

MOBILITY AS A PROXY FOR DEFINING CULTURES: RECONSIDERING IDENTITY AND TRANSHUMANCE FROM A LONG-RUN PERSPECTIVE

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Abstract: *Mobility as a proxy for defining cultures: reconsidering identity and transhumance from a long-run perspective.* In this work, we study, from an ethno-archaeological perspective, the different ways of live in the traditional communities of pastoralists in the areas of Maremma (Tuscany - Italy). Different solutions are documented on settlement patterns and residential mobility in a very small geographic space. Rural communities in these mountainous areas have preserved, until very recently, some traditional ways of life in which livestock have had a major influence on their livelihoods. The domestic animals have been exploited with an interesting variety of specialized formulas, involving different settlement patterns and residential mobility systems. It is very interesting to contrast the coincidence of different groups of shepherds - with different ways of life - in a limited mountainous space, and the strong geographical and environmental constraints of Maremma plain. This creates a research context where we can reflect on the great variability of social and cultural aspects within Pastoralism. We will try to understand the construction of identities in a frontier area and to discuss about the use of paradigms like “nomads” or “transhumants” in Mediterranean archaeology. My purpose is to reconsider the category of identity and analyzed different kind of mobility patterns (not necessary identified as strictly transhumance) by using the more comprehensive paradigms of agro-sylvo-pastoral systems.

Rezumat: *Mobilitatea ca mod de reprezentare pentru definirea tipurilor de cultură. Reconsiderând identitatea și transhumanța dintr-o perspectivă pe termen lung.* Această lucrare analizează din perspectivă etno-arheologică diferitele tipuri ale modurilor de viață ale comunităților pastorale din Maremma (Toscana - Italia). Prin urmare, lucrarea analizează modelele mobilității rezidențiale într-o comunitate mică din punct de vedere geografic. Comunitățile rurale din spațiile montane investigate sunt bine conservate până în prezent. În cadrul acestora îndeletnicirile tradiționale au influențat modul de viață al comunităților. Animalele domestice au fost exploatate în moduri diferite fapt care și-a pus amprenta asupra sistemelor de mobilitate rezidențială. În consecință este foarte interesant de analizat modul de viață al diferitelor comunități de păstori într-un spațiu montan restrâns și limitat din punct



de vedere geografic. Această idee conduce spre reflecții profunde asupra variabilității culturii și a modului de viață pastoral. lucrarea de față conduce spre înțelegerea identității pastorale într-un spațiu de graniță și spre analiza conceptelor de pastoralism și transhumanță în arheologia mediteraneană. Scopul lucrării este de a reconsidera identitatea pastorală din spațiul investigat și de a analiza diferitele tipuri de mobilitate prin intermediul paradigmei comprehensive a sistemelor agro-silvo-pastorale.

Key words: mobility, culture, identity, transhumance, Maremma, Italy

Cuvinte cheie: mobilitate, cultură, identitate, transhumanță, Maremma, Italia.

1. INTRODUCTION

Archaeological study of ancient landscapes in the Etruscan and Roman Mediterranean has traditionally focused on major economic factors such as the villa system, harbors, long-distance trade and settlement patterns (Carandini 1985 and recently Vaccaro 2011). Questions about the reasons why people adopted specific agro-pastoral strategies have been left to historical analysis. It is my contention, however, that in order to answer such questions we need to contextualize the relevant decision-making processes from an archaeological point of view. Recently collected, extensive archaeobotanical and zoo-archaeological data sets from the Mediterranean offer an opportunity to reconstruct ancient agricultural and land-use strategies and to study the diachronic changes undergone by those practices in relation to contemporary changes in political economy.

Several case studies of Etruria illustrate the fecundity of new approaches for the reconstruction of agro-pastoral decision-making processes on the basis of archaeological data and for the contextualization of diachronic changes in pastoralism and agriculture within their respective social and economic framework (Vanni, 2014) (fig. 1). I will argue that several aspects of landscape are essentially conservative and not necessarily agrarian or market oriented. This conservativeness does not concern the land-use practices in themselves but the general network of natural resources and human choices. Natural resources act as points of electrification and activation of strategies within the landscape (Vanni 2015a). Farmers and herders are more likely to adopt environmentally sustainable practices by activating strategies, which keep the landscape conservative. In such a scenario, the role of agro-sylvo-pastoral strategies for the access to natural resources must be re-evaluated in terms of electrification and economic dynamics. Furthermore, the possibility that religious entities should be regarded as active agents in the decision-making process for economic initiatives has also been largely ignored.

Close related to the economic and religious aspects of the decision-making process are, of course, the historical reconstruction of the ancient environment, the composition of the soil and the peculiar agro-sylvo-pastoral practices adopted in the landscape at stake: all these features play a key role for our understanding of the structuring and management of economic resources. From an epistemological point of view (Renfrew, Bahn 2008 who posed firstly the epistemological problem seriously), it is important to take into account data and methodologies from several different disciplines and to combine and contextualize these with the 'classical' archaeological data, in order to arrive at a 'global' history of a territory (Citter, Arnoldus-Huyzendveld, 2007 and references therein).

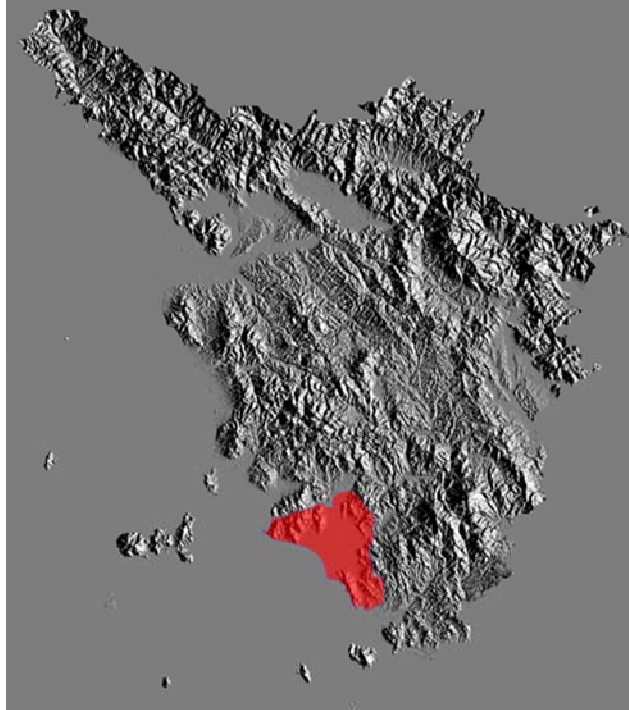


Figure 1: *The context of study area (Tuscany, Italy)*

In this scenario, the ‘construction’ of identity mainly depends on the combination of cultural and socio-economic factors. To recall the Hegelian distinction, ‘identity’ as analytical paradigm is just one among other kinds of *recognition* strategies (for a critique of the concept of *identity* see Remotti, 1996, 2010). The possibility to consider identity as a *liquid* component of the cultural construction of a peculiar group of agents has been largely ignored (see Balibar, 1994). Such a conception of identity spread during the 19th and the 20th century AD as one of the strongest features in the construction of Nations and Nationalism (Hobsbawm, 1992). In Archaeology, this topic has been investigated especially with respect to the use and abuse of the past (Finley 1975) and to the legitimation of the present using the archaeological remains, in a sort of *genealogy of ruins* (see Díaz-Andreu, Champion, 1996). During the 20th century, identity as a tool for interpreting peculiar cultures has been linked to the concept of ethnicity, in which the material culture played a key role for defining it (Jones, 1997; Curta, 2014). The tacit assumption of the present work is that it is important to contrast the reified and static paradigm of identity with its exclusion/inclusion procedures, in order to propose the more comprehensive cultural tool of *recognition*, not necessarily established in an ideological background or in a supposed ethnicity built on a shared material culture, but on the basis of a series of practices carried out in a common socio-economic system and in a particular landscape through time and space.

2. CONSIDERING THE HISTORICAL ECOLOGY TO RECONSTRUCT THE ANCIENT LANDSCAPE

From the perspective of historical ecology, landscape is understood as the historical result of complex interactions between humans and nature (Balée, 2006; Butzer, 1983, 1993, 1996; Crumley, 1994; Grove and Rackham, 2006; Rackham, 1980; Rackham, 1996). Reconstructing the history of the vegetation through pollen analysis and modern analogues can not only increase our knowledge of ancient human activities in general, but also help us identifying specific practices and strategies. Archaeobotanical research helps us understanding the cultural transformations of landscapes affected by human presence since earlier historical periods and even since the pre-historic era. Plant exploitation and land use are especially evident from visible and invisible plant remains brought to light from archaeological sites. Seeds and fruits, woods/charcoals and pollen are the most important palaeo-ethnobiological-economical bio-indicators, while non-pollen palynomorphs (Npps), including fungi and algae as well as charcoal particles, can greatly improve our reconstruction of the palaeoenvironment and of the fires that affected it. By combining modern analogues with ethnographical observations, we can also infer which specific agro-sylvo-pastoral practices were carried on in a given environment.

As regards Ancient Etruria, palinological studies conducted in the Accesa Lake (fig. 2), situated to the north of the main plain of Grosseto, provides a record of vegetation and climatic change spanning over 15,000 years (Drescher-Schneider *et al.*, 2007; Magny *et al.*, 2007; Millet, 2007; Vannière *et al.*, 2007; Finsinger *et al.*, 2010).

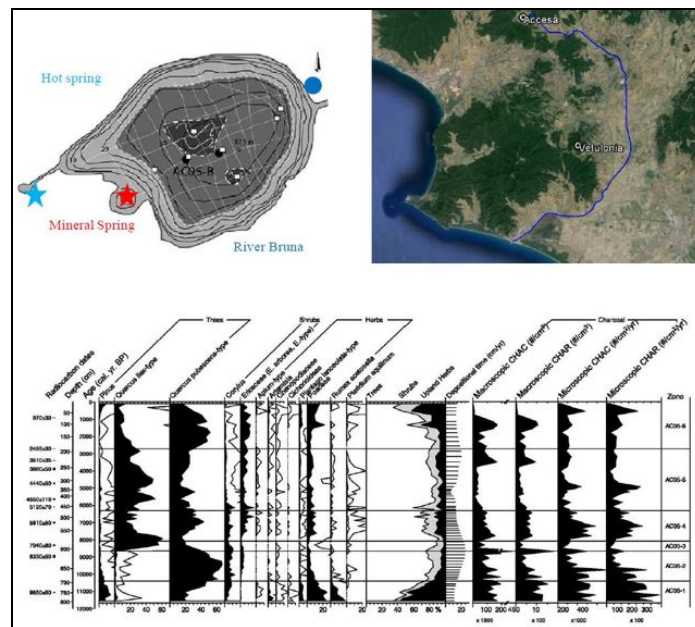


Figure 2: Accesa Lake pollen sequences (modified after Drescher-Schneider *et al.* 2007).

Human impact is believed to have started towards the Neolithic period (Vanni re *et al.* 2007). The impact of Late Bronze and Etruscan settlements near the lakeshore is visible in the increasing values of arable crops, species of secondary forest canopy (Ericaceae, *Pinus*, *Pistacia*, *Myrtus*) and anthropogenic indicators – especially Chenopodiaceae, *Plantago lanceolata*, *Rumex* etc. The latter are typical of pastures and wooded pastures (Drescher-Schneider *et al.* 2007; Magny *et al.* 2007; Finsinger *et al.* 2010). During the Roman period, approximately in the 3rd century BC, when no settlement was present in the surrounding area, the pollen diagram records high percentages of *Calluna vulgaris*, a taxon characteristic of the Appenine Mountains. The same species are present in other context of the Italian peninsula (Cruise, 1990a, Cruise, 1990b; Cevasco, 2007: 260). Their diffusion has always been explained by the managing of transhumance (Malo and Su rez, 1995). Animals are seed-machines equipped with a high degree of mobility (fig. 3).

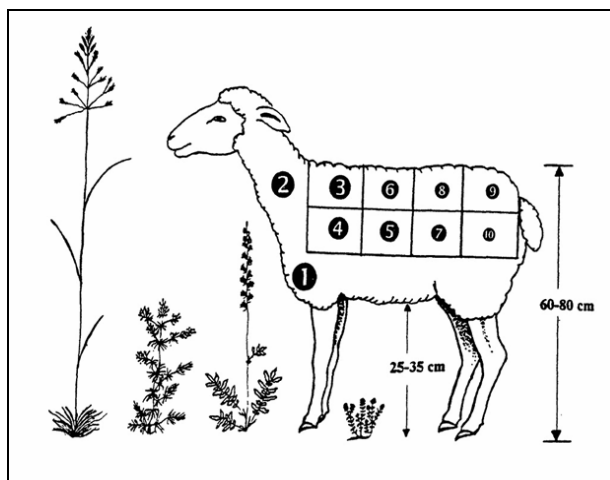


Figure 3: *Animals used in local mobility (after Fischer et al. 1996)*

Some plants are literally transported by the attachment potential of species to animals' coat. Dispersal, and particularly long-distance dispersal, has been consistently identified as an important process determining many aspects of the life history of plant species, especially in fragmented landscapes. Based on the theory of island biogeography and metapopulation dynamics, fragmentation is expected to result in reduced local population size and, thereby, in increased extinction risk of local populations and decreasing colonization due to isolation (Fischer *et al.* 1996: 1208; Mitlacher *et al.* 2002: 78; Poschlod and Wallis DeVries, 2002: 365-366; Moe *et al.* 2007).

In the inland of Cinigiano (Grosseto, Tuscany), there are two small archaeological sites, San Martino and Poggio dell' Amore, which did not show impressive structures during the excavations. The two archaeological sites lie close to each other (ca. 700 m). San Martino dates from the late 2nd century B.C. to the late 1st century B.C., while Poggio dell' Amore was confined to the first half of the 1st century A.D. The general absence of faunal remains and the meagre archaeological material suggests that these sites were only

occupied seasonally and mostly consisted of work buildings (Rattighieri *et al.* 2013). Archaeobotanical analyses show that these small sites were settled in an open landscape, as testified by some particular *taxa* as Apiaceae indiff., Brassica type and Brassicaceae indiff., Caryophyllaceae and Chenopodium. Coprophilous fungi such as *Sporormiella*, which were found in both sites, are also strongly indicative of dung and therefore of pastures and mobility (Akeret, Jacomet, 1997; Miola, 2012; Florenzano *et al.* 2013). They grow on excrements of both domestic and wild herbivores, where some species of parasite eggs (Capillaria, Dicrocoelium, Trichuris) may also be found. It is thus beyond any doubt that pasturelands represented an important part of the agrarian lands surrounding the two sites.

Archaeobotanical data and sediment analysis from the Ombrone River Borehole (Bellotti *et al.* 2004; Biserni, van Geel, 2005), indicate an increase of human activities and of an open landscape dominated by pastures and wooded pasturelands. Around 2800 cal yr B.P., the local environmental conditions of the Grosseto alluvial plain changed from a brackish-marine environment into fresh-water conditions, which, however, only prevailed during a limited span of time (Arnoldus-Huyzendveld 2007; Frezza and Carboni, 2009; Arnoldus-Huyzendveld 2010; Tarragoni *et al.* 2013). A renewed marine influence led to the development of salt marsh conditions. A second short period of fresh-water conditions is reflected in the record from near the top of the boreholes. An increase of alder pollen together with *Vicia Faba* and Chenopodiaceae from the 1st century BC to Late Antique is probably the result of peculiar agro-sylvo-pastoral practice. Alder and legumes are nitrogen fixers that used to be cultivated to encourage pastures, a method that we know to have been in use among shepherds during the 16th century A.D., especially in North-Eastern Apennines (Akkermans, 1971 for alder; Van Kessel and Hartley, 2000; Peoples and Baldock, 2001 for legumes).

As regards alder, ethnographic research has proved that trees were cultivated for timber and fodder. Trees were cut after a cycle of *c.* ten years, and sheep and goats grazed the area until they started growing again (Lowe *et al.* 1994; Eichhorn *et al.* 2007). Analyses from the Roman sites of Spolverino (a mid-imperial late-antique cabotage port, see Sebastiani *et al.* 2014) and Scoglietto (a republican and imperial temple, see Sebastiani *et al.* 2015) testify the human impact in terms of deforestation and degradation (Vanni 2014, 2015b). Human activity in these sites was apparently not oriented toward an increase of cereal fields, nor did it consist in practicing extensive olive cultivation, but rather in the exploitation of wood and wooded pastures (Buonincontri *et al.* 2011). Now, the current evergreen vegetation might be regarded as a consequence of the degradation of a deciduous forest (whose extension tends to increase in conditions of limited human presence, see Buonincontri *et al.* 2013: 169); it is also possible, however, that it resulted from peculiar eco-cultural choices and practices, as suggested by the map of potential vegetation elaborated by Selvi and Valleri (2012).

Forest clearance, in fact, is an important aspect of the exploitation of landscape, being activated by integrated practices. Another component of the botanical data which is worth considering in this respect is the evidence of widespread grazed and wooded pasture. The high percentage of pasture pollen suggests that the majority of the land around these sites was used as pasture, and particularly grazed pasture. In turn, a pastorally centred agricultural regime is suggestive of certain patterns of human occupation. As has been recently pointed out, outfield pastoralism requires mobility, 'even in the absence of large-scale transhumance movement: all forms of pastoralism find people moving around the landscape each day, over cumulatively significant distances, with their animals [...].

Indeed, pasture animals are, by definition, a movable feast, “storage batteries” for unexpected shortages of vegetable crops that require small-scale daily movements to keep them fit and useful’ (Vaccaro *et al.* 2013: 173-174). tells us that the landscape around the city was mainly open dominated by oak forest (*Q. ilex*, *Q. Pubescens*, see Di Pasquale, Terzani 2006). In such an environment, we might suppose that pigs were breeding far away from the town, in the surrounding hills covered with mix(ed?) oak forest and shrubs, similarly to what we observe nowadays in the *dehesa-montado* system of Iberian Peninsula – where pigs are moved around in a peculiar transhumant system of permanent mobility (Joffre *et al.* 1999; Gaspar *et al.* 2007; López Sáez *et al.* 2009; Pinto-Correia *et al.* 2011).



Figure 4: Monte Labbro compound enclosures

As regards the more recent transformations of the landscape, a relic population of lichens typical of wooded (humid) areas has been observed on the *Monte Labbro* close to *Amiata* Mountain. The current barren landscape is probably due to a forest clearance practiced by the shepherds during summer pasturing (Paoli and Loppi 2001), as testified by the archaeological traces of modern enclosures found along the slopes (see fig. 4, above).

3. RECOUNTING FAUNAL REMAINS

The analysis of the faunal remains in the archaeological contexts of the area clearly shows that taking into account both local peculiarities and sylvo-pastoral strategies is of the utmost importance for the reconstruction of the archeozoological system. For Etruria in general, an increase in the number of sheep and goats from 23.1% of the total cattle population in the Middle Bronze Age to 52% in the Late Bronze Age has been interpreted as an initial accumulation of domesticated animals by individual shepherds (De Grossi Mazzorin 1995). These rates appear to have remained constant in the 9th century, but decreased to 32% in the 8th century B.C. The mortality curves for the 8th and 7th

centuries B.C. show a strong orientation towards the production of wool, due to a significant presence of adult and senile animals (De Grossi Mazzorin, 2001). In the Archaic and, especially, in the Roman period, we observe a progressive development of pig-breeding, which increased by about 50% (De Grossi Mazzorin, 2004). Pork became an important part of the diet, due to both the changing demographic conditions and the changes in local animal husbandry strategies (King 1999). The number of sheep and goats increased again in the Late antiquity. Special attention should be paid to any deviation from these general trends. In the Roman town of Cosa, for instance, faunal remains dating from the beginning of the 2nd century B.C. diverge significantly from this pattern. The presence of ovicaprids (56% of domestic animals) seems to have played a key role in the beginning of the colony's life, in continuity with the Etruscan period (King 1985). The sample is particularly indicative because it comes from an urban centre, and urban centres are notoriously market places. In Populonia, during the 3rd and 2nd century B.C., the most common domesticated animal was pig (52% in the 3rd and 47% in the 2nd century), but the percentage of ovicaprids (36% and 42%) was not lower than in other sites where pigs were prevalent (De Grossi Mazzorin 1985). Between the 1st century B.C. and the 1st century A.D., the values of the two species became equivalent (38%, De Grossi Mazzorin, Minniti 2010). Similar percentages from Luni during the 2nd and the 3rd century B.C. have been interpreted as the result of a small-scale transhumance practice (Barker 1977 and 1978). In that case, pigs have been supposed to have grazed in the forest. The ancient sources agree that the most convenient foraging grounds for pigs are deciduous woodlands, and seasonal calendar depictions relate acorns and autumn to pig herding and hunting. Genetically, these breeds are favoured in such conditions, since their bristles provide protection from external elements, their small, compact size helps preventing overheating and their long legs promote mobility – which is of course especially important when pigs are herded on the hoof in order to fertilize the ground and feed the market (MacKinnon 2001; Lewit 2007). This is probably the system Columella (7.9.3) had in mind.

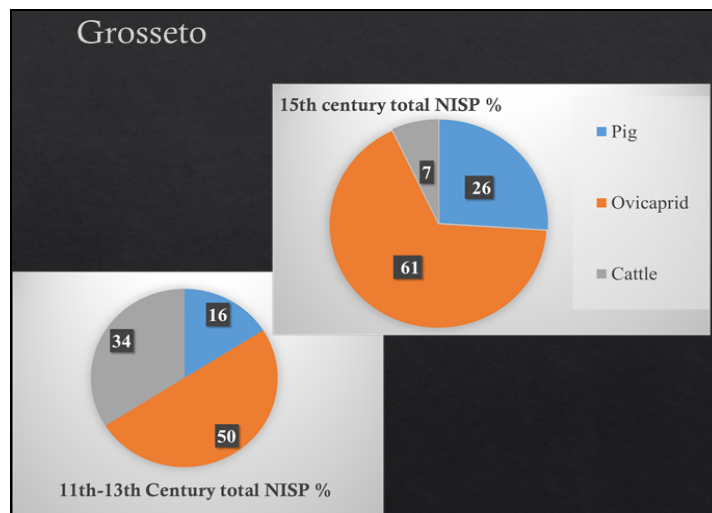


Figure 5: *The share and types of animals in 15th Century.*

From 12th to 15th century AD the archaeozoological remains pertinent sheep seem to increase exponentially (Tozzi 1981 Ginatempo 1987) in those key sites along routes of transhumance. At Scarlino, posed along the route from Garfagnana Apennines to the Maremma plains, the ovicaprids represent the 12% of total in the 11th and 12th century, and increase up to 61% in the 15th. The same percentage is registered for the site of Grosseto where between the 11th century and the 15th the ovicaprids increases rapidly from 50% to 70% of total (fig. 5). This prominent changes in the medieval diet and economy (see for an overview of the medieval archeozoological data Salvadori 2003) is probably due to the strategy of Siena, oriented to reduce common land practices run by local communities and by promoting extended large scale transhumance.

4. HUMID AND MARGINAL LANDSCAPES AS ACTIVATORS OF MOBILITY: RESPONSE TO DISEASE?

The interaction between the coast, the lagoons and lakes and the Ombrone river basin produced a complex environment composed by humid, non humid and dry-humid zones. The humid zones, lagoons and marshes characterizing the plain reflect a pattern of instability of the agro-pastoral activities of the region in terms of space of electrification of pastoral practices and mobility. The millenary and fluctuating evolution of the system made up the coastal line, the great lagoon and the main river Ombrone basin, which generated the present plain, exhibits features comparable to those of the evolution taking place in the main Mediterranean deltas, and especially of the well-known *Maccaresse/Ponte Galeria* pollinic sequence for the Tiber (Arnoldus-Huyzendveld, 2010). Around 3000-4000 B.P. the river reached the sea and the lagoon began to evolve into an instable entity. This instability seems to decrease when the lake evolved into a salt lagoon, which probably favoured the presence of pasture and *incultum* until the first millennium B.C. – when open vegetation (mainly consisting of oaks) started to prevail. As for the Maremma plain, we can reasonably suppose that the eventual transition into a salt lagoon must have taken place around the 8th century B.C.

The reconstruction of this wetland is not a mere exercise of animated landscape: it is crucial for understanding the history of populations and practices. The environmental picture that we can derive from this reconstruction reveals a certain degree of instability between humid and non-humid zones, which probably began very early, around the second half of the 2nd century A.D (fig. 6). This has important implications for our archaeological reconstructions. We know that the main humid zones of the Italian peninsula were affected by the presence of endemic diseases, especially *malaria* (Sallares 2002; Sallares 2006; Sallares *et al.* 2004). *Malaria* was spread by mosquitoes of the *Anopheles* family, particularly between June and October. The history of the region is essentially the history of a long-lasting battle against this disease. As far as the ancient times are concerned, we are not in a position to assess the diffusion of *malaria* with any certainty, nor do we know exactly when the infection made its first appearance in the area. We do, however, have some indirect evidence from paleopathology.

In the city of Cosa, a significant percentage (around 52%) of the individuals buried in the Forum II Cemetery, dated around 1010–1265 A.D., had been affected by porotic hyperostosis and talassemy, two pathologies typically related to *malaria*. Similar

pathologies have been identified in individuals buried in the *villa* of Settefinestre (dating from around the 2th -3th century A.D.) during a reoccupation phase (see Mallegni 1991 for one case from Tarquinia going back to the 3rd century B.C.). In this particular context, strontium and zinc analysis points to a quite good nutrition status (Tafari *et al.* 2001-2003 with bibliography), arguably due to high consumption of meat and dairy products (Mallegni and Fornaciari 1985). In addition, the distribution of polyvisceral votives on terracotta dating from the Roman republican period suggests an early presence of *malaria* in the area. Since *malaria* notoriously affects internal organs, the presence of these peculiar objects may well be related to this particular disease. A clear reference to “tertian fever” (as *malaria* is also known) is found in an inscription recently discovered in the Campetti sanctuary at Veii, dating from the half of 2nd century A.D. and devoted to *Hercules* and *Fons* (Fusco 2008-2009: 450-455).

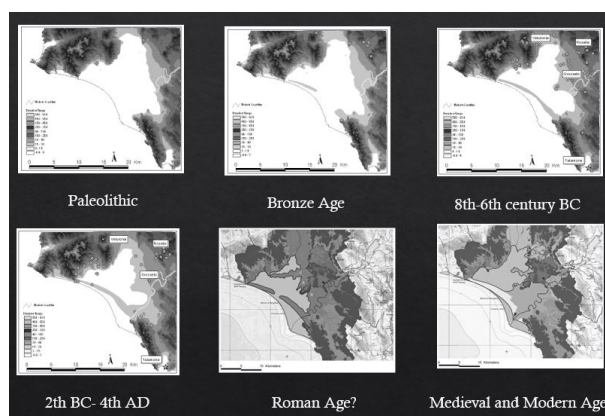


Figure 6: *Lake Prile Evolution*

The rhythm of the *malaria* cycle corresponds to the rhythm of summer-winter/plain-mountain transhumance. The occurrence of *malaria* must thus have been decisive for settlement strategies and choices with a high gradient of mobility, related to the development of a silvo-pastoral lifestyle in the areas. In the light of the foregoing, we can hypothesize that this correspondence is not at all coincidental: rather, the proposal is precisely that transhumance was adopted in the region as an adaptation to the presence of malaria and that the latter represented one crucial factor for the enormous success of this practice. Generally speaking, Marginal Landscapes composed by marshes and lagoons are not completely disarticulated by animal husbandry. As shown by historical pictures, ancient maps and ethnographic studies, during the winter virtually all shepherd villages in the Maremma area – as well as everywhere else in Italy – were placed along the rivers or around the lagoons. An evidence of this kind of settlement is represented by three huts that have been found along the slopes situated to the North of the ancient lagoon, and which constitute a unique and extraordinary case in the whole Italian panorama. These huts, which were partly built with perished materials and dry-stones, have been used until the sixties of the last century (fig. 7).

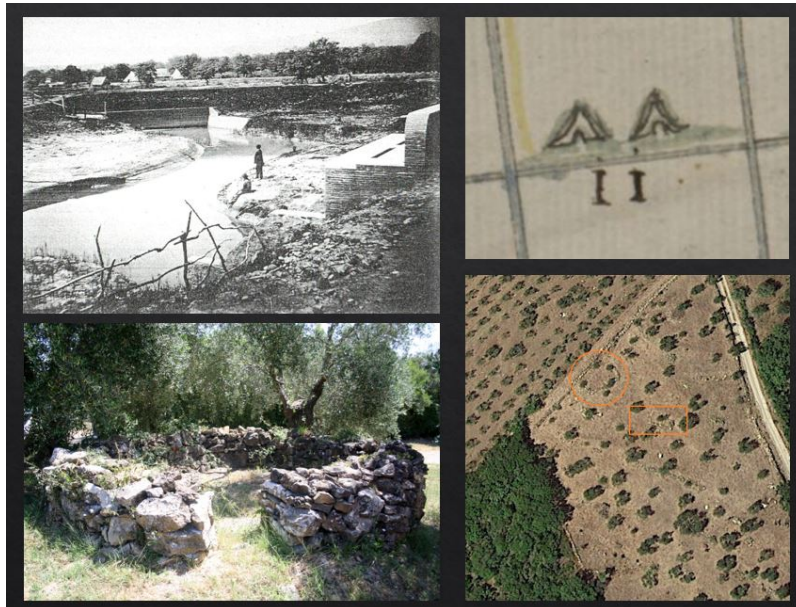


Figure 7: *Archaeological Huts' remains, also testified in historical photos and maps.*

5. FUNCTIONS OF THE SITES AND MATERIAL CULTURE RELATED TO MOBILITY STRATEGIES

Let us now briefly discuss the functions of the sites under analysis and the archaeological artefacts found in the area in the wider perspective of agro-pastoral activities and in the light of ecological considerations. Low artefacts density, together with the absence of roof-tiles, permanent structures, and artefact remains typically associated with agro-pastoral activities (such as cheese-making or textile dyeing), as well as the location of the site itself, can turn out to be an important clue to the site's function and help us identifying pastoral-mixed sites.

For the Roman period, a number of pastoral sites can be recognized in the area. As we have already seen, seasonal occupations have been identified beyond any doubt in the inland of Cinigiano, towards the North, which were connected to two republican farmsteads (Martino and Case Nuove) where pasturelands represented an important part of the agrarian environment (Ghisleni *et al.* 2011). The spread of seasonal settlements like Grosseto-San Martino along the river Ombrone (Citter and Arnoldus-Huyzendveld, 2007) and cave occupations like Spaccasasso and Scoglietto testify of agro-sylvo-pastoral-oriented strategies (Arcangeli, 2007; Cavanna, 2007; Vaccaro, 2007). “*Shifting population*” phenomena inform us on different logics of population. In one case, that of Casa Andreoni along the Roman road *Aurelia*, a village was continuously occupied from the 1th century A.D. to the second half of the 6th century A.D. (Vaccaro, 2008). A sporadic frequentation,

characterized by off-site ceramics and huts, reappears, slightly shifted, in the proximity of a mineral spring. The same perished techniques, together with a contraction of the surface distribution of ceramics, suggest a syncopated use of the site. Given the infertility of the soil, it is extremely unlikely for this re-occupation to have been oriented toward an agricultural exploitation of the land: it seems much safer to assume that it was due to the presence of the spring and was connected to new forms of land use – mainly pastoral activities or subsistence economy.

To arrive at a full understanding of mobility and agro-pastoral activities, it is crucial to take into account the presence of hot springs in the landscape. The concentration of ritual activities around hot springs in Etruria is well documented; but, if we consider hot springs in terms of their healing properties *for animals*, the evidence from some of the sites acquires a new meaning. At the hot spring of Poggetti Vecchi, by the ancient lake, a Roman basin for the storage of hot water and some loom weights are indicative of some kind of occupation. Historical sources from the 16th century A.D. testify that shepherds used to immerge flocks in this same basin in order to cure them (Boldrini 1760: 154). Treatment with sulphurous water was an important therapy for some epizootic diseases and other cattle illnesses which were a constant threat to sheep farmers (Santillo Frizell 2004). The presence of sulphurous water in areas exploited for large scale transhumance must thus have been an important factor favouring the maintenance of large herds of animals such as those present in the area. The continued use of these sites must thus be reconsidered in the light of this peculiar healing practice.

6. ATTRIBUTES OF DEITIES AS AN INDICATION OF PRACTICES: THE SACRED LANDSCAPE

Related to these points of electrification of the landscape is the distribution of deities. As is well known, Hercules is the God connected with salt managing and mobility of humans and flocks. A particularly illustrative case, in this respect, is that of the *Samnium*. The distribution of Hercules' attributes and shrines, especially votive bronze statuettes dated around 5th – 3rd century B.C., is consistent with the main routes of penetration from the inland to the coastland, which, for the *Samnium*, has been demonstrated by Van Wonterghem (1999), (though perhaps in a somewhat “mechanic” fashion). In the Maremma context, the distribution of Hercules' attributes and shrines seems to follow the border of the lake and lagoon, where seasonal sites for the extraction of salt might presumably have existed.

Extremely interesting is the attestation of the cult of Diana (for the early cult in Etruria, see Nielsen, Rathje 2009), not as a hunting Goddess but, in this particular case, as the deity connected to water, liminal zones and landscapes in transition between fresh water and salt water, and thus responsible for protecting the population from instability and insalubrities. (further considerations for Diana in Etruria see Vanni 2015b especially for the shrine at Scoglietto dedicated to the Goddess). Another cult, attested mainly in the early republican period, is that of *Selvans*, which may greatly enhance our reconstruction of the sacred landscape, as it suggests some particular practices. *Selvans/Silvanus* is not simply the God of forests and wood, but He is also responsible for the open spaces within the

forest (Rendeli, 1993; Chiadini, 1995) and for watching over the borders between cultivated and uncultivated areas. The Landscape of this God is not a wild forest, but a human-controlled forest. His most common attribute in art is the *falx*, which is usually interpreted as a sickle used for the reaping of wheat (Pfiffig, 1998: 297-301; Van der Meer, 1987: 8-66; Bentz, 1992: 49-52, 199-206; Drocey, 1992: 17). However, it is well known that the curved sickle (which is sketched in numerous iconographic representations of the god), was also used by shepherds to cut branches for fodder. Interestingly, sickles reminiscent of Selvans' *falx*, sketched by modern shepherds, can be observed on some rocks in the Apennines area, mainly in wooded pasturelands (Sani, 2006, 2012; fig. 8).

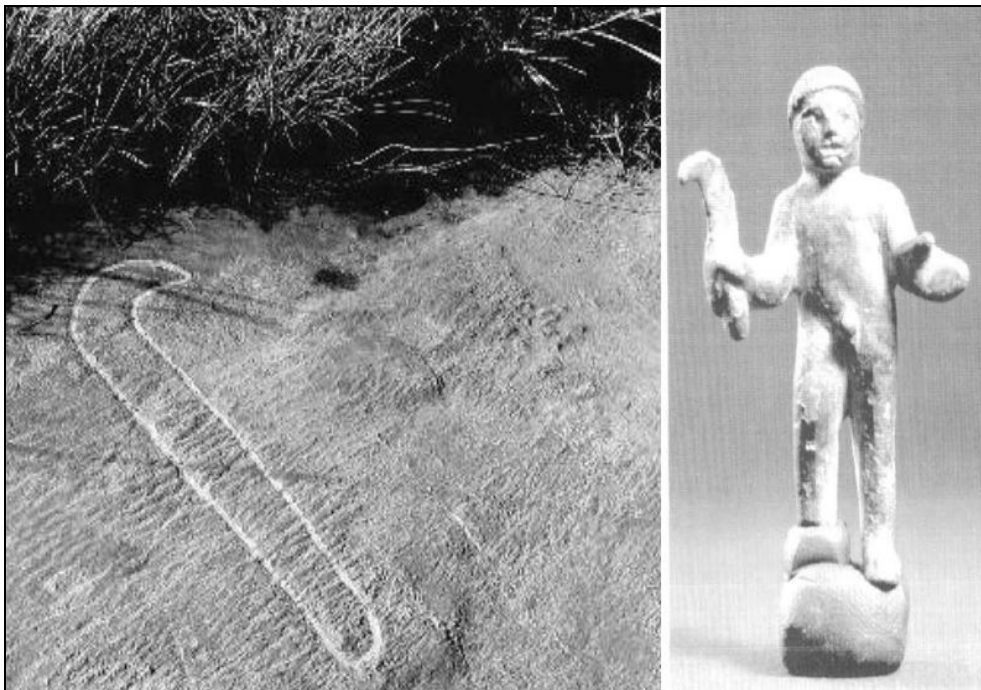


Figure 8: Votive statuette of Selvans from Montiano (4-3th century BC) and sickle sketched in a rock.

The presence of this deity is well attested in the Maremma area, as in the case of the Etruscan *oppidum* of Ghiaccio Forte by the Albegna River, probably linked to a shrine situated in a point of passage (for the excavation see Firmati 2002 and references therein). During the early medieval period, a certain continuity in the cults seems to testify the presence of wooded areas oriented – at least in part – toward the practice of collective sylvo-pastoral activities (as in the case of the cult of S. Regolo near Populonia, see Manacorda 2008).

7. SALT PRODUCTION AND MOBILITY

The issue of the production of salt has attracted the attention of archaeologists especially in the last few decades (Weller 2002; Nikolov, Bacvarov 2012; Brigand, Weller 2015). Contrary to what has been proposed by some scholars, it appears (quite) unlikely that the neolithic revolutions were responsible for the need of adding salt to the human diet (Delluc *et al.* 1997). Salt consumption probably increased first and foremost after the domestication of animals, when, on the one hand, salt became indispensable in order to preserve meats and other animal products such as cheese, and, on the other, it could also be necessary to provide additional salt to the diet of the animals (Eaton 1992; for the secondary product revolution see Sherrat 1981; Greenfield 2010 with bibliography). Lack of sodium, chlorine and potassium in domestic herds causes reduction of appetite, loss of weight and decrease of milk production. Besides, a low level of iodine causes problems with the gland of the thyroid and reduces the fertility of animals (Jiménez Guijarro, 2011: 124-127). As regards the techniques used in the production of salt, two entirely different strategies were applied (which of course also left fairly different archaeological records): evaporation of brine and mining of rock-salt (Saile 2012). By contrast, producing salt from brine requires several steps: obtaining and preparing the brine, cleaning and condensing it, refining and boiling it until the salt crystallizes, and finally preparing the salt for transportation. This method, called *briquetage*, is well-documented in Continental and Atlantic Europe. Central to this type of production was the use of fire: the brine would be put into ceramic containers, which would then be heated until the water evaporated and the brine crystallized into hard, transportable salt cakes, which would then be extracted by breaking the pots. The earliest *briquetage* documented so far dates to the middle of the fifth millennium. BC. (e.g. Romania see Monah 2002).

In general, the dating of prehistoric artifacts and structures connected to the exploitation, trade and consumption of salt presents considerable difficulties, as chronologically sensitive material is rarely uncovered in close association with salt exploitation-related features (Saile 2012: 233). The absence of proof is not proof of absence. As shown by ethnographic enquiries conducted in Papua New Guinea, it can happen that the processing of salt water does not leave any trace in the archaeological record (Alexianu *et al.* 2011; Pétrequin *et al.* 2011; Pétrequin, Pétrequin 2006; Godelier 1969). Post-depositional records are sometimes only composed by layers of charcoal, ashes and organic remains. Traditionally, archaeologists have tended to think that that, in the hot climates of the Mediterranean, salt was exclusively produced by the evaporation of water due to the mere effect of the sun, which does not leave significant traces in the archaeological record; consequently, *briquetage* has been seen as a practice typical of cold climates. In recent years, however, *briquetage* remains have been found in Spain, in the site of Marismilla (Cadiz), which dates back to the Neolithic period (Escacena Carrasco, Rodríguez de Zuloaga Montesino, 1988; Escacena Carrasco, 1994; Alonso Villalobos *et al.* 2013, p. 318).

Especially in the last decade, some evidence of this technique has also been recorded in some coastal sites in Italy (fig. 9), which were for the most part occupied between the Late Neolithic (Vasche Napoletane: Tunzi Sisto, Batoli 1999) and the Bronze Age (Isola di Coltano: Di Fraia 2002; Pasquinucci and Menchelli 1997, 2002 – Pelliccione: Attema *et al.* 2003, Attema and Alessandri, 2012 – Elleri: Cassola Guida and Montagnari, Kokely, 2006).

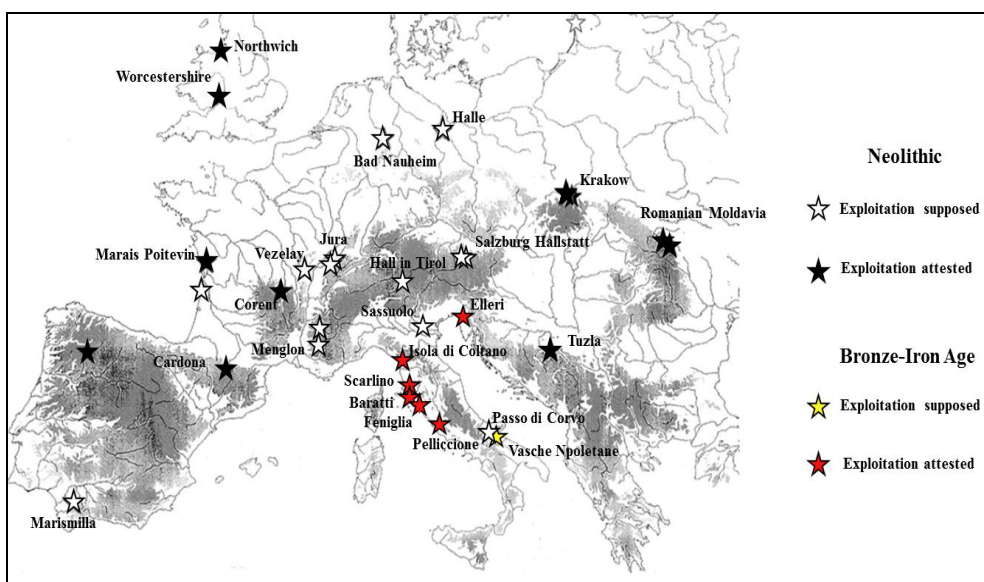


Figure 9: *Attestations of salt exploitations in Europe.*

Supported by these data, we are now in a position to re-interpret some previous archaeological findings and to discover new sites for the production of salt-blocks in our context (for a new perspective in this subject see Vanni, Cambi 2015).

One of these, which was built directly on the shore, was excavated in 2009 in the Gulf of Baratti, Tuscany. Occupied from the Final Bronze Age to the Iron Age, the site presented archaeological remains consisting of traces of kiln chambers for cooking salt and by an extremely organic layers with a huge amount of charcoals (Baratti 2010).

The site of Duna Feniglia (Negroni Catacchio and Cardoso 2002; Negroni Catacchio 2006: 506-507), situated in a strip of land between the sea and the lagoon, is characterized by a high percentage of fragmented pottery, mainly red-orange vessels manufactured with non-depurated local clays, which were intentionally broken. These remains date between the early iron age and the Etruscan period and testify of a significant continuity in the use of the site. These findings have until now been interpreted as evidence of a salt production aimed at the preservation of fish supply, but we now have proofs that the pottery found in the site was actually used for the production of salt cakes.

A third site (Le Chiarine - Scarlino), which has been regarded as a ceramic atelier (Aranguren 2008 and 2009), is nowadays situated a little further in the inland but certainly faced the sea in the antiquity and must thus also be re-interpreted as a salt production site. Not only does this site (dated around the late Bronze Age or the early Iron Age) present rectangular kilns quite similar to the Atlantic ones – which are consensually recognized as being related to the cooking of salt blocks; big mounds of fragmented coarse vessels have also been identified on the site, together with layers of ashes and bars left by refractory ceramic firedogs (Aranguren, 2009: 11), which served as stands for the containers used in the boiling of brine (fig. 10).

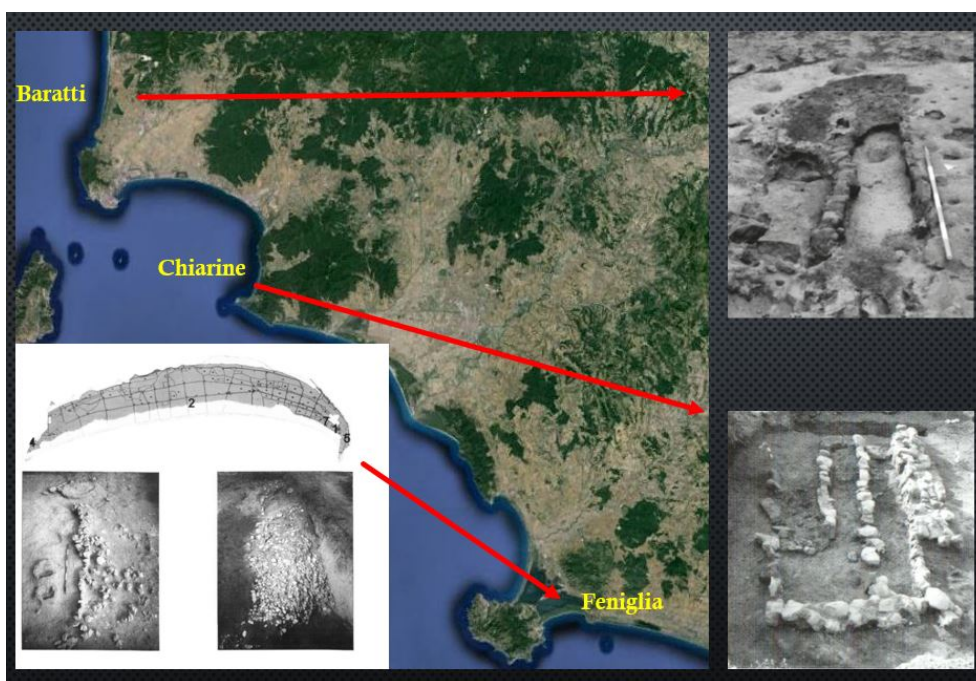


Figure 10: *Ceramic assemblage and kilns for boiling salt (modified after Aranguren, 2009; Baratti, 2010; Negroni, Catacchio, 2006)*

As pointed out by A. Boutet and O. Weller, ‘Produire du sel en pains n’a pas la même signification que produire du sel en grains’ (Boutet, Weller 2013: 235). Salt could be reduced into blocks to facilitate its transportation in long-distance trade – either as a good for exchange or as a mere symbol of prestige – by a peculiar category of socio-economic agents represented by shepherds. Transhumance may have played a role in a complex economic system, satisfying the demand for cheese and wool and enabling the establishment of a regular system of contacts and transportation of raw materials and artefacts including salt blocks (Di Fraia 2008 and 2011 especially for Prehistory; for the connection between salt exploitation and pastoralism in Romania – site of Alghianu, Vrancea - see Alexianu *et al.* 2015 from an ethno-archaeological point of view). In this perspective, the flourishing of salt blocks production is not simply a matter of climate, but represents an intentional economic and cultural practice.

In the Bronze Age, the development of sedentary and transhumant livestock breeding is well documented in Northern coastal Etruria and most probably this phenomenon increased the demand of salt. It is not only a speculation that the shepherds, during the winter-pasturing, were involved in the production of salt blocks, which they used for dairy production and as goods of exchange during the summer pastures in the Apennines. The connection between transhumance, wetlands and salt working becomes unquestionable when we look at the early medieval ages (for the Roman Period see Vanni

2014 Cap. V, about the archaeological questions and Carusi 2008 for the written sources about salt exploitation). Radical changes in settlement patterns occurred during the Greco-Gothic war and the Lombard conquest (Kurze and Marrocchi 2008), when long-lived villages were founded on hilltops which later on, during the 10th and 11th centuries AD, developed into castles (*castelli*; see Farinelli and Giorgi 1998; Francovich *et al.* 1989 for an overview of this phenomenon in Tuscany). The distribution of these sites can only be made sense of in the light of an economic explanation: it was due to the necessity of exploiting salt works and woods and controlling the main routes of transhumance. New political entities started to exert a growing pressure on common land use: the Aristocracy of Lucca, the laic power of the *Aldobrandeschi* family of Sovana, as well as the city of Chiusi, situated in the inland, and from the South, the Church of Rome (Collavini 1998; Mordini 1995 and Dell'Omodarme 1998). All these subjects are involved in settlements distribution and transhumance control. During the 13th century AD new settlements are founded in order to control sheep movements for fiscal purpose.

When the Republic of Siena began to exercise a decisive influence in the area in the 14th century, the main purpose was the control of the already existed salt works and the built of new ones. At the same time at the beginning of 15th century a pre-state customs organization was established by Siena in order to manage the large-scale transhumance (Imberciadori 2002), a system that survive without interruption after the Second World War. This rapid phenomenon has been connected to the growth of the territorial State occurred between late Middle Age and the first Modern era (Dani 2003: 182-97). This has been put in practice through a forced reduction of common land use together with the removal of forms of organizations run by single communities or individuals (Rao 2008).

8. CONNECTING LANDSCAPE CHANGES WITH CHRONOLOGY AND THEORY

Let us now introduce some general features of the Etrurian landscape, as presented in the existing literature, with a special focus on the Etruscan and Roman period and, in particular, on some peculiar aspects of this landscape. In this part of Etruria, the Late Bronze to Early Iron Age transition presents some critical points. In contrast to the well-known case of Southern Etruria, no late Bronze Age occupation has been discovered in the main Etruscan cities of the coast. All the Bronze Age occupations seem to have been in the inland and were abandoned before the transition. We thus have a macroscopic *iatu*s in the early Iron Age and the state formation process seems to have taken place during the Orientalizing period. As regards the coastal plain, the only Late Bronze presences we know of consist of scattered occupations or occupations without structures, mainly oriented toward the production of salt in connection with transhumance practices (Aranguren 2002; Baratti 2010; in general, see Weller 2002 for the salt production techniques). If we consider the Roman period, the Maremma plain displays conservative economic features when compared to the slave-oriented landscape of Southern Etruria. The maximum development of rural settlements was reached between the Late Republican and the Early imperial period (217 sites), with a few large villas (10 in the coast; 1 in the inland). The concentration of

villas along the west side of Lake Prile and the Piombino lagoon means that strong economic interests focused on the exploitation of salt lake resources. In the North of the plain, a significant decrease in the rural population appears to have begun in the Late Republican period (Vaccaro, 2008 and 2011). On the basis of this evidence, we may assume that rural settlements were mainly productive units tending towards subsistence. The Roman impact did not change the local economic framework oriented toward non-intensive agriculture, animal husbandry, exploitation of forest resources and production of salt. Between the 2nd and 3rd century, settlement density decreases, but not as dramatically as in the neighbouring *ager Cosanus*, which was deeply connected with the wider Mediterranean markets (Cambi, Carandini, 2002).

The 4th and 5th centuries were characterized by a further drop in the number of rural sites, but this does not seem to have had entirely negative effects on the socio-economic conditions, with the foundation of a new farm in the lower Ombrone basin, a likely growth in size of another farm and the foundation of a seasonal settlements nearby, associated with pastoral activities and salt production. Between the 5th and the mid-6th centuries, concentration of rural settlements remains stable and we observe a continuous occupation of some villages and a brief proliferation of small, dispersed sites, which constitutes strong evidence for the continuity of a structured settlement network until the Gothic war (Vaccaro, 2008).

9. CONCLUDING REMARKS

The area under analysis seems to represent a sort of interface characterized by different strategies by considering micro-regional peculiarities. A more conservative framework may be the cause of a stronger resistance of the settlement and production network. But this network was not necessarily an agrarian oriented one. Conversely, this continuity is thus a proof of the vitality of the socio-economic patterns and of the strategies that were elaborated. Evidences from the region suggest that continuity and discontinuity paradigms should be re-assessed in the light of the influence of the natural landscape and by mediating theoretically between simple methodological as well as epistemological oppositions. Animal management strategies almost certainly involved a complex set of practices, which included the exploitation of both infield and outfield zones of the landscape. New concepts must therefore be applied in facing archaeological and historical questions. A direct opposition between cultivation and animal husbandry must be treated with great caution regarding cooperation and conflict for resources. Agriculture and animal husbandry are not only complementary but necessary, integrated in a wider set of practices. The same perspective must be adopted in reconstructing other activities such as forest management.

Ethnographic studies, for instance, have revealed that during the 18th-19th century A.D. the same huts-building techniques were used in the Apennines and the Mount Amiata and by both shepherds and charcoal workers. Some villages were occupied in an alternating manner by charcoal workers and shepherds without interruption. Mobility and seasonality are key concepts for understanding such demographic phenomena. Landscape is not a reified entity; rather, a close analysis of peculiarities reveals that we are in a *permanent resilience landscape* (for the resilience theory in general see Gil-Romera *et al.* 2010;);

Redman 2005, Folke 2006 with bibliography; for the connection between archaeology, ecology and resilience see Fischer *et al.* 2009; Van der Leeuw and Redman 2002; Weiberg 2012) in which conservative aspects of practices and strategies for managing natural resources, as well as *recognition* phenomena, are continuously negotiated between human and nature, in co-evolution processes.

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