

AMNIS

*L'acqua
dalla materialità
alla parola*



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dalla materialità
alla parola*

Atti del Convegno Internazionale di Studi
(Università di Pisa, 1-3 dicembre 2021)

a cura di

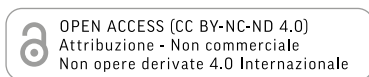
Tatiana Baronti, Francesco Ghizzani Marcia,
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Sara Rojo Muñoz, Federico Saccoccio, Filippo Sala,
Jessica Tasselli, Sofia Vagnuzzi



All'Insegna del Giglio

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RIASSUNTI

Roberto Falbo – Università degli Studi dell’Aquila

*Confini oltremondani e correnti impetuose.
Alcune riflessioni sui fiumi dell’Ade nella tradizione
letteraria greca arcaica*

The rivers of Hades undoubtedly represent one of the most important images of the geography of the Underworld in the Greek literary tradition. This paper focuses on some aspects of these subterranean rivers in the Archaic age by highlighting both their role as a natural border between the world of the living and Hades, and the characterization of their violent streams. Some passages, indeed, particularly show the relevance of the Acheron in the topography of the Underworld since Homer, while other evidences emphasize the difficulty in passing through these impetuous streams to reach Hades. From this point of view, we provide here a quite new interpretation for two difficult passages, *Ilias*, XXIII 69-74 and Pindar, fr. 130 Maehler, which may clarify the vividness of such interesting and meaningful descriptions.

Keywords: Hades, Underworld, rivers, Acheron, Homer, Patroclus, Pindar.

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**Lucia Lombardi – Università degli Studi di Salerno
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*Alcune immagini legate all’acqua in Filone
Alessandrino*

The paper aims to analyse the importance of water as an element in Philo of Alexandria. Water can be found in several parts of the *corpus philonicum*, and is connected with the creation of the cosmos. On the one hand, the study of the various repetitions of the term allows the reconstruction of Philo’s exegesis of Pl. Ti. 32b-57d6 in light of the Hebrew tradition; on the other hand, it brings out the importance of such an element compared to the others. As far as the latter is concerned, analogies can be found between the value Philo confers to the term and its meaning in the philosophical tradition.

Keywords: Bible, Genesis, Philo of Alexandria, Philosophical tradition, Plato, *Timaeus*, Thales, Water.

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Jessica Tasselli – Università di Pisa – Georg-August-Universität Göttingen

Il mare in tempesta nei Posthomeric: Q.S. 8.59-66

This paper aims to provide an analysis of Q.S. 8.59-68. In these verses, Quintus Smyrnaeus compares the clash of Greek and Trojan armies to a stormy sea. Two

features make this simile unusual when compared to the others. On the one hand, this is the only simile to deal with a water-themed scenario in book eight, which features the highest concentration of similes in the *Posthomeric*. On the other hand, it is remarkably complex: Quintus combines several elements to sketch the storm scene, thus making this simile longer than many others from the same book. Examining its role and its narrative context has led to shedding light on this exceptionality. Both linguistic and lexical analysis confirm Quintus’ originality in terms of *imitatio cum variatione* of the literary tradition. The relationship between Quintus’ simile and its possible models – with particular attention to the Homeric poems – has been investigated, too. The results provide valuable insight both into a long-neglected book of the *Posthomeric* and into Quintus’ style.

Keywords: *Posthomeric*, Similes, Second Sophistic Epic, Homer.

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Caterina Lobianco – Scuola IMT Alti Studi Lucca

*Un’introduzione al fenomeno dei santuari marittimi
della Magna Graecia*

My paper deals with the epithalaxic sanctuaries of *Magna Graecia*, which are the subject of my doctoral research.

Although concerning a specific category of sacred areas, this study cannot disregard some more general reflections on the role of the sacred in the ancient Greek world. Since Greek religion is a phenomenon that permeates all aspects of the daily life of ancient Greeks, we can see reflected in it all the social dynamics that characterize ancient communities. Moreover, in *Magna Graecia*, these peculiarities are inserted in the wider phenomenon of the Greek colonization of the West. The aim of my speech will therefore be to place the phenomenon of the epithalaxic sanctuaries within the long tradition of studies on the role of the sacred in the ancient world, and to emphasise the importance of this particular type of sanctuary, whose main characteristics are the liminal position and the connection with the sea. The importance of these places lies precisely in these two last aspects. Their position outside the city allows us to see processes that would not otherwise emerge, because they are covered by the dynamics of *poleis*. In addition, I cannot fail to mention a whole strand of studies concerning connectivity in the ancient Mediterranean, which certainly my study benefits of. And such connectivity is not limited only to the economic sphere, but includes any movement of people, goods and ideas.

Finally, I intend to present one or more concrete examples of cases which are emblematic of the type of work I intend to carry out in the coming years.

Keywords: Maritime sanctuaries, embedded religion, Mediterranean connectivity, *Magna Graecia*.

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Lorenzo Radaelli – Università degli Studi di Salerno

Paesaggi dauni: dinamiche di interazione ambiente-uomo

Starting from the last twenty years of the IV century B.C., Daunia is gradually involved with the rural settlement increase and with the implementation of land division systems, which reach their maximum between the Gracchan age and the Early Imperial Age. At the same time, the whole sector of South Italy is characterised by hydrogeological instability, due to cold wet climatic conditions. These events are located in a changing landscape, where different transformations occur: even the settlement patterns and the territorial planification are linked to geographic, mostly hydrographic, elements of this region. The environmental modifications are evident primarily in the coastal areas, highly influenced by the coexistence and the relationship between land and water (sea, river deltas, coastal lagoons, swamps). This paper is a preliminary step of a larger research project, whose principal aim is the diachronic reconstruction of the Daunian coastal landscape during the Roman Republican and Imperial Age. Different types of data are employed in a multi-disciplinary approach, to rebuild the ancient natural environment (such as geomorphologic and paleoclimatic studies, pollen analysis) and the development of the human presence in Daunia (i.e. historiographic sources, archaeological data). An important objective of this research is the possible identification of a relationship between the ancient environmental and climatic conditions and the human impact, which both contribute to the coastal landscape's modification between the Fortore's and the Ofanto's deltas.

Keywords: Daunia, Roman Age, landscape archaeology, wetland archaeology, coastal area, river delta, lagoon, human impact, climatic change.

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Federico Saccoccio – Università di Pisa

Campello nei Monti Aurunci (Itri, Latina): osservazioni preliminari sui sistemi di gestione delle acque nella Piana del Campo

Due to its morphological conformation, the Mt. Aurunci range constitutes the main hydrological supply of the coastal Southern Lazio. Its basin is capable of sustaining many of the springs within its

surroundings. The calcareous nature of the rocks and the permeability, caused by their cracking, gives way to strong and diffused karstification. This phenomenon causes the upper part of the mountainous area's particular scarcity of water.

As a result of the last ground-truthing survey that was carried out in the region as part of my PhD research, much data regarding the organization of the valleys in the heart of Mt. Aurunci have been collected. According to the scant historical sources available, the investigated area was ruled by the castle of Campello during the Middle Ages and allegedly abandoned at the end of the 15th century.

This paper aims to provide preliminary observations collected during the survey regarding structures and features that were presumably purposed with the management of water and its collection.

The assumption is that these structures, for their nature transversal and difficult to place chronologically, were part of a more complex water-management system developed to make up for a variety of water and environmental-related problems. Though it is still difficult to define the clear purpose of these structures, the remarks try to highlight their link to the activities that were characteristic of the valleys of Campello within this long period.

Keywords: Water-management, Monti Aurunci, Southern Lazio, Landscape, Pastoralism.

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Germana Sorrentino – Università di Pisa

Stefano Genovesi – Università di Pisa

Gli archeologi e il fiume che non c'è più. Pisa e l'Auser nella prima età imperiale

As ancient authors already highlighted, the history of Pisa is deeply connected to the *Auser* and Arno rivers. The first one is now disappeared, while the latter has become "the river" of the medieval, modern and contemporary city.

Archaeological data show that both rivers played a crucial role in the economic development of Pisa and its *ager*; it is nevertheless possible to point up that the formation of Pisa as an urban centre was intimately related to the *Auser* river. Its disappearance in the late Middle Ages created a deep fracture in the layout of the ancient landscape: archaeological evidence related to the centre and the suburbs of Pisa and their connection with the river has become extremely difficult to be fully understood. Trying to reconstruct the urban layout of the city, scholars have often been deceived by the *Auser* river absence, bringing Pisa back to a "standard" *forma urbis*.

The most recent research – *in primis* Mappa project – has been able to enhance integrated topographic

studies of all the available archaeological evidence, along with an attempt to reconstruct the *Auser* paths through the comparison of geological and archaeological data. The present essay follows this line of research. We present a reinterpretation of previous studies, focusing on archaeologists' perception of the relationship between the *Auser* and the city over time. Moreover, we'll try to show the *Auser* river was the centre of gravity of the urban area of Pisa and its suburbs during the Roman Age: given the unstable nature of the ancient landscape, it is not therefore possible, at this stage of research, to present a picture confined into strict spatial and chronological boundaries.

Keywords: Pisa, *Auser*, edilizia residenziale, edilizia pubblica, *suburbia*, centro urbano.

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Terme urbane romane e approvvigionamento idrico.

In the studies of the urban Roman baths carried out, the water supply is one of the least addressed issues. Although water was the decisive element for the functioning of the Roman baths (whether large or small), in most of the editions (general or on specific monuments) the attention was focused above all on technical-functional aspects (such as heating techniques), decorative (pertaining to flooring and covering wall, as well as sculptural material) or social (such as the role in Roman society).

But the water supply of thermal baths built in urban areas is a subject not evaluated in its complexity, which instead needs to be examined with particular attention. The most emblematic case in this regard is constituted by the Baths of Agrippa, the first urban public spa, inaugurated in 12 BC contextually with the construction of the Aqua Virgo, the first aqueduct useful to serve the Campo Marzio, in 19 BC. Undoubtedly, the progressive construction of aqueducts in cities in Italy (as well as in the provinces) starting from the Augustan age constituted a decisive opportunity in many cases for the construction of new baths, but the aqueducts-baths association, however, it was by no means a fixed rule.

By analyzing some cities of Roman Italy, it is clear that urban baths have often used water supply methods other than connection to public aqueducts.

These cases, duly analyzed, offer not only an articulated picture of the baths-water relationship, but also consequences that are not secondary at a topographical, architectural as well as economic level.

Keywords: Roman architecture, Roman baths, water supply, ancient topography.

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Rocco Marcheschi – Università di Pisa

Le opere idrauliche nel territorio lunense dall'età romana ad oggi: una ricostruzione diacronica

During the Roman age, the territory between the Lake of Porta and the lower segment of the river Magra was part of the *ager Lunensis*. As today, the landscape features short streams crossing a narrow alluvial plain bordered by the sea to the West and the Apennines to the East. Throughout the centuries, hydrography shaped the landscapes influencing human behaviour, in particular settlements patterns and economic activities. Among the others, two hydraulic operations impacted the most on the landscape: the Roman centuriation – dating back to the foundation of the colony in 177 BC – and the excavation of the *Canale Lunense* in the 1880s. The analysis of these hydraulic works will provide information about the Landscapes in the *ager Lunensis* and their changes from the Roman age to the present.

Keywords: *ager Lunensis*, hydrography, Roman centuriation, Ancient topography.

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Sofia Vagnuzzi – Università di Pisa

La rete idrica del suburbio sud-orientale di Roma: l'acqua come chiave interpretativa dell'uso del suolo e dei modelli insediativi (I-V secolo d.C.)

This paper analyses the relationship between the water supply of the south-eastern suburbium of Rome and the functional destination of this area. The analysed area is bounded to the north by the via Praenestina, to the south by the via Latina, and is extended eastwards up to the ancient 6th mile. It was characterized by a strong agricultural vocation (from the Late Republic) and, since the 2nd century AD, by a high density of villas, many of which are located along the route of the aqueducts or served by secondary branches. In fact, this portion of the *suburbium* was a privileged area from the point of view of water availability: of the eleven aqueducts that supplied the city in the 3rd century AD, six ran along the route of the via Latina to converge to the area of Porta Maggiore – Spes Vetus. Due to its altitude, this area is strategic for the capillary distribution of water in the urban tissue. Therefore, the need to enter the city in an elevated area and the location of the springs from which the pipes came influenced the route of the aqueducts, leading to the conspicuous presence of water supply in this portion of the *suburbium*. In turn, the settlement and functional network of the south-eastern *suburbium* seem to have been outlined in response to the presence of the aqueducts, which can be interpreted as “attractors” of various functions. Here we try to

verify the applicability of the concept of agency to water and hydraulic infrastructures to demonstrate their active role in the choice and development of the land-use patterns of the area.

Keywords: *suburbium*, land use patterns, water supply, aqueduct, agency.

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Filippo Sala – Università di Pisa

Nuove prospettive per il rilievo da drone delle terme di Massaciuccoli (Massarosa – LU)

One of the most common types of Roman architecture related to the exploitation of water is undoubtedly the thermal buildings.

An example of such structures, used as a case study in a PhD project, can be found in the thermal complex, linked to a *villa d'otium* probably owned by the Pisan Venuleii family, at the Pieve di San Michele in Massaciuccoli (LU). This structure, built on a lower terrace in comparison with the level of the villa, was probably founded during the first century A.D. following the canons used for the *triclinia-ninfei* of the imperial residences of the Neronian-Flavian period, as it can be deduced from the large room with recess linked to a pool and the room with a hypocaust. During the Vespasian-Domizian period, the large room was re-functionalized as a frigidarium by building a probable vestibule to the east of it.

In April 2021, a photogrammetric survey of the baths was carried out using both ground level images and a drone. The point cloud obtained was then integrated with the one carried out by a previous research project called “VisualVersilia 3D” conducted by the inter-university centre e-GEA (University of Bologna; University of Modena and Reggio Emilia; Politecnico University of Bari) through the use of a laser scanner. The result obtained, after the operations of mesh and texture creation, is a photogrammetric model with a very high level of detail thanks to which it is possible to analyse analytically the various architectural elements. The realisation of this project will make it possible to use the 3D model as the basis for the creation of a BIM (Building Information Modelling) model within which the architectural elements will be developed as parametric objects correlated by a series of databases in which the data relating to each entity will be stored. In order to increase the sharing of the project to a wider audience, the 3D model was published online using the open source workflow 3DHOP, the technical steps of which will be described in this contribution.

Keywords: Roman Archaeology, Photogrammetry, RPAS

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Archer Martin – Ricercatore indipendente

La gestione dell'acqua nelle officine tradizionali del Delta occidentale (Egitto)

Pottery cannot be made without water, which is therefore an indispensable resource. However, not all potters deal with water in the same way. I would like to illustrate this by examining five traditional production centres in the Western Delta in Egypt.

In a previous paper, which dealt with fuel, I emphasised the similarity between these workshops. They are all located in the same region, which would be arid if there was no water brought by the Nile through a network of canals. They are small businesses, family-run as far as I could tell. The morphological repertoire, consisting mainly of glasses, jugs, bowls, flowerpots, jars and dove-cote pots (a characteristic feature of the Delta countryside), is shared, although not all centres produce all shapes. Decoration is usually absent, but the pots may be covered entirely or partially with a thin whitish engobe made from the straw of the rice plant. As fuel, they use whatever is at hand that can burn – scraps of wood procured from furniture workshops, sawdust, remnants of agricultural processing such as pressed sugar cane or cuttings from the cotton plant, even branches of bushes growing nearby.

The major difference between the centres lies precisely in the use of water, even according to the potters themselves. Some use the bare minimum, while others have complex systems to harness water. They all operate within similar limits and aim to create similar products. However, they choose different strategies to cope. They teach us not to neglect the human will.

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Francesco Ghizzani Marcia – Università di Pisa

Proteggere gli dèi dall'acqua. Fulmini e terrecotte architettoniche nei templi dell'acropoli di Populonia

The mighty wooden frames that supported roofs of Etruscan-Italic temples had a formidable enemy in rain and bad weather to which they were inevitably exposed, with the risk of deteriorating beams and planks and compromising their stability.

To protect from water the wooden skeleton of sacred buildings, since the 7th century BC, in addition to the system of roof-tiles, in central Italy it became very common the use of decorated terracotta elements to cover the beam-ends and other parts exposed to the rain.

The subject of my speech will be the reconstruction of the architectural terracottas from three temples, built on the acropolis of Populonia between the end of the 3rd and the first decades of the 2nd century BC, as

part of the general urban reorganization that involved the Etruscan city, evidently entered under the sphere of influence of Rome.

The material collected, also due to the long and systematic looting suffered by the temples of Populonia over the centuries, was in extremely fragmented conditions. They are mainly a series of moulded covering slabs, some of which seem to have closer connections with religious worship and the gods that were venerated on the acropolis. In particular, some of them can be included in a specific moment of transition in the production of architectural terracottas, when they maintain traits of connection with products of the Etruscan-Italic tradition, but they also anticipate characteristics of the subsequent urban productions.

During this phase of terracotta revetment, the previous centres of production gradually gave way to Rome, which had a decisive role, as a centre of confluence of the contemporary currents of Hellenistic figurative culture, for the development of new models, that were spread widely, along the lines of expansion of its influence.

Keywords: Roman Archaeology, Architectural terracotta, Terracotta decoration, Populonia

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Tatiana Baronti – Università di Pisa

Acqua e produzione ceramica: Pisae nel confronto con altri centri manifatturieri di Terra Sigillata

Pisae was located on a fertile plain between the wooded Pisan Mountains and the Tyrrhenian coast. Natural protagonists in this topographical context were certainly *Auser* and *Arno* rivers, which flowed together through the plain, up to the sea.

In such a geographical frame, water was a fundamental element represented by these two rivers – with their secondary branches and channels – and by the sea which washed a coast well served by a harbours system connected with the main Mediterranean trade routes. The location of terra sigillata workshops in the northern suburb of the Roman city, along the *Auser* up to its mouth, confirms the fundamental role of the water also on the production aspects, as this river represented both a natural resource and a means of transport for raw materials and finished products. The success of the Pisan terra sigillata was strictly connected to the topographical peculiarities of its territory, which appear to be like those of other important manufacturing centres of terra sigillata production.

Starting from the last sigillata workshop identified in the northern suburb of *Pisae* (Via Galluppi), this contribution wants to analyse the relationship

between water and ceramic production, keeping a comparative perspective with the main sigillata productive centres.

Keywords: Topography, Water, Rivers, Terra Sigillata, Pottery workshops, Production markers.

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Riccardo Olivito – Scuola IMT Alti Studi Lucca Anna Anguissola – Università di Pisa

Raccolta, regimentazione e uso delle risorse idriche nell'hortus dei Praedia Iuliae Felicis (Pompeii, II, 4, 9)

Any investigations of Roman domestic architecture, particularly in the Vesuvian area, requires considering the role of gardens and large open spaces, which often constitute a crucial element within both middle- and upper-class *domus*.

Scholarship engaging with this topic has mainly focused on more general issues about architecture, design and ideology (e.g. the arrangement and decoration of gardens, the imitation of large senatorial and imperial villas).

The functional arrangement of these spaces, especially in terms of the collection, distribution and drainage of water, however, has remained largely overlooked. Indeed, closer examination of infrastructures such as cisterns, basins, channels and drainage systems allows a more detailed understanding both of Roman topiary art and, more generally, of the areas articulation of Roman domestic spaces.

Based on these considerations, the paper discusses the results of recent investigations in the *hortus* of the *Praedia Iuliae Felicis* (Pompeii, II, 4, 9), focusing on the complex system of drains and cisterns discovered in the north-western area of the garden. Investigations conducted within the context of a broader research project (PRAEDIA-Pompeian Residential Architecture. Environmental, Digital, Interdisciplinary Archive) shed new light on the function of this large open area. Data collected in two campaigns of excavations (2019-2020) suggest a new reading of the *hortus* and the building as a whole. The large garden has so far been interpreted as a space for leisure and *otium*, in keeping with the prevailing taste of early-imperial Pompeii. Instead, exploitation for production of goods destined to the household and the clients of the *Praedia's* commercial facilities seems more likely. Features about the design and imagery of the building support this interpretation, thus highlighting the *Praedia's* role within the economic fabric of 1st-century CE Pompeii.

Keywords: Pompeii, *Praedia Iuliae Felicis*, *hortus*, garden, water infrastructures.

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Antonio Monticolo – Università di Pisa – Christian-Albrechts-Universität zu Kiel

Le fontane della domus di Octavius Quartio: un'analisi preliminare

During the early Imperial Age, there was an acceleration of the economic and social life of Pompeii. The increase and specialization in the production of goods gave rise to new social classes that became increasingly wealthier and participated actively in the city's institutions. In Pompeii since the Augustan period, there was a stunning increase in the number of private fountains. Such an increase seems to have depended on specific socioeconomic factors. The availability of water resources, which had been made possible by the new infrastructures, allowed the blooming "middle class" of merchants and craftsmen to display elements of a lavish lifestyle that had previously been a prerogative of the upper class. The fountains seem to be a valuable indicator of a very tight competition inside the emerging classes of the town, clearly expressed at different levels of domestic luxury.

In this regard, the aim of the paper is to propose a preliminary reading of the fountains of the so-called *domus* of *Octavius Quartio* (II 2, 2) located in the *Regio IInd* of Pompeii, near the Amphitheater and *Palestra Grande*. After a brief presentation of the house, the contribution illustrates the functioning, the location, the decorations and materials that embellished the fountains of the *domus*. Furthermore, an attempt was made to delineate, also through comparisons with the *domus* of the other *Regiones*, a semantic relationship between the fountains and the decorative elements of the *domus*.

Keywords: domestic fountains, architectural strategy, visibility, *Regio IInd*, painted and sculptural decoration.

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Giovanna Cera – Università del Salento

Porti e approdi sulle vie d'acqua interne dell'Italia settentrionale in età romana, tra viaggi, commerci e culti

This contribution aims to analyze river navigation in Northern Italy in Roman times, with particular attention to urban river ports and smaller landings related to small villages, *stationes* or large residential properties. The analysis of historical, literary and epigraphic sources and archaeological evidence allows us to broadly reconstruct the system of the river and lake viability that headed the Po and its navigable tributaries, as well as the fluvial-lagoon network that characterized the area of the Po delta and that of the northern Adriatic. The archaeological research conducted in the last decades has contributed significantly to the development of knowledge in this field and made it possible to reconstruct a broad picture also on the specific topic related to the river ports.

We intend to focus on some aspects, such as the role the river ports played in the context of the *cursus publicus*, the public navigation service for passengers; their position in relation to urban centres and smaller settlements; their relationship with the road network; their structural and planimetric characteristics; their connection with commercial and productive infrastructures (warehouses, workshops) and/or with shrines and places of worship.

Keywords: river ports, inland waterways, trade, places of worship.

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La valle dell'Albegna: viabilità e comunicazioni lungo un fiume di confine nel periodo etrusco

The Albegna Valley, in today's southern Tuscany, was the northern boundary that closed the Vulci territory in Etruscan times. The river source is located at Mount Labbro, which belongs to the Amiata system, and flows perpendicular to the Tyrrhenian Sea coast where a large plain extends. It is because of this form that the Valley has become a place for division (between Vulci and Roselle, as well as between Southern and Northern Etruria) and for communication (internally within the Valley and between Intern Etruria and the sea).

Ancient land ways are well-known thanks to the studies and the rest of the Roman roads (*Aurelia* and *Clodia*) that followed, at least partially, older paths. Further information has been collected thanks to the medieval paths for the transhumance as well as landscape studies that use visibility patterns and Least-Cost Paths (LCP) as tools for identifying new possible paths.

Water, which is the element that has created this geographic system, is also a big protagonist in creating routes, due to the length of the river and its orientation, as well as the minor ways open by tributary flows. Thanks to its exit to the sea, it is also responsible for contacts with other Peoples at the Valley itself, as well as in foreign ports. However, difficulties in identifying when these ways were used present themselves in form of lacking enough traces of the actual utilization of these kinds of paths.

In this article we will study the possible navigability of the river, united with the actual use of it that may have existed in Etruscan times, before the Romanization process. We will also relate the intern roads to their exit to the sea and the possibilities that the system offered local ancient societies.

Keywords: Etruscology, Albegna Valley, navigability, river, landscape.

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Dinamiche commerciali tra l'età repubblicana e tardo antica. Osservazioni preliminari dall'analisi dei contesti ceramici dallo scalo fluviale di Pisa-San Rossore

In 1998, during the excavation of a working area near the Pisa San Rossore railway station, an archaeological deposit with numerous shipwrecks was unearthed. The geo-archaeological data demonstrates that the site was associated with a watercourse, probably a tributary of the Auser ancient river.

The ships, some with cargo still on board, were embedded under eight centuries of silt, sand and clay; after some exceptional alluvial floods, due to climatic changes and anthropogenic impact, the Arno river broke its embankments close to a bend and poured out huge quantities of water and sediments in the area of this canal, sweeping away everything and leaving materials in the hollows of the ground. The catastrophic floods occurred since the 3rd century BCE with an almost secular recurrence and triggered the definitive disappearance of the canal during Late Antiquity.

The hydrogeological characteristics of the river basin contributed to preserving ceramics and organic materials (shipwood, remains of food, leather and wicker objects, etc.). The variety of findings allowed us to reconstruct cargoes, riverine activities and life on board. The preliminary data deriving from the analysis of the ceramic assemblage, characterized by a morpho-typological variety and a relevant quantity, demonstrates the heavy commercial activities of this landing from the Late Republican to the Late Roman period. Furthermore, the ceramics, resulting from the San Rossore alluvial and fluvial deposits, suggest the full inclusion of the site in the inland, Tyrrhenian and, more in general, Mediterranean trade networks during the roman centuries throughout the fluvial and maritime commercial routes.

Keywords: alluvial floods, Auser, Arno, Pisa, San Rossore, landing, ceramic, trade networks, roman period.

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Importazioni di sigillate africane e orientali in Sicilia tra V e VI secolo d.C.

The spread of African products in Sicily between the fifth and sixth centuries A.D. testifies to important commercial relations with Vandal and Byzantine Africa. After a first phase of settlement, Genseric's vandals reorganize the markets and maritime commerce, retracing the ancient sea routes of the Roman Empire. After the Byzantine conquest of Africa and Sicily, the monopoly of African products is taken on by

Constantinople and Sicily plays an exceptional strategic role in its central position in the Mediterranean Sea. The importance of African pottery is evidenced by the numerous TSA finds. This class has a wide diffusion and enjoys a large-scale transmarine distribution, included in a commercial network connected with the progressive affirmation of African goods in the Sicilian markets. An archaeological context to take the diachronic development of African imports of TSA of the Vandal and Byzantine ages is the site of the Roman Villa of Patti Marina, located on the northern coast of Sicily along the ancient Valeria Road.

Keywords: Sicily, Vandal and Byzantine Africa, Maritime trade, TSA, Roman Villa of Patti Marina.

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Cosa e le rotte commerciali. Alcune considerazioni sull'approvvigionamento del vasellame da mensa

The new data about the pottery found in the recent archaeological investigations led by the University of Florence at Cosa enrich and integrate the panorama already known on the cosan material classes. This contribution aims to outline the site relationships with other Italic towns and the provinces of the Roman Empire, as well as to discuss the role played by the colony in the tableware market.

Due to its proximity to the sea and the activity of its two harbours, Portus Cosanus and Portus Feniliae, Cosa was involved in the Roman trade network since its origins and its importance grew concurrently with the expansion of Roman trade in the western Mediterranean.

The analysis of black-gloss pottery is precious in defining the commercial relationships of the town during the Republican age. Between the end of the third century and the middle of the first century BC, Cosa had a privileged channel with northern Etruria and with Cales. It was part of a trade route that travelled by sea from northern Campania along the Tyrrhenian coast up to Southern Gaul and the Iberian Peninsula. The different classes in terra sigillata also allow us to identify the main Italic centres and Roman regions that supplied the site with this pottery between the end of the first century BC and the middle imperial age, such as Arezzo, Pisa, the Tiber Valley, and southern Gaul. The site was an intermediate station on the route that from Gaul, along the Tyrrhenian coast, reached Ostia, then Rome and the other way around. At the end, when Northern Africa became the main protagonist of Roman trade during the second century AD, Cosa constituted one of the various transit points located along the Italian coast.

Keywords: Cosa, Black gloss pottery, terra sigillata, Cales, Arezzo, Pisa, Roman trade network.

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