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Abstracts

Session 1

The Ancient Topography research between tradition and innovation: from the “Archaeological Map of Italy - Forma Italiae” project to the Ager Venusinus and Lucerinus projects

Maria Luisa Marchi (University of Foggia)

This paper presents the research method applied in the *Forma Italiae* project by the Ancient Topography school for territorial analysis and archaeological resource management in Italy. The *Forma Italiae* method was developed in a joint effort by the University of Rome "Sapienza", the Cartographic Laboratory of Experimental Archaeology, the Unione Accademica Nazionale and the CNR and Archaeological Laboratory of Cartography at the University of Foggia. In order to highlight the most important aspects of such a method, in this paper I will focus on three case studies: the *Ager Venusinus* project (completed), the *Ager Lucerinus* project and the *Appia* project (ongoing).

The idea of an Archaeological Map of Italy dates back to 1889 when by Royal decree the ‘Bureau for an Archeological Map of Italy’ was created. Giuseppe Lugli’s publication in 1926 of the first volume of *Forma Italiae* represents the continuation of the initial Royal project. Later, with the advent of information technology and satellite positioning systems (GPS) a "new era" of archaeological mapping began. Thanks to these technological developments, the first Territorial Information System was developed for the *Forma Italiae* project.

This method was also used in the “*Repertorio bibliografico per la Carta Archeologica della Provincia di Roma*” project and also in the “*Project Census for an Archeological Map of Italy*”.

Even though it wasn't a determining factor, the twenty-year experience of field survey in the *Ager Venusinus* and the introduction of Geographic Information Systems have greatly facilitated several recording procedures for documentation both in the field and in laboratory. Moreover, the *Forma Italiae-Ager Venusinus* project was recently updated with new large-scale and interdisciplinary research, namely the 'Landscapes of Early Roman Colonization' project (LERC).

In topographical research as well as in both urban and territorial themes, experiments began with the “automatic” passage of information from direct reading of the land to the operational project but without specialist interpretation.

The base of this research is the *field survey* that covers all the phases of territorial occupation, according to the criteria of systematic methodology. This type of survey is considered more useful than one restricted to a particular chronological period or a territorial sample.

Remind me what we are counting for?

Elizabeth Fentress (AIAC)

As we seek an ontology that allows us to compare data from different survey projects, the debate continues to rumble as to the intensity with which we survey. This translates in practice into a trade-



off between ground actually covered and accuracy of the results. Reconsidering an old paper I question how much ground we actually need to cover to have meaningful historical results, and what methods best fit the same requirements.

A survey data collection project for Cultural Resource Management and comparative studies in Italy and the Iberian Peninsula

Anita Casarotto (KNIR, University of Groningen), Tessa D. Stek (KNIR, University of Groningen)

In this paper we present a research and training project funded by the Dutch Prins Bernhard Cultural Foundation and based at the KNIR and the University of Groningen. The grant allows to set up an international collaboration with scholars and students at Portuguese, Spanish, Italian and Dutch institutes and universities through the implementation of student internship programs, field schools and research workshops. This project focuses on heritage management and landscape archaeology, and aims to collect and digitise both so-called legacy and new field survey datasets from Italian and Iberian territories. The wider goal is twofold. First, to guarantee digital preservation and accessibility to survey datasets at risk by intensified landscape changes and obsolescence; this data is indeed important for territorial monitoring and future sustainable planning. Second, to study rural settlement patterns in relation to the Roman expansion in Italy, Portugal and Spain, compare these patterns, identify differences and similarities in settlement strategies and land use organisation thus shedding light on the interactions between Iron Age communities and the early rise and expansion of Rome. In this project, the digital platform Fasti Survey plays a key role in the integration, preservation and comparative analysis of the survey datasets.

Comparing datasets and analyzing low density Hellenistic-Roman survey assemblages in the Sibaritide region (Calabria, Italy)

Martina Cecilia Parini (University of Groningen)

This paper presents a case study about the analysis and comparison of field survey data from my ongoing PhD research, focused on the analysis of Southern Italy's rural landscapes during the Hellenistic and Roman periods. The primary goal of the project is to identify and explain large-scale diachronic patterns in the organisation of the countryside by comparing regional variations and similarities.

The two datasets analysed were collected between 2000 and 2014 in the Sibaritide region (northern Calabria, Italy) within the framework of different projects, one by the University of Groningen (Raganello Archaeological Project) and one by the University of Calabria (Castrovillari municipality). Each project used different methodologies, regarding for example sampling strategies and the definition of survey units. Therefore, data selection and different approaches are necessary to make them comparable and to answer the research questions.

In this paper, I look at the characteristics and significance of low density pottery surface scatters, generally classified as 'off-site'. After taking into account the possible biases related to visibility and geomorphological conditions, by using a landscape classification approach, I discuss the variability of densities, fragmentation, and composition of the ceramic assemblages.



Connectivity and mobility of the bay of Cadiz during antiquity through Geographical Information Systems: a methodological proposal

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The territory comprising the Bay of Cadiz has historically been characterised as a very dynamic socio-natural space. The current landscape is the result of a series of natural confluences such as erosion, sedimentation, and the influence of the tides, to which must be added the intense anthropic action. This binomial results in an ecosystem that is very complex to define and analyse.

Using a methodological proposal based on legacy survey data collection and the use of Geographic Information Systems (GIS) consisting of the elaboration of a set of Digital Terrain Models to which cost analyses are applied, specifically the analysis of the "Model of Accumulation of Optimal Displacement from an Origin" (MADO) and the generation of optimal paths, the aim is to define the conditions of mobility and connectivity both terrestrial and fluvial and maritime in the Bay of Cadiz based on the data obtained for the Early Roman Empire period.

The hinterland of Tipasa, Algeria, results from the 2021 survey campaign

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Algeria is the biggest country in Africa, with some of the best-preserved UNESCO heritage sites, but also one of the most unknown and underexplored regions in the Mediterranean basin due to its recent history. Besides relevant site catalogues achieved by scholars as Philippe Levau in the territory of Iol Caesarea, Cherchell, we lack information at a regional scale about the hinterland of other major cities alongside the Algerian coast, as Icosium, modern Algiers, and Tipasa, Tipaza.

This paper will present the seminal field survey campaign carried out in December 2021 by the Complutense University of Madrid and the Morsli Abdellah University Centre (with the collaboration of other Spanish institutions such as the Instituto de Arqueología de Mérida – CSIC, Junta de Extremadura and the IBEAM). Our first field survey campaign (December 2021) was oriented to the hinterland and coastal areas of the ancient city of Tipasa, in an area enclosed by two UNESCO sites: the ancient city and the funerary monument of Mauritanian kings. The main aim of the survey is to map and study the evolution of both the coastal areas and the countryside, and to explore the connections within a Mediterranean network that encloses the very nearby territories of the Iberian Southeast and the Balearic Islands.

This paper will introduce the TIPASA Project aims, methods employed as field survey and remote sensing, documentation of previously known areas around the ancient city, and material culture studies. Moreover, some data that demonstrates the close connection with other centres both in the Maghreb and in the SE of the Iberian Peninsula will be presented and discussed with the scope of broadening the interest of the Survey workshop to North Africa. The chronology of the study covers a broad spectrum from the prehistoric times to the present day, although it focuses on the Punic, Roman and Byzantine periods.



WeMALP, Western Megaris Archaeological Landscape Project

Emeri Farinetti (Roma Tre University)

The project WEMALP (Western Megaris Archaeological Landscape Project) aims at the reconstruction and the study of the ancient landscape of Western Megaris, between the historical city and the Geraneia mountains. Goals of the survey project are to examine the rural use of the territory in the long term, to study the relations between city and countryside and the nucleated settlements contemporary to the urban centre of Megara in its most ancient phases, as well as to clarify the long-term role of this natural bridge between Attica and Corinthia and their cultural, economic and political domains. Surface archaeological surveys, as well as instrumental surveys and low-altitude drone photography, were carried out in 2019 and 2021. Focus was given so far to two landscape dimensions in particular: the nucleated settlement foci and the inland rural landscape.

Session 2

Myths, narratives and survey data: LBA-EIA transition in Ionia with new evidence

Elif Koparal (Koç University, Research Centre for Anatolian Civilizations / Mimar Sinan Fine Arts University, Dpt. of Archaeology)

KLASP (Klazomenai Survey Project – www.klasp.net) is one of the very few survey projects focused on the documentation of rural territories around polis settlements in Ionia for the past 15 years. The last two years of the surveys project was vastly dedicated to the re-evaluation of the survey data and pursuing solutions and answers for specific archaeological problematics that needs to be discussed with new evidence. Late Bronze Age – Early Iron Age transition and the social, political and economic dynamics of that era in Ionia deserves an extensive and comparative re-evaluation of the data particularly within the context of debates on so-called “Ionian Migration”. To that end, the sites dated to that specific era on Urla-Çeşme peninsula were all re-visited, material context re-evaluated and LIDAR survey executed for further evidence. The results of re-investigating the survey data in a restricted part of the region for such specific research question contributed to the big picture for understanding regional networks and dynamics.

Montarice (Marche, Italy): reconstructing multiperiod occupation of a coastal hilltop

Wieke de Neef (Ghent University), Elisa Paolini (Sapienza University of Rome), Frank Vermeulen (Ghent University)

In this paper we present our ongoing work at Montarice, a prominent plateau overlooking the Potenza River mouth on the Italian Adriatic coast. Diverse archaeological datasets are available for this site: unpublished excavation finds and records (1977), unsystematic surface collections (1979), intensive systematic surface surveys (2001, 2019), aerial photography (2001-2005), geophysical surveys (2014), and coring (2015). In January 2022, we finally obtained access to the find material of the 1977 excavations, which includes a large quantity of zoological material. We are now in the process of reviewing all available information on the site alongside a (re-)study of the survey and excavation finds. Our presentation will discuss the quality and spatial resolutions of these data and the challenges in reconstructing the long-term occupation of Montarice between the Bronze Age and Late Antiquity.



Elicona (the Eastern Appennino survey project): Presentation of a new survey project on the eastern uplands of Sicily

Vincenza Forgia (University of Palermo), Aurelio Burgio (University of Palermo)

Archaeological research on mountain areas in Sicily is recently filling the gap of previous survey projects with the aim of deal with mobility of human groups, settlement strategies and exploitation of specific raw materials on a whole territorial perspective. The scope can be reached with an interdisciplinary approach combining remote sensing, surface survey and paleoenvironmental sampling. The new research project we are going to present is the natural prosecution of our previous survey projects on the uplands of Sicily: the Himera (Resuttano area) and Halaesa projects and *HUMANs* (Human Upland Mobility in Ancient Sicily).

In order to study the relationships between the western uplands of Sicily (Madonie Mountain range) with the eastern part (Nebrodi/Peloritani) and also the relationship between the uplands and the lowlands in a regional perspective, we need new survey data. As sample area to the East we have selected a river valley (Elicona) which descends from the top of the mountain chain (~1300 m a.s.l.) towards the Tyrrhenian coast, offering almost the complete range of geological, geomorphological, topographic characteristic of the whole geographic district.

Specifically, we will compare paleoenvironmental data, the distribution of raw materials, settlement strategies and the ancient roads system in a key area located in between the Etna volcano and the Tyrrhenian coast just in front the Aeolian Archipelago, with a presence of archaeological sites in the surroundings with a chronology spanning from the Upper Paleolithic to the medieval age.

Landscape Dynamics: What happens when we repeat Survey Work at different Times

Albert J. Ammerman (Colgate University)

It is common in survey archaeology to think that what is visible on the land surface of a given area will be essentially the same at different point in time. On the other hand, replication studies are now regularly done in other fields of research that involve fieldwork, such as ecology, to see if this working assumption is correct. Italy is one of the few countries in the Mediterranean world where replication studies have been conducted. To my personal knowledge, there are three case studies of the kind – at Acconia, Metaponto and Veii – and all of them show that major changes can be observed on the landscape over spans of 20 to 30 years. While mention will be made of these three cases, the focus of the paper will be on reviewing how we began to do such replication studies at Acconia and how we were able to document the landscape dynamics taking place there based a longitudinal study of land use. Starting in 1980, we did the systematic, field-by-field mapping of land use every 9 years (that is, in 1989, 1998, 2007 and 2016. The plan is to do the 6th mapping of the land use in 2025; as part of the ongoing fieldwork, we have also carried out in 2017, 2018, 2019 and 2021 the mapping of all strawberry fields (the production of strawberries is the main factor behind the visibility of Neolithic sites on the landscape at Acconia). In short, a good argument can be made that the archaeological materials visible on the land surface in 1947, 1977 and 2006 (that is, times 30 years apart with all three of them in my lifetime) were quite different from one another at Acconia. Here the point to underscore is that replication studies are possible to conduct, if the survey archaeologist slows down and takes the long view. And what one learns from them can lead to new perspectives on theory, methodology and interpretation in our field of study.



A historian's dreams

Willem Jongman (University of Groningen)

Like all preindustrial societies Roman society was a primarily agrarian world, with perhaps 80% of its population living in the countryside and perhaps 60% of its gdp earned in agriculture. The potentially best data for that rural economy and society are archaeological, but neither historians nor archaeologists have worked very hard to harness them for the potential grand narratives of Roman history. For historians, the big questions are those of economic performance and social change, now that we have abandoned the 1970s orthodoxy of a stagnant and largely local and unchanging economy and society of the *longue durée* where the mass of the population was living close to subsistence. Archaeological data are beginning to provide alternative answers on agricultural practices and technologies, demographic growth and decline, standard of living, changing social relations such as the alleged decline of the small farmer or the growth of larger estates, or geographic integration, both at the regional level with the nearest town, but also at an Empire wide level. Field surveys can be an important component of this new narrative, but until now the efforts of generations of survey archaeologists have barely made it into any large historical reconstructions. Part of the explanation is historians' ignorance and lack of interest, but the other side of the coin is that survey projects should be organized to make them more useful for such larger historical narratives:

1 Thus far, survey datasets have been largely unconnected and incompatible, generating a multitude of local but incomparable studies from which it is hard to construct an aggregate account. Underlying this is the assumption that generalisation is to be avoided and that regional differences are more interesting and important than larger similarities. However, that assumption can only be studied rather than taken for granted if we actually do such a comparison, and in a controlled manner with properly integrated and curated data. The Roman Hinterland Database Project is an attempt to do this for the hinterland of the city of Rome, developing methodologies to find out if such data integration is at all possible, and potentially serve as an example for an integrated dataset that covers a selection of projects from a far larger part of the Empire.

2 Survey archaeology traditionally scratches only the surface, and lives distinct from the world of rural excavation. Connecting excavation and survey projects would be beneficial to both groups of archaeologists. Excavators would gain context and sample size, and survey projects would benefit from the far higher resolution of excavations, to learn what is actually underneath the surface, and probe their assumptions about what their surface finds actually represent.

3 A farmer is what a farmer does, and mostly that is to practice agriculture. Unfortunately archaeobotanical research is often not a constituent part of survey projects, if only because these projects involve little or no excavation. The same applies to other data from archaeological science. These are areas where rapid advances are being made, in the reconstruction of past diet, disease, climate, migration and much else.

4 Archaeologists would do well to pay more attention to something as traditional as precise chronology, and abandon bad practices like dating their material into unnecessarily broad categories such as Republican, Early Imperial or Late Imperial, even when their data allow far more precision. This is really not very helpful for subsequent analysis and correlation with other data. Underlying this bad habit is of course the incorrect assumption that there was little or no change over time. Modern historical research is deeply concerned with change over time, with growth and decline, and their connection to external events or trends. Without the most precise possible chronologies such connections will be hard to ascertain.



Survey – History – Classical Archaeology

Johannes Bergemann (Archäologisches Institut in Göttingen)

Survey Archaeology is much about counting sherds, geophysics and remote sensing. But what is the added value for history? And how could Landscape Archaeology and Classical Archaeology interact for a common goal? The paper will put up a few aspects for discussion.

Session 3

Challenges and opportunities of intensive survey in pastoral landscapes. The case study of the *dehesa* of Villasviejas del Tamuja (Cáceres)

Victorino Mayoral Herrera (Merida Institute of Archaeology, CSIC-Government of Extremadura)

An important percentage of the rural landscapes of the peninsular Southwest is occupied by a mixed system of agriculture and livestock called *dehesa*. It is a unique environment in which there is a balance between anthropic activity and the preservation of the natural environment. We can recognize in these spaces the scars and traces of human presence that dates back to recent Prehistory. However, the characteristics of the terrain, vegetation cover, etc., make the detection and recording of this legacy through surface survey and other non-invasive methods a real challenge. In this presentation we will offer a preview of the work carried out in a case study of this type of context: the area of influence of the Iron Age hillfort of Villasviejas del Tamuja (Cáceres, Spain). On the one hand, we will assess the possibility of testing the hinterland of this settlement, looking for indicators of intensive activity in its immediate surroundings. On the other hand, we will explore the long-term sequence of human occupations in the area from Protohistoric times to the present.

Field survey, geophysics in Eastern Iberian landscapes: experiences and problems of the research on terraced landscapes

Ignasi Grau Mira (Universitat d'Alacant/ INAPH), Jesús García Sánchez (Instituto de Arqueología, Mérida. CSIC), Julia Sarabia Bautista (Universitat d'Alacant/ INAPH)

In this paper we will present the recent surveys in the framework of a research project on the valley of Alcoi in the Eastern Iberian Peninsula. The most recent activities focused on the fringes of the natural park of Mariola mountains, with study cases from Banyeres de Mariola and Ibi (Alicante province). The project aims to study Iron Age and Roman landscapes in mountain areas occupied by terraces systems whose origins and evolution are poorly known due to the absence of specific research.

Terraces are archetypical landscapes in the Mediterranean area. In the complex palimpsests of the Mediterranean landscapes, the construction of terraces systems was developed in relationship to previous existing landscapes sometimes hidden for latter modifications. The purpose of this paper not to present a specific analysis of a terrace system, but to present recent experiences in the surveys of landscapes dominated by terraces and the problems faced, aiming at discussing experiences and results from other Mediterranean field surveys. Our project combines LiDAR modelling, artefactual field survey and geophysical survey – Ground Penetrating Radar– to define key sites and landforms.



Exploring fortified settlements in ancient Samnium: Remote sensing and intra-site surveys in mountainous landscapes

Giacomo Fontana (University College London), Rogier Kalkers (Sapienza University Rome), Tesse D. Stek (KNIR, University of Groningen)

It is widely understood that mountainous landscapes have played a key role in the Mediterranean area in antiquity. Nevertheless, integrating such poorly accessible portions of the landscape in survey projects has been particularly difficult, or at least very time-consuming. This paper presents the results of a multi-step methodology that combines remote sensing techniques over large areas of ancient Samnium (central-south Italy) with intensive systematic intra-site surveys on a variety of fortified settlements and other hilltop sites.

First, we discuss the challenges that are posed by legacy datasets on fortified sites in Samnium, how we collected new data, and how we identified formal site typologies. Then, we focus on our fieldwork that we carried out on a sample of different types of pre-Roman fortified sites. Discussing the methods we developed and the results we obtained, we highlight how combined systematic survey approaches can help us to identify significant regional patterns, but also local variability within this category of archaeological sites that has often mistakenly been seen as a homogeneous group in terms of chronology and function.

Integrating Non-invasive Surveys, Legacy Data and Stratigraphic Evidence for the Mapping of the Roman town of Septempeda (Marche, Italy)

Frank Vermeulen (Ghent University), Devi Taelman (Free University of Brussels), Wieke de Neef (Ghent University), Michele Abballe (Ghent University)

The abandoned Roman town site of *Septempeda* is one of the targets of geo-archaeological research set up since 2000 by a team from Ghent University in central Adriatic Italy, with the aim of actively investigating the human occupation of the valley of the river Potenza (Marche). Information about the precise location, extent and urban organisation of this inland *municipium*, situated on a *diverticulum* of the Via Flaminia, was still limited before the start of their non-invasive field operations. The results of last year's (and earlier) aerial photography surveys, geophysical prospections and other topographical approaches, integrated with valuable legacy data and recent opportunities offered by development-led archaeology, now allow the relatively detailed mapping of the main urban infrastructure and architecture of this roadside city. This work contributes to the understanding of Roman urbanisation in this part of Italy, and provides a basis for a new computer-aided 3D-visualisation of a typical Roman urban reality. The paper focuses on the mapping strategy employed for the whole city area, on the problems for integrating very different data sources, and on some of the major results.

From artefact survey to chemical soil analysis. A multi-method intra-urban survey in Elusa (Negev)

Christian Schöne (University of Cologne), Diana Wozniok (University of Cologne), Natalie Pickartz (University of Cologne), Arne Schröder (University of Cologne), Michael Heinzelmann (University of Cologne)

As part of the investigation of the ancient Negev city of Elusa, a multi-disciplinary intra-urban survey was conducted between 2015 and 2019. In addition to a systematic artefact survey, a topographical



survey, multi-method geophysical prospections and high-resolution 3D modelling were carried out over an area of 45 hectares. Further information was provided by the evaluation of old cadastral maps as well as historical and current aerial photographs. Finally, first tests with large-scale chemical soil analyses using pXRF measurements produced promising results. The different methodological approaches complement each other effectively and allow far-reaching insights over various scales: from a detailed city plan to the function of individual urban areas.

A Macro Site in a Micro-region. A Newly Discovered Amphorae Workshop in the Region of Pergamon

Adriana Günzel (German Archaeological Institute DAI, Istanbul Department), Philip Bes (Austrian Archaeological Institute - Austrian Academy of Sciences), Bernhard Ludwig (German Archaeological Institute DAI, Istanbul Department)

The Ketios valley, Elaia, Pitane – these are places to mention when talking about pottery production in Pergamon and its micro-region. In the course of the 2021 field survey in the city's micro-region we were able to identify another major production site. The site is located on and named after a land parcel called Sazlık close to the villages of Tekkedere and Zeytindağ in the western lower Bakırçay plain. Typical finds like kiln slag, misfired pottery and production devices led to the identification of the site as a pottery workshop. Additionally, the geophysical prospection shows anomalies in the ground that correspond with the concentrations of finds on the surface and therefore most likely represent the remains of kilns. While in Pitane and the Ketios valley mainly fine table wares (especially terra sigillata/red slip ware) were produced, Sazlık can be reckoned among the few known amphora workshops. Hitherto the archaeological evidence suggests a Late Antique and/or Byzantine date, but the examination of the finds has just started. The paper will give a report on the preliminary results of the work carried out at Sazlık and an outlook on future research of the site.