identify either a village devoted to mixed farming or a large estate centre focused on monoculture. A method elaborated in Maya archaeology[10] offers a way to create categories by plotting site-size versus catchment-productivity. According to this method, the size of an agrarian settlement is directly proportional to its catchment productivity ($Vj = kPj$), while sites

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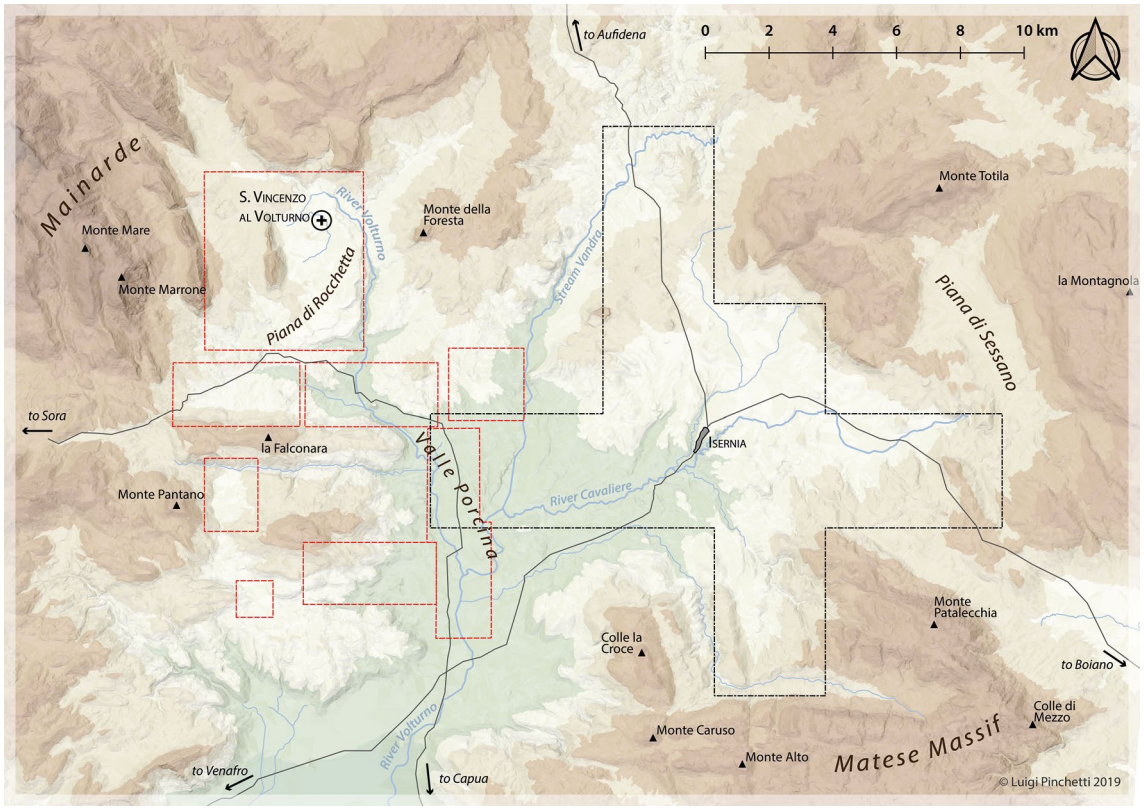

Fig. 1: The Upper Volturno Basin and the research areas of SVP and CLP.

sustained through an external input (e.g. rent income, market exchange, etc.), follow alternative formulas (e.g. $Vj = kPj + kt\Sigma Pij$), in which each additional feature determines its hierarchical layer. Vertical separation between layers in the size/catchment plot indicate the level of social differentiation between social groups. Throughout time, the position within the graph of a specific settlement can change if modifications appear in any of the two defining attributes.

Steponaitis' approach requires an accurate calculation of the potential of settlement catchments. This is dependent on the size of settlement catchments and on the method used to evaluate land fertility. The boundaries of site catchments were set at 10-minutes walking distance, as this equated half of the mean distance between sites, and were calculated in GRASS GIS. When waterways were broader than 1 metre and a half, these were considered as boundaries. Fertile areas within catchments were identified with Land Suitability Analysis, a GIS-based analysis used in modern landscape planning to identify appropriate patterns of land-use.[11] In agriculture the tool is used to pinpoint the areas more suited to certain cultivations depending on the requirements of crops.[12] In the case of the UVB, land suitability was estimated starting from the physiological necessities of the "Mediterranean triad": cereals, vines and olives. To better approximate the ancient land use pattern, the suitability estimation followed the judgements provided

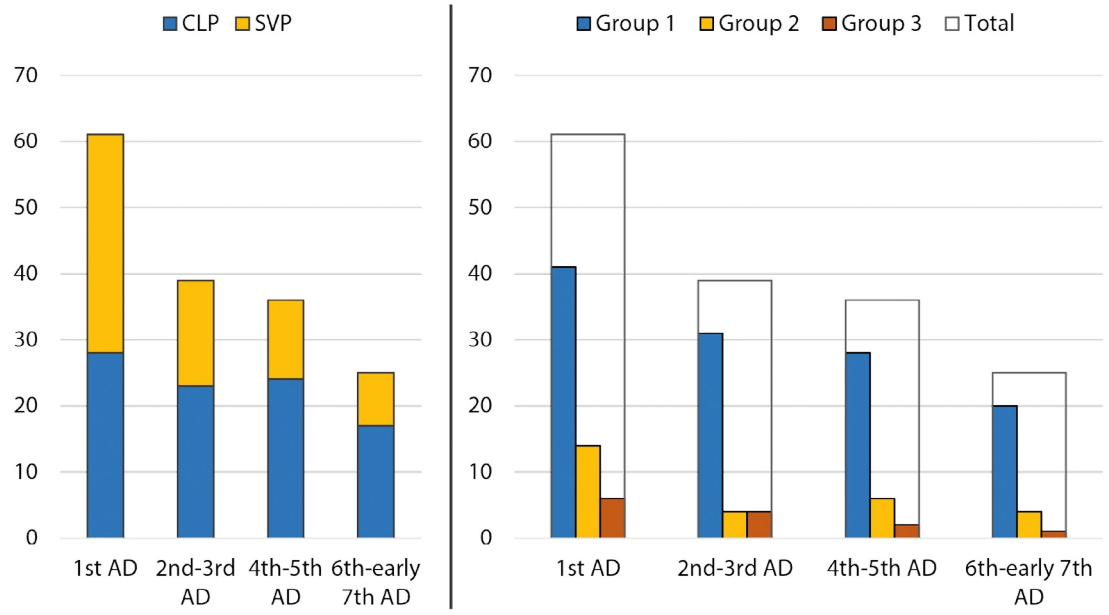

Fig. 2: Settlement dynamics in the UVB: per project (left); per group (right).

by Roman agronomists, similarly to the method used in southern Etruria by Helen Goodchild.[13]

The graphs (fig. 3) show the relation existing between site sizes and catchment productivity at four different periods. Three different groups can be recognised, and despite some changes, they always follow three almost parallel lines in each of the investigated period. The first group is characterised by small scatter sizes (0–0.5 ha), but highly productive catchments. The group follows a line that can be described through the formula (1) and therefore these sites can be interpreted as farmsteads of different sizes and it is expected that these sites were responsible of most of the agrarian output in the UVB. A second group is positioned in the lower left quarter of the plots, characterised by medium scatter size (0,2–1 ha) and low productive catchments. These sites could not have been completely self-sufficient and therefore depended to some extent on the agrarian product of group 1. These sites can be interpreted as "non-agrarian" rural settlements, which includes anything like *stationes*, workshops, pastoral sites or small villas. Finally, a third group of sites is characterised by medium-large scatter size (>0,5 ha) and occupies the top of the chart. The sites belonging to this last group could be generically termed as secondary rural centres, as their size implies a relatively high population, but it is to be expected a fluctuating involvement in agriculture depending on the horizontal position on the plot. Above all these sites can be located a fourth level, that of cities, which will be considered at a later stage.

A cross-chronological outlook allows some considerations on the changing organisation of rural settlements in the UVB. In general, the graphs highlight a compression of settlement hierarchies that could be interpreted as a symptom of economic simplification.

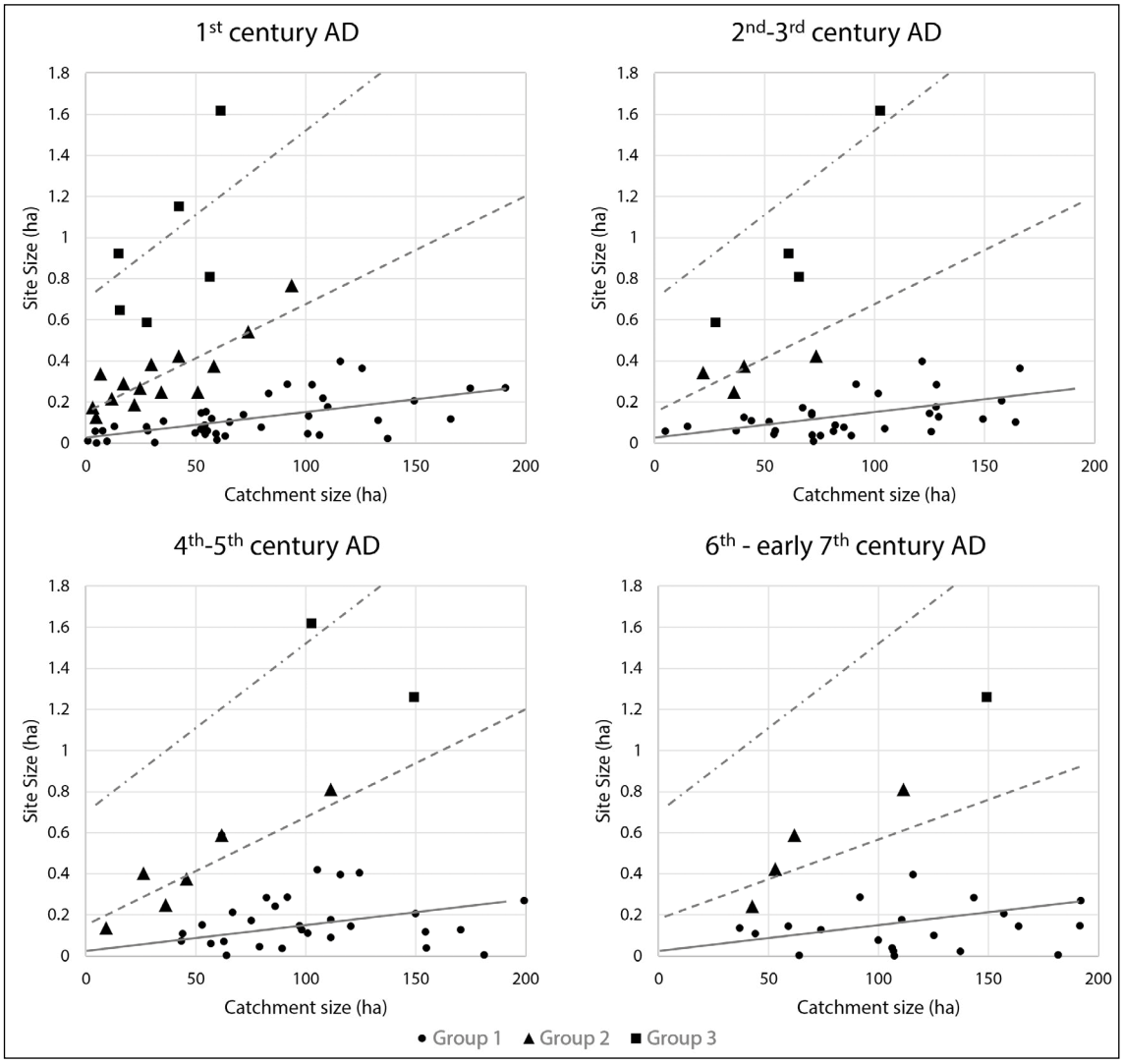

Fig. 3: Site size/catchment productivity graphs of the UVB sites between the 1st and the early 7th century AD.

The disappearance of sites from the top left quadrant indicate that the late antique economic framework envisaged a growing focus on agrarian productivity, and this fits the hypothesis that the late antique agriculture was turning to subsistence necessities, with a gradual abandonment of market economy.[14] If the general framework is unchanged, the approach presented here allows to chronologically follow the steps undertaken to accomplish this economic reconversion and to analyse the reaction of peasantry and of the urban centre to these stages. It appears beneficial to adopt the framework of evolutionary economics, according to which the process of site reduction can be interpreted as an example of "selection mechanism". In a selection mechanism, given a group of agents in a period of economic change, only those fitting the new socio-economic context are

able to prosper.[15] In economic geography, a successful pattern of settlements stems out of a selection of optimal sites located within so-called 'spatial margins of profitability' whose boundaries change depending on the geographic and economic circumstances.[16] Consequently, different rates of continuity in ancient settlement patterns can inform on the changes in the economic environment. The UVB data shows two main moments of "selection": the 2nd century AD (from 61 to 39 sites, -36%) and the 6th century AD (from 36 to 25 sites, -31%). Historically, the first drop can be interpreted as the last act of the agglomeration of the Republican small properties into the Imperial *latifundia* system,[17] while the second is linked to the socio-economic instability caused by the Greek-Gothic wars.[18] By analysing the rates of group resilience in these two decisive moments, it is possible to see how differently these changes affected the rural settlement organisation.

The transition to the 2nd century AD is characterised in the whole peninsula by a stronger continuity amongst larger settlements while smaller sites tended to suffer stronger declines,[19] a trend commonly associated with the expansion of large *latifundia* at the expenses of small landholding.[20] Initially, this trend was also observed in the San Vincenzo's dataset,[21] but merging the SVP and CLP results revealed a different situation. First, the average site size remains stable throughout the first half of the 1st millennium AD (fig. 4), suggesting that the nucleation in larger settlements must have affected only a minor part of the rural population in the UVB. Second, the strongest contraction occurred amongst the medium-sized sites of group-2, while a much lighter decrease affected group-1 and group-3 (fig. 2b). Then it can be argued that in the 2nd century AD the success of a site was more dependent on the productivity of its hinterland, rather than on its size. Noticeably, this fact does not play out the eventuality that in this period large land units incorporated smaller plots, as indeed the average catchment productivity grows. Nonetheless, it certainly scales down the expectancies on the presence of large estate centres in this region of Italy and proves that this settlement type did not dominate the Samnite landscape as in Lucania[22] or Apulia[23]. The growing necessity of the elites of Samnium to sustain their political prestige, either locally or in Rome,[24] could partially explain the new structure of the rural settlement pattern. If the local aristocracy based its richness on land output, it would try to position its workers in the most fertile locations, even though, not necessarily in fewer larger settlements. Similarly, if the aim were to gain political power, the profits would be reinvested either in the closest town (Isernia or Venafro) or in Rome itself. Accordingly, the reinvestments reaching their rural properties would have been limited to productive enhancements (e.g. acquirement of new land, installation of facilities to transform or store rural products), but also to the maintenance of locally prominent locations, eventually leading to an impoverishment of the rural population and the abandonment of sites lacking fertile surroundings or social prestige. This scenario envisages an agriculture that, in the 2nd century AD, still worked within a larger integrated system of exchange. It is possible that few remote sites turned already to subsistence strategies, but there is no evidence that a closed economy was already dominating by this date.

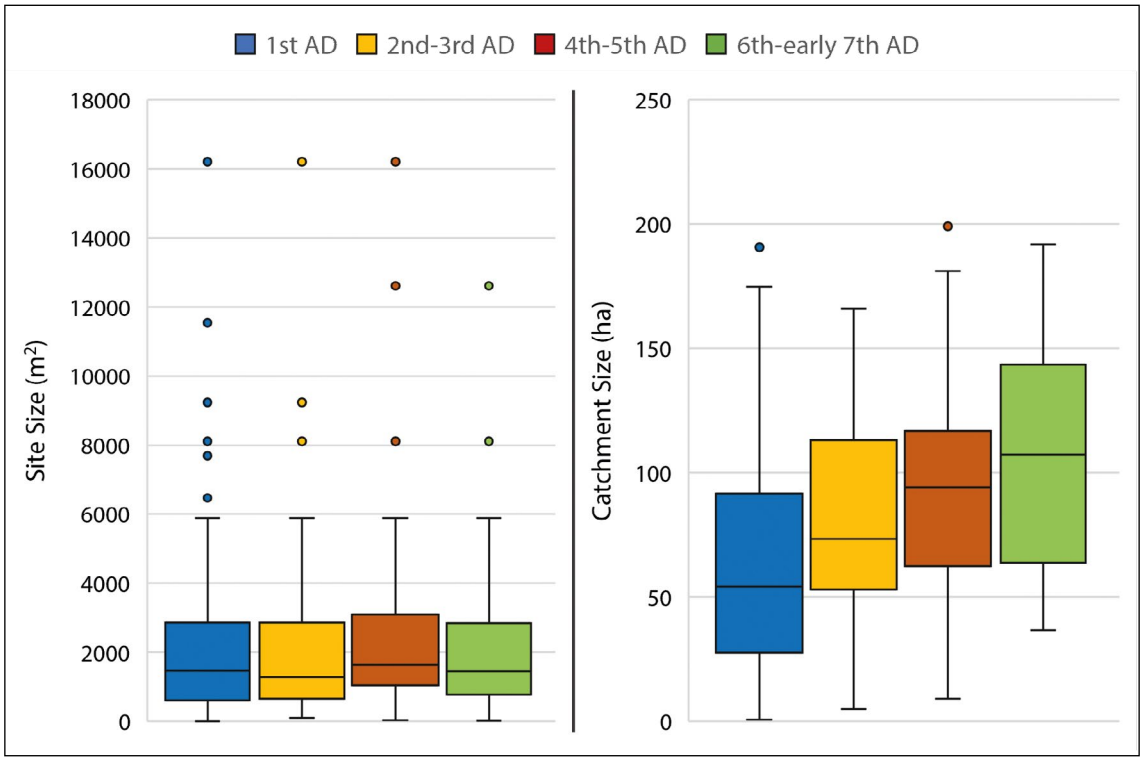

Fig. 4: Site size (left) and catchment productivity (right) averages between the 1st and the early 7th century AD.

Between the 2nd and the 5th century AD site numbers show a certain continuity, demonstrating a reached equilibrium and a successful integration within the mid-Imperial economy. Site typologies are also quite stable: the only major change is the movement of group-3 sites to the top right of the graph, representing a growth in site size and catchment productivity. However, with the 6th century considerable novelties are introduced, but in a substantially different fashion from the 2nd century AD. In the academic debate, the 6th century marks the end of the Roman villa-system[25] and, in Samnium, it is at this date that farmsteads and villa almost completely disappear.[26] As in other areas of central Italy, only few sherds of African pottery post-date the 500 AD in the UVB[27] and even in Isernia it is hard to trace evidence from this period.[28] The combined analysis of the SVP and CLP data confirms that in the 6th century the UVB was lightly populated as only 25 sites show some evidence of occupation. Differently from the 2nd century AD, in the 6th century all the groups share a similar percentual decrease (ca. 30%; group-1 from 28 to 20; group-2 from 6 to 4; group-3 from 2 to 1). This uniform decrease substantiates the hypothesis that the crisis was caused by an event affecting indiscriminately the whole rural population, a feature that fits the effects of long-lasting warfare and, thus, of the Greek-Gothic wars. Despite the quantitative regression, it is noticeable

that the hierarchical organisation of settlements remained substantially unvaried.[29] This fact suggests that until the early 7th century the Roman settlement pattern was still providing the essential framework in which it was organised the rural population. This evidence indicates, firstly, an economic continuity between the late Roman Empire and the Gothic kingdom[30] and, secondly, a rather indirect influence of the Greek-Gothic wars on the UVB. Therefore, the data collected in the UVB is suggesting that the Roman settlement structure reached the 7th century AD, when the first traces of hilltop occupation appear on Le Mura-Mennella[31] and with the inclusion of Isernia in the Lombard Duchy of Benevento.[32]

It is now necessary to understand how the events occurring in the UVB intertwine with the history of Isernia, but also whether the approach outlined in this article can help perceive variations in the economic centrality of the city. For the history of the UVB this is particularly helpful, as late antique Isernia is almost completely unknown archaeologically.[33] The only certain information concerns the restoration of the market and the wall after an earthquake in 346 AD and that the city was never completely abandoned, despite evidence of a strong demographic decline[34]. Contemporarily, san Vincenzo stood out amongst the other rural settlements, with some religious[35] and economic[36] power. In the 5th–6th century, its architectural and material evidence resembled closely that of Isernia.[37] These elements lead to hypothesise that the late antique San Vincenzo was a developing central place,[38] somehow alternative to the city. Kim Bowes[39] rejected this hypothesis as survey evidence suggests a detachment of San Vincenzo from the local economy and identified the source of San Vincenzo's richness in extra-regional investments. With the approach proposed in this article it is possible to investigate the socio-economic linking these two centres with their territories.

Before the 346 AD earthquake, the town occupied almost the whole travertine outcrop, on which it lied, reaching a size of ca. 12 hectares. Its hinterland was not the most fertile area in the UVB and around 180 hectares were suitable for cultivation. These characteristics indicate that Isernia did not belong to any of the three groups analysed previously and gives a first measure of the town's economic weight in the early and mid-Imperial period. During Late Antiquity, the size of the city shrank, occupying in the 6th century only the area around the modern cathedral (2,5–5 hectares).[40] This contraction "downgraded" Isernia to a position resembling that of the contemporary *vicus* of San Vincenzo (cfr. n.2). These apparently similar sites differed enormously in their relationship with the territory. Considering the geographical distribution of rural settlements will help visualise the difference between city and *vicus*. In fact, despite the strong decrease in number of rural settlements in the UVB (- 60%), the area directly outside the urban walls (< 1 hour walking) suffers a noticeably minor decrease (-30%; fig. 5). Thus, in the 6th century AD, the landscape divided in two concentric belts: a peri-urban area dotted by small farmsteads and a virtually deserted further away. It appears clear that the 'spatial margins of profitability' for scattered settlements

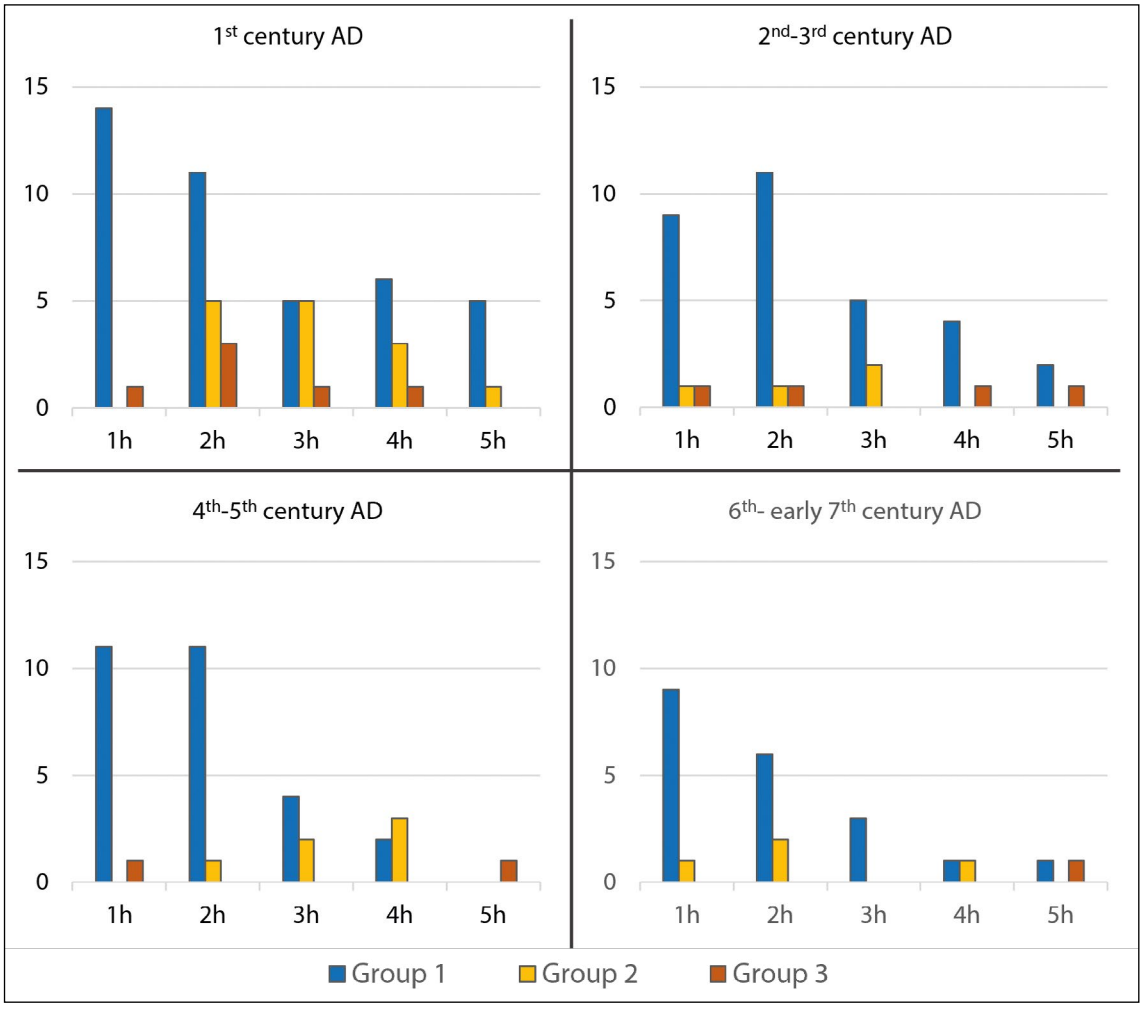

Fig. 5: Site quantities versus distance from Isernia.

were restricted to a thin strip of territory around Isernia. Beyond these margins only larger and autonomous settlements could survive, as the evidence from the rest of the Italian peninsula seems also to suggest.[41] Thus, it appears clear that, if Isernia was at the top of a local economic network, San Vincenzo was most likely leading an almost completely self-sufficient agrarian regime, with few or no satellite settlements. Until this autarchic system received the external support of a rich elite class, as that of the Church, this created living conditions that could resemble urban standards. The fragility of San Vincenzo's system became evident in the 7th century, when the external income disappeared and so did its urban resemblance.

Summing up, the evidence from the UVB suggests a profound redefinition of site-hierarchies that occurs in two steps during the imperial period. The first, in the 2nd century, generated a shift of the rural economy towards agrarian productivity, with all

likelihoods triggered by the local aristocracy. This caused a widespread impoverishment of the rural population and the abandonment of mid-sized "non-agrarian" sites, but maintained an active agrarian economy that integrated well in the imperial network, as indicated by the settlement continuity until the 5th century. The second step dates to the 6th century and marked the transition to an economic system with narrower horizons, as visible in the contraction of Isernia's economic influence. This second phase lead to a bipartite landscape with an economically active peri-urban countryside and a poorly settled peripheral territory. In this remote belt, secondary agglomerations had more chances to survive, especially when they could combine subsistence strategies to external investments. Overall, the outlook offered here confirms what has been known for long on the rural changes in the Italian peninsula, but it has emerged how hierarchically superior centres were successful only if they worked as catalysts for short-distance economic networks. Similarly, a more flexible settlement categorisation, able to connect site scatters to their potential economic function, highlighted how different "global" changes had a different impact on the local economic organisation. The method is potentially applicable to any survey dataset and therefore it is hoped that comparisons from other regions will appear in the future.

Acknowledgments

The results presented in this article are part of a wider PhD research, analysing the economic development of the UVB in the 1st millennium AD. This research is funded by the RTG 1878 "Archaeology of Pre-Modern Economies": I am deeply thankful to anyone actively involved in it. I would like to thank the Soprintendenza Archeologia Belle Arti e Paesaggio del Molise, especially in the person of Dott.ssa Maria Diletta Colombo, for their trust. Special thanks go to Prof. Sabine Schrenk, Prof. Michael Heinzelmann, pPof. Richard Hodges, Dr. Tesse Stek and the whole LERC team for their scientific and human support.

Notes

[1] Ward-Perkins 2005; Christie 2006.

[2] Bowden – Lavan 2004.

[3] Brancaccio et al. 1997, 321.

[4] Bowes et al. 2006.

[5] Stek et al. 2015.

[6] Conducted respectively in March and August 2017 by the author.

[7] A full description of the methodology is provided in Pinchetti forthcoming, chapter 3.

[8] Dyson 2003, 39–40.

[9] White 1970, 388.
[10] Steponaitis 1981.
[11] Malczewski 2004, 4–5.
[12] Wang 1994, 265.
[13] Goodchild 2009.
[14] Bowes 2006, 289–290.
[15] Dosi – Nelson 1994, 156–157.
[16] Boschma – Lambooy 1999, 414.
[17] Patterson 1987, 141–142.
[18] Arthur 2004, 110–111; Christie 2006, 458–461.
[19] Christie 2006, 426–427.
[20] Ikeguchi 2004, 241.
[21] Baker et al. 2006, 33.
[22] Small 1999, 335–336.
[23] Volpe 2012, 39.
[24] Patterson 2004, 60–62.
[25] Lewit 2003; Wickham 2005, 473–474.
[26] Lloyd 1995, 253; Bowes 2006, 290.
[27] Ceglia – Marchetta 2015, 653.
[28] Finocchietti 2012, 23–24.
[29] The only group-3 site left, the vicus of San Vincenzo, is larger than what discovered by survey and possibly reached up to 4 hectares Bowes 2006, 296. Therefore, its position moves towards the top of the graph.
[30] Christie 2006, 452–455.
[31] Pani Ermini 2004, 272.
[32] Di Rocco 2009, 18.
[33] Iasiello 2007, 126.
[34] Terzani 2004, 172; Ebanista 2007, 247.
[35] Barnish 1995, 133–137; Bowes 2006, 298–302.
[36] Hodges – Rovelli 1998.
[37] cfr. Hodges 1995, 127; Terzani 2004, 173 n. 54.
[38] Arthur – Patterson 1994, 431.
[39] Bowes 2006.
[40] Ebanista 2007, 250.
[41] Bertoldi et al. 2019, 199–200.

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Fig. 1–5: by the author.

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Ceramics sherds and Roman Economic Strategies in Picenian Landscapes

Simonetta Menchelli

The Pisa South Picenum Survey Project concerns the Tenna, Ete, Aso River Valleys from the Adriatic Sea to the Sibillini Mountains, in the Marches region (fig. 1).[1]

In this district the main urban centres were the Latin colony of *Firmum* (today Fermo), founded in 264 BC along the coast, and inland *Novana*, on the site of today's Comunanza, which was most probably a *forum* and later became a small *municipium*, referred to by Pliny (N.H, III, 11). Moreover, the main Harbour settlement of *Castellum Firmanum* and the Sanctuary of Monterinaldo played an important economic role in the *Firmum* territory.[2]

Starting from the 3rd century, survey results permit us to reconstruct maior socio-economic transformations and therefore great changes – especially in the landscapes – which can be classified as part of the "Romanization" processes.

They were evident in the new agrarian assets (in particular the viritane centuriation connected with the *lex Flaminia* (232 BC) in the Comunanza territory) and in the ceramics

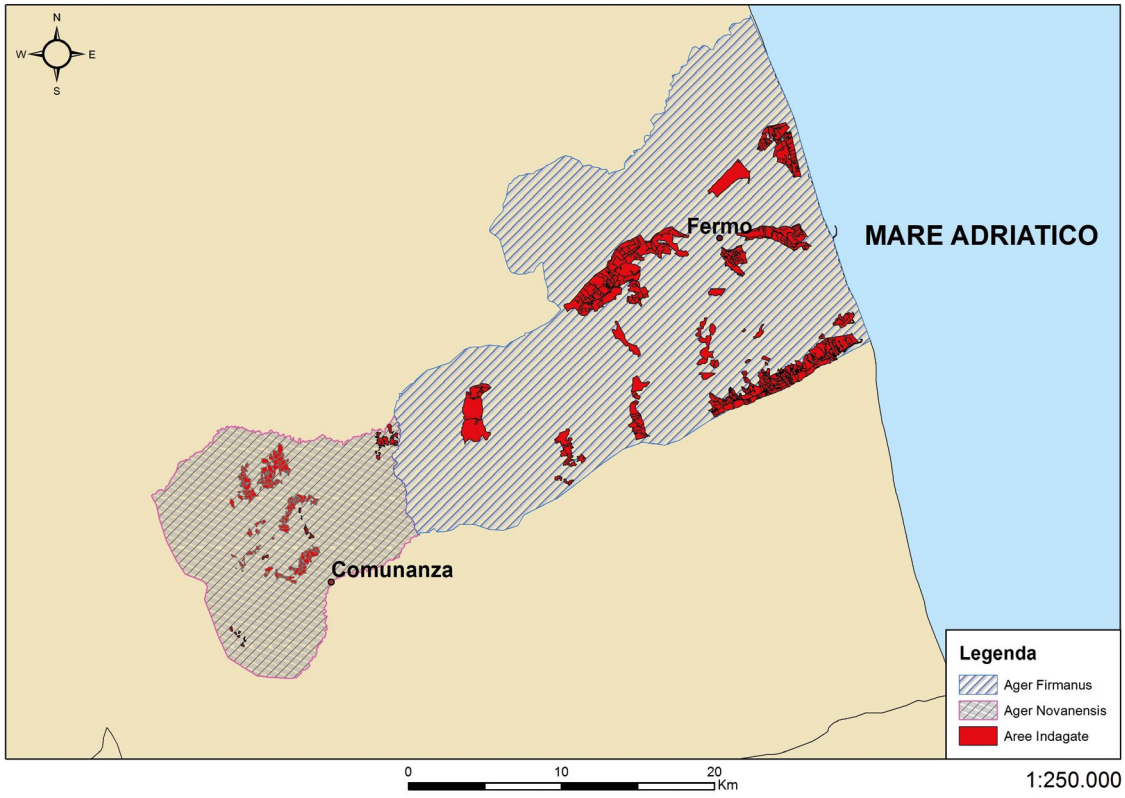

Fig. 1: The studied area.

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Fig. 2: Some Picenian impasto curved tiles and vessels.

findings, for example the cutaway tiles, typical in Roman military constructions, as well as the abundant Black Glazed and cooking wares, mainly from the Southern Etruscan-Latial workshops.

Moreover, it is highly significant that these ceramics were widespread in the urban centres and in the countryside well before the military conquest, evidence of a long-term acculturation process.

The Roman presence determined a productive development through the transmission of new technologies, for example the change from the Picenian *impasto* (fig. 2) to Roman ceramics, and gave the impetus for starting local workshops which very soon imitated the Latial-Campanian ceramics.

According to the data survey, in this first phase (3rd century–early-2nd century BC), the Romans improved the pre-existing economic activities without imposing major changes in the rural settlements patterns, which invariably consisted of small-medium farmsteads.

In the Firmum territory, as well as in a large part of *Picenum*, a structural change took place starting from the late 2nd century, and mainly in the first part of the 1st century BC, when the villa landscape spread: the Romans took into account the local agricultural potentialities, by utilizing investments by both Pompeus's entourage and the Picenian elites, developed specialized cultivations, linking the results of this intensive production with the Roman globalizing trade. In fact, the Lamboglia 2 amphorae, which have been

Fig. 3: Remains of the centuriated landscape in the Novana territory.

found in large numbers in the East and West Mediterranean,[3] can be considered a symbol of this economic growth. This phase of expansion also continued in the following decades: in the Triumviral period, the *Firmum* territory was centuriated and the related farmsteads, which occupied the previously uninhabited valley floors, gave rise to an exponential agricultural exploitation of the territory.

In this expansive phase, which persisted until the 2nd century, the close relationship between the city and its territory is evident in the survey findings because *Firmum* and the other sites appear to have been part of the same integrated market system. The rural sites, *villae* and farmsteads, were not only centres of production but also of consumption, as shown by the wares imported through Roman globalizing trade. In the same way, in trying to overcome the *Consumer City/Producer Countryside* dichotomy,[4] we can presume that *Firmum Picenum*, apart from providing administrative and commercial services, was also the site of the productive activities referred to by the sources and which were not found in the countryside (for example the metal and textile productions).

In the inland district, the settlement patterns were much uniform, characterized by the urban centre of *Novana*, small farmsteads in the centuriated territory (fig. 3) and a few *villae*, the latter dating from the 1st century BC, but much smaller than those of the *ager Firmanus*. Only these *villae*, and naturally *Novana*, present evidence of imported goods (fig.4).

The farmstead allotments could not have been larger than 40 *iugera* and for the colonists the complementary use of the *ager publicus* would have been particularly important for breeding, collecting wood, the rapid cyclus cultivations and so on.

Fig. 4: Some sigillata vessels from the Novana territory.

In this area, structural changes took place in the early Imperial Age because the small rural sites did not survive beyond the 2nd century AD and only the *villae* present finds from a slightly later age, and similarly the *municipium* of *Novana*, after having been mentioned by Pliny was not referred to in any other later source.[5]

Most probably the reason for this crisis was due to the market-oriented Roman economy which involved this territory in an intensive exploitation of its resources for industrial rearing, mainly transhumant. Latin *gentes,* such as the *Caesii,* locally documented in the Toponym *Cisiana*, invested capital for these activities, by utilizing vast tracts of the *ager publicus* for private use, therefore leading to a crisis in the agrarian system based on the complementarity of the small allotments with the community use of woods and pasturelands.

Novana gradually disappeared but, after a long interval, in the 8th century its territory was occupied by many properties of the Abbey of Farfa, and the church of Santa Maria a Terme became the nucleus of the new centre, which began to be called Comunanza. Therefore in these valleys the continuity of the settlement hierarchy is evident as proved by Fermo and *Novana*/Comunanza which remain the main centres in their respective districts. Moreover, in the Firman territory all the early Medieval Parishes arose in important Roman sites, mainly *villae* and *vici*.

In conclusion, the impact of the Roman global economy on the local economies was enormous, and these economic processes were carried out by developing the natural potentialities: not by chance still today Picenian landscapes maintain some characteristics which can be considered as deriving from Roman economic decisions.[6]

Notes

[1] Regarding the theoretical approach of the project see Menchelli 2018; Attema et al. 2020.
[2] Menchelli 2012; Menchelli – Iacopini 2016.
[3] Van Limbergen 2018.
[4] About this topic see Parkins 1997.
[5] See Menchelli 2018, 180 note 45.
[6] Menchelli – Iacopini 2020

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Fig. 1: Eleonora Iacopini. – Fig. 2–4: by the author.

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While the impact of major societal transformations on town and country has always been a central topic in field survey archaeology, recent methodological and theoretical advances are offering novel perspectives on this subject. Increasingly intensive field walking techniques, artefact collection strategies and both typological and technological artefact studies have transformed our understanding of rural settlements and ceramic consumption, especially of local (coarse) wares. These developments enable us to study changes in local systems of production and exchange with much more spatial and chronological detail, and in turn contribute to a revision of the impact that large-scale transformations had on local settlement systems and economies.

The papers in this volume explore how survey archaeology can refine our understanding of the links between socio-political change and local economic landscapes. Focusing on different micro-regions in Italy and Greece, the papers present new work that combines archaeological field surveys and ceramic research. Using both tested and novel methodologies, they explore socio-economic change (in consumer practices, systems of agricultural and artisanal production, exchange networks) in the context of the development of the Greek polis, of Roman expansion in different parts of Italy, and of the transformation of Late Antique (local) landscapes in Italy and Greece.

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