

via

**Dialogue With Sites:
The Definition of Space at the Macro
and Micro Level in Roman Times**

by H. Vanhaverbeke, Jeroen Poblome, V.
Waelkens, F. Vermeulen

ISBN 2503513573 / 9782503513577 / 2-503-51357-3

Publisher Brepols Pub 2008

Country Belgium

Language English

Edition Softcover

SURFACE MATERIAL, SITES AND LANDSCAPES IN SOUTH PICENUM (MARCHE, ITALY)

Simonetta Menchelli

INTRODUCTION

The considerations presented in this paper are an outcome of the Pisa South Picenum Survey Project¹ focussing on the Tenna, Ete and Aso River Valleys, in the Marche region (Central Adriatic Italy) (Fig. 1).

The western part of the study territory is occupied by a mountain range (650 m a.s.l.) including the outlying ramifications of the Apenninic Monti Sibillini which are constituted by Mesozoic calcareous rocks (Regione Marche 1991, 87). This mountainous area gives way to a Plio-Pleistocenic hilly region (400-200 m a.s.l.), followed to the east by a very narrow coastal plain in Late Quaternary gravels and sand. The Tenna, Ete Vivo and Aso rivers flow from S-SW to N-NE, forming a series of parallel valleys descending to the Adriatic sea.

Since the 9th century BC this district has been occupied by the Piceni. After the process of Romanisation (starting in the 3rd century BC) it belonged to the territory of *Firmum Picenum*, modern Fermo, a Latin colony founded in 264 BC (Polverini *et al.* 1987).

A "total archaeology" approach has been applied to the project (cf. Taylor 1974, 15-26; Darvill 2001, 36), using all available sources, including archaeology, geomorphology, palaeoecology, bioarchaeology, the study of literary sources, archives and place-names, archaeometric and archaeological artefact studies, and remote sensing².

¹ This project, directed by Marinella Pasquinucci, Dipartimento di Scienze Storiche del Mondo antico, Università di Pisa, is part of a wider research programme concerning the Marche region, initiated by our department some decades ago (see bibliography in Pasquinucci, Menchelli & Scotucci 2000; Pasquinucci & Menchelli 2002b). The intensive survey project started in 1998 and it is expected to last until 2008.

² In particular, we began an aerial photography research programme in the Tenna valley in collaboration

The diachronical data, ranging from the prehistory until Late Antiquity are gathered and processed in a GIS (South Picenum Survey GIS), which includes a relational database run by commercial software (Microsoft-Access 2000); its cartographic applications are managed by ArcGIS Desktop 9.1.

Our aim is to reconstruct the landscape history of the region, which includes the relationship between man and his environment in prehistory and protohistory, the Piceni organisation of the landscape, the process of Romanisation, historical events and changes in rural planning in Roman times, and landscape continuity/disintegration in Late Antiquity.

In this paper we will focus on three historical phases, during which the interaction of people and landscape can be linked to a "typical" cultural landscape:

- 1) the Piceni phase (9th-5th century BC) characterised by hilltop sites.
- 2) the Late Republic (2nd-1st century BC) characterised by the villa system.
- 3) the Early Imperial period (late 1st century BC-1st century AD) characterised by the centuriation organisation of the countryside.

SURFACE ASSEMBLAGES SOME METHODOLOGICAL REMARKS

We strongly believe that explicit information on research strategies, including methods and techniques as applied in the project, has to be provided in order to facilitate trustworthy comparisons aimed at reconstructing large-scale historical phenomena from survey results (for this topic see Millett 2000; Alcock & Cherry 2004). Hence this methodological discussion.

with Frank Vermeulen (University of Ghent, Belgium).

Sampling strategy

At the beginning of the project we investigated the geomorphology and historical background of the survey region. We conducted field surveys of all the known sites, which were already published (e.g. Mercado, Brecciaroli & Paci 1981) or mentioned in unpublished inventories (in particular, in the *Archivio della Soprintendenza per i Beni Archeologici delle Marche*) were checked by our field surveys. We also surveyed locations with possibly significant place-names (such as Papagnano, Ponzano, Barbolano). The study of these available data is necessary, especially for the Piceni phase, since at the moment the bulk of the data used for the reconstruction of Piceni settlement patterns and landscapes derives from findings published in the late 19th and early 20th centuries.

Based on these previous studies, we have selected seven large sample areas to be fieldwalked intensively (Fig. 2). These are representative both of different geomorphologic and environmental units (inland hill areas, river valleys, coastal strip) and of historical background (the changing relationship between *Firmum* and its suburban area, variations in ancient land use and rural settlement patterns, the vicinity to road system, and harbour/ports of call etc.).

We hope that such large and diverse set of sample areas will allow a methodologically sound study of the diverse ancient landscapes present in the study district (discussion on this topic in Bintliff 2000, 200-215; Quilici & Quilici Gigli 2003)

Ancient surfaces and visibility (Pl. 1)

Local variations in visibility have a remarkable impact on the survey results (Terrenato 2000, 60-71; Belvedere *et al.* 2005).

With regard to the *ager Firmanus*, the interior mountainous district displays overall poor visibility because it is covered by conifer woodlands and, in the lower areas, by grazing grounds for sheep and goats. Intensive agriculture along the bottoms of the river valley, especially in the Aso valley, also limits surface visibility due to the dense spread of vineyards, orchards, gardens, greenhouses and nurseries. Moreover, several small towns situated on the hilltops facing the river valleys (e.g. Grottazzolina, Belmonte) since

medieval times most probably conceal Piceni villages. Building expansion since the 1970s has further decreased visibility in the former *Firmum* suburban area and in the coastal plain, where facilities and buildings have destroyed/concealed the *Castellum Firmanorum*, the main harbour of *Firmum*, as well as some ports of call and several Roman amphora workshops (Menchelli, in press). Local people have also begun quarrying building materials from along the banks of the Tenna river, which has further hampers our study.

Fortunately, large stretches of ploughed land are accessible in the hilly sectors facing the Tenna, Ete and Aso, as well as in the river terraces, where the main crops are wheat and sugar beets. These areas constitute the best visibility classes, also from a geomorphologic point of view because they are not affected by alluvial sedimentation. In these hilly areas, however, one has to take into account erosion processes, which may have destroyed sites located on the highest hilltops (generally protohistorical and Piceni in date).

Alluvial sedimentation is mainly evident in the lower Tenna valley, where there is evidence of a progressive river course, which has been well documented by remote sensing³ and historical maps. These geomorphologic changes strongly affect the visibility of ancient surfaces. In Roman times the area seems to have been centuriated, but the centurial farmsteads were identified only on river terraces higher than 10 m a.s.l. Apart from some sporadic finds, which can easily be the remains of ancient sites now concealed by recent sedimentation, the lower terraces lack evidence. For these areas we have to hope for chance discoveries unearthed during deep excavations (e.g. public works).

Fieldwalking

Survey units are the basic spatial units of fieldwalking. In our project these units correspond to a plot of ploughed land, well defined by modern boundaries or topographic breaks (similar field method in Vermeulen & Boullart 2001, 4-5).

³ The crop and soil marks observed in the aerial photographs coincide with white pebble stripes observable in the fields, which can be interpreted as remains of palaeo-channels.

The association between survey intensity and find densities is well-known (Plog, Plog & Wait 1978; Terrenato 2004, 38-39). By means of empirical tests, we have concluded that a 5 m walking interval is the best distance to document our region. A larger-interval survey may proceed faster (and therefore cheaper!) (cf. Bintliff 2000, 205; Given 2004, 17), but using a closer spacing greatly increases chances of identifying prehistoric flints and small sites, such as the Piceni farmsites, increase significantly. The fieldwalking teams usually consist of five people (a car-crew), each of whom has a different level of survey experience. We try to compose the teams of both new and experienced fieldwalkers, since differential abilities in identifying and picking up materials may produce bias in the survey results (Given 2004, 19)⁴.

THE DEFINITION OF SITES AND OFF-SITE

The definition of sites and off-site is one of the critical and central topics in any given survey project.

In our project, we have used quantitative and qualitative criteria in order to classify a sherd concentration zone as a site, or scattered artefacts as off-site, while trying to ascribe these to a cultural-historical-functional category (Piceni necropolis, Roman villa, modern manure, etc.).

Piceni sites (9 th -4 th cent. BC)	94
Roman villas	50
Roman farmsteads	110
Roman villas or farmsteads	21
Roman minor rural sites	59
Roman <i>statio/mansio</i>	1
Kilns	12
Off-sites	164

Table 1. Typology and quantity of surveyed sites

⁴ This project is part of the field-activities included in the *Topografia antica* and *Laboratorio di Topografia antica* courses. Therefore many students have their first field-work experience here.

Site classification and documentation

As sherd concentrations are produced by stochastic processes, which we can understand but neither quantify nor correct, the classification of an artefact concentration as a site can only depend on the individual interpretation of an archaeologist who has to consider both the objective data and the depositional and post-depositional factors (Taylor 2000; Terrenato 2004)⁵. For example, keeping soil erosion in mind, five to ten sherds of pots and daub found along a sloping field can be enough to identify a Piceni farmsite on the hilltop. On the other hand, in the centurial landscape of the middle Tenna valley, where the main crops are wheat and sugar beet, Roman farmsteads are identified through large concentrations of (enough) well-preserved artefacts on a ploughed surface⁶. In the Aso Valley, where intensive agriculture (vineyards and horticulture) requests different agricultural techniques, which turn the soil to much greater depths, the scarce artefacts are scattered and very fragmented. Here only qualitative data, such as site location (within a *centuria*), and some diagnostic sherds (Italian terra sigillata, Dressel 6 amphorae) allow us to classify the sites as "centurial farmsteads" (see below).

When a concentration is considered a site it receives an identification mark (*Unità Topografica*⁷), and is indicated on cadastral (1:10.000) and IGM⁸ topographical (1:25.000) maps and localised by means of GPS. For each *Unità Topografica* at least one picture is taken

⁵ We use various quantitative and qualitative parameters with which to categorise artefact concentrations (at least 3 daub items and 8 pots for a Piceni farmsite; 15 tiles and 30 pots for a Roman farmstead and so on), but in every find spot the quantitative data are calibrated according to the various depositional and post-depositional processes.

⁶ Pasquinucci, Menchelli, Scotucci 2000 : their extension ranges from 1000-2000 m².

⁷ The *Unità Topografica* labels are composed of the name of the municipality in which the site was found and by a unique number. For example "Fermo 43", "Belmonte 15".

⁸ *Istituto Geografico Militare*.

and a standard survey form is filled out⁹. The latter contains data concerning geomorphology, soil type, land use, visibility, size of the concentration, find characteristics and their chronological range. Using its unique identification mark each *Unità topografica* is added to the GIS. In very large and significant sites we carry out intra-site analysis (see Cambi & Terranato 1994, 184-187). The area is surveyed in 20 x 20 m grids.

Off-site

Low-density field scatters can provide highly informative data for landscape archaeology (cf. Given 2004 with extensive bibliography). It is crucial to understand the origin of these sherds, whether they are site-derived or whether they result from various human activities across the countryside.

To classify these scatters we consider elements such as visibility and geomorphologic characteristics of the surveyed area, find density, quantity, typology (pottery or building sherds can make quite a difference!) and their relationship with the nearest sites. On the basis of these data, we interpret these scatters as follows:

1) Site derived sherds

In the *ager Firmanus* part of the scattered sherds are site-derived. These scatters often represent the remains of sites, which are almost completely destroyed or concealed by cultural or natural post-depositional processes. This is frequently the case for the centurial farmsteads in the lower Aso and Tenna valleys, and the large *villae* along the coast and in the hilly strips overlooking the river valleys. In these areas several modern villas have been built on the exact location of ancient villas, because of their panoramic views. Scarce diagnostic elements (stucco, fragments of fresco, mosaic *tesserae*) are often the only indications for a former large building. In these cases the low-density field scatters are documented and geo-referenced

as a *Unità Topografica* belonging to a missing site (missing but luckily not lost!).

2) Sherds resulting from intensive agricultural activities

Around the largest rural sites we usually find a pottery halo, which was most probably caused by manuring (Bintliff 1992) or by other agricultural activities (Fentress 2000).

3) Sherds resulting from other cultural activities

Scattered finds found in the interior mountainous district (which was never intensively settled) can be evidence of hunting, gathering, stock-rearing, wood and wicker picking activities.

4) Dumps

The presence of sporadic sherds found in intensively settled areas can be simply explained as an evidence of passing traffic (the proverbial pot which fell from the donkey) or the disposal of rubbish (see Fentress 2000).

In all these cases (2, 3, 4) the low-density field scatters are documented as off-site *Unità Topografica* and geo-referenced on cadastral and IGM topographical maps.

5) Intrusive site-derived sherds

An archaeological site can be destroyed during public works, resulting in the deposition of its artefacts at some distance from their original location. These scatters usually consist of a mix of ancient and modern artefacts, located in the fields along the roads. Post-depositional characteristics and typological features should permit to identify these scatters as foreign to the fieldwalked area. These sherds are documented as off-site *Unità Topografica* but not geo-referenced.

Artefact collection, classification and quantification

The bulk of the artefacts encountered in concentrations is constituted by pottery sherds. Glass and metal finds are scarce, due to survival risks and to recycling already frequent in Antiquity. The non-ceramic finds are mainly represented by prehistoric flints and building materials belonging to sumptuous Roman villas (stone floor and wall slabs, mosaic *tesserae*, stucco and fragments of frescoes).

All the encountered artefacts are collected in off-site conditions and in the case of prehistoric, protohistoric, Piceni and early medieval sites as

⁹ In Italian *Scheda di unità topografica* (Ricci 1983). The use of these forms was one of the key symbols of processual archaeology in Italy.

well, as they are generally scarce. In the case of Roman sites we collected all the diagnostic sherds (black-glazed and thin-walled pottery, lamps, Italian, Eastern and African terra sigillata). Concerning amphorae, dolia and coarse pottery, the diagnostic items (rims, handles and bases) were picked up. Body sherds are collected if they show technical features worth recording (e.g. a fabric not documented elsewhere). As for building materials we collect all the items useful for typological/functional and technical classification. Insignificant items are counted but left in the field.

It is obvious that our surface collections were produced by many stochastic processes. First of all, differential sherd survival has to be considered to filter out distortions in the data. Some brittle wares, such as protohistorical and Piceni impasto, are particularly damaged by attrition processes, most probably because of their temper and low firing temperature (Taylor 2000, 20-21). Moreover, their archaeological invisibility leads to apparent gaps in the distribution maps. Some wares (e.g. thin-walled pottery and lamps) may be completely destroyed by fragmentation. Due to abrasion, black-glazed and terra sigillata sherds often lose their slip and become unrecognisable.

Other biases in site registration are produced by wilful cultural activities, such as the *spietramento*. Italian farmers clear the fields of stones and large building fragments, which can damage their agricultural equipment. Sometimes we can find the assemblage nearby, usually in a corner near the modern farmsteads (cf. Moscatelli 1999).

In our region of study, distortions are also produced by the activity of volunteer archaeologists who, when not organised in groups (such as *Archeoclub*, *Gruppo Archeologico*) pick up artefacts from sites without any control, stripping the collected items of all informative value. The activity of these volunteers is evident mostly near modern towns and along the main roads. Here we may find large concentrations where the fine finds are extremely rare in comparison to the quantity of other sherds, which are evidently considered heavier and less fascinating. The more difficult to reach the archaeological sites

are, the less they are affected by this uncontrolled collection¹⁰.

Aware of the aleatoric nature of our evidence, we record and quantify the collected artefacts as carefully as possible. As pointed out by E. Fentress (2000, 49) "in the end, we cannot hope to quantify what is missing, but only record what is there". For every *Unità Topografica* assemblage we apply the Estimated Vessel Equivalent method (Orton, Tyers & Vince 1993) with some adaptations. Not only rims and bases are counted, but also other parts, including body sherds, displaying specific technical features.

The sherds are classified according to shape and technical features. Recent publications of local excavations on Bronze and Iron Age settlements provide pottery sequences useful for the dating of protohistorical sites. Concerning the Roman and early medieval pottery, new data are now available thanks to several research programmes in progress in the Marche Region (Vermeulen 2003, 85).

SITES AND ANCIENT LANDSCAPES

Piceni phase (9th - 5th century BC) (Fig. 3)

During the early Piceni phase (Piceni I-II phase, 9th-8th century BC, see Lollini 1976) the most important settlement identified in the study area until now is the Villanovan village on the Giralco hill, later occupied by the *Firmum Picenum* colony (Drago Troccoli 1999, 62-65). Villages were also identified at Belmonte and Porto S. Elpidio (Baldelli 1999a, 55; Naso 2000, 60).

In Firman territory, as is common in the Piceni region, our knowledge of this phase mainly derives from the rich necropoleis identified between the late 19th and the middle of the 20th century, while settlement data are very scarce. As stated by C. Boullart (2003, 158), much more has been written about Piceni tombs than Piceni settlements.

On the basis of earlier discoveries in the study area, the Piceni sites seem to have been small villages located on high and safe places, espe-

¹⁰ Concerning the relationship between public institutions and volunteers, see De Guio 1996.

cially on naturally defended hilltops. This locational preference was not only determined by defence but also by economic demands, i.e. the presence of springs and the fact that the sandy hilly soil is lighter and easier to till than the river valley bottoms formed by clayey terraces. Moreover, this strategic position ensured visual control over the river valleys below. Necropoleis were located along the hillslopes. These hilltop villages were evident landmarks of power in the landscape (for this topic see *Archaeology of Power* 1992).

The survey results are very poor due to visibility issues: erosion and continuous settlement in particular have destroyed and/or concealed Piceni sites. Therefore, we have only limited information on the layout and characteristics of the early Piceni settlements in the study area. Concerning the Fermo site, only its necropoleis are well known. The Belmonte Piceno settlement on the contrary was excavated and published by Dall'Osso in the 1910-1915. According to this scholar, the village consisted of huts (*capannoni*) of various size (max. 50 m long and 8 m wide) with a rectangular floorplan. Their floors were made in river gravel; wooden posts, wattle and daub constituted the walls. Some large vessels inside the dwellings were noticed to contain their original contents (Dall'Osso 1915). However, these data are hard to check by modern standards. Moreover the archaeological finds are lost. Therefore it is not possible to propose a diachronical settlement evolution. We can only use the funeral deposits and, judging by them, the Belmonte Piceno village consisted of dwellings dated from the 8th to 4th century BC (Naso 2000, 154-156). The oval huts identified at Porto S. Elpidio also date back to the 7th century BC but cannot be classified in more detail (Naso 2000, 155). Concerning the Moscosi site, ecological analysis showed that the settlement was situated in an open, virtually treeless landscape with a grassy vegetation. Human activities were primarily attested by the presence of cereals (barley and wheat/oat), but a mixed economy must have been practised since domestic animals such as sheep/goats, pigs and cattle were also attested (Silvestrini 1999, 166-167). Unfortunately, we lack stratigraphical data from these sites. A comparison to the recently excavated early Piceni settlements (Montedoro: Baldelli 1999b; Matelica: Boullart 2003; Moscosi di Cingoli: Silvestrini 1999) could have helped us to understand

the characteristics and organisation of the Piceni settlements in the Firman area.

In spite of the lack of data on the settlements, the luxurious imported items found in several tombs document that, in the 7th century BC (Piceni III phase or the Orientalising period), as observed elsewhere in the Piceni region, an aristocratic class ("princes") ruled the region. Their main economic activities consisted of the exploitation of agricultural resources combined with sedentary and transhumant stock-breeding (Colonna 1999). In the 7th century the most important settlement continued to be in the Fermo area, which most probably controlled the transit along the Ete river valley by means of the Ponte Ete village, considered a Fermo checkpoint on the river ford. Necropoleis and settlements are documented also at Porto S. Elpidio, Belmonte, Montelparo e Grottazzolina (Pasquinucci & Menchelli 2004).

During the Piceni III-IV cultural phase (7th-5th century BC) the Grottazzolina and Belmonte sites reached their apex. The former site, most probably located on the hilltop now occupied by the modern village, is known only through its necropolis which was located in the plain below and excavated around the middle of the 20th century (Naso 2000, 183-186).

According to the survey results, the number of rural settlements in this phase increased in the whole hilly district of the study territory, mainly along the ridges facing the Tenna, Ete and Aso rivers and along the hillside passages connecting the valleys. Many sites have been identified in the area between Fermo and Grottazzolina, where the burial finds provide typological and chronological parallels for the sherds derived from surveys (Pasquinucci, Ciuccarelli & Menchelli 2005). These small rural sites differ in typology and size. Find concentrations vary from 100 to 600 m²; they mostly consist of fragments of wattle and daub walls, tiles, pebbles and impasto pottery. These artefacts are the remains of dwellings, which appear to have been roofed with flat and curved tiles since the late 6th-5th century BC, as confirmed by the results of other survey projects (Monte Franco in the Potenza valley: Boullart 2003) and excavations (Moscosi di Cingoli: Silvestrini 1999, 166-167). These sites were most probably part of a settlement network, which developed along the road system connecting the most important settlements

(Fermo, Belmonte, Grottazzolina). This network displays a nascent proto-urban organisation (Percossi Serenelli 1987, 74-75).

The more privileged sites continued to be provided with many imported goods (such as bronze items from *Etruria* and *Latium*, Greek pottery, amber and ivory items: Negroni Catacchio 1999, 100-103; Rocco 1999, 104), which provide evidence of the political and economic power held by the local elites, and document the local, regional and long-distance commercial flows along the river valleys that constituted the easier inland communication passages. Local economic activities (agriculture, breeding, gathering, fishing, trading, pottery and metal manufacturing) evidently produced a surplus, which the aristocratic class used to secure the import of luxurious goods. Lacking literary, epigraphic and onomastic sources, the survey data do not allow to reconstruct social organisation. We do not know for example to which social category (slaves, tenants) the farmers whose dwellings we can identify belonged.

During the last phases of the Piceni culture a decrease in settlement numbers occurred, which is documented both through literary and survey data. The Fermo and Belmonte sites were inhabited until the 4th century BC. The countryside continued to receive luxury goods, such as the bronze *cistae* produced at Praeneste (ancient *Latium*) found in the Servigliano and Monsampietro Morico sites (Naso 2000, 267).

Romanisation was now on its way. It was not by chance that the Latin colony of *Firmum Picenum* was established on the Girfalco hill, which had been a strategic site since protohistory. In the following centuries, the town would constitute an effective landmark of Roman power in the district.

In conclusion, due to the post-depositional effects mentioned above, a reconstruction of Piceni settlement is mostly based on old excavations and finds. However, surveys in libraries, in regional archaeological museums and deposits and (also) in the field allow us to further define a reconstruction of the local landscape from the 9th to the 5th century BC.

The Late Republic (2nd-1st century BC) *The villa system landscape (Fig. 4)*

During the Late Republic Romanisation was in progress in the *ager* of the *Firmum Picenum* colony. It affected administrative, economical and social aspects (Ciuccarelli, Menchelli & Pasquinucci 2005). An archaeological correlate of these structural changes is provided by the development of the villa system, which spread over the countryside from the late 2nd century BC onwards. "Villa" (Latin *villa*) indicates a large estate whose buildings consist of distinct residential (*pars urbana*) and production (*pars fructuaria*) sectors (cf. bibliography in Verdonck & Vermeulen 2004).

In the best visibility conditions these sites are characterised by artefact concentrations over 2000 m² in extent, and by the presence of luxurious building materials, such as marble elements, mosaic *tesserae*, stucco and fragments of fresco. The residential part of these villas was endowed with private baths and large cisterns, whose remains are sometimes still standing. The *pars fructuaria* included wine and olive presses, dolia and millstones. These villas were mainly located in the surroundings of the *Firmum Picenum*, on the hilly terraces (ca. 150-250 m a.s.l.) overlooking the river valleys, and along the coastal strip. An intensive agriculture characterised the villa landscape, in which viticulture was the main activity. Actually, in the early 1st century BC wine amphorae of the Lamboglia 2 type were produced to export local wine. Earlier finds have identified Lamboglia 2 workshops along the coast between the Ete and Aso rivermouths (Brecciaroli Taborelli 1984). On the basis of their stamps, Piceni amphorae production appears to have been controlled not only by the Roman elite, but also by local aristocrats who kept (or even enlarged) their landed properties after the Social War (91-89 BC) (Pasquinucci & Menchelli 2002a). According to literary and epigraphic sources (Pasquinucci & Menchelli 2002b), apart from vines, olive and fruit trees (apple and pear) were the other specialised crops grown in the villa system. During the Late Republic, cereal growing was widespread in the Piceni countryside, as documented by Varro who quotes *modum ut in Piceno* among the three most common reaping methods (Varro, *De re rustica*, I, 50, 2).

The distribution of villas, almost 1.5 km from the nearest sites, demonstrates that the land properties were very large. Around these sites we usually find vast off-site pottery halos produced by manuring and other agricultural activities (cf. above). Small dwellings were identified on the villa estates, clearly connected with their management. We postulate that these dwellings may have been sheds for tools or possibly huts/houses for slaves and/or wage earning workers. They appear as sherd concentrations not larger than 600 m², mainly consisting of tiles and coarse pottery. According to the imports found on the villa sites, they were involved in remarkable import-export activities. Their strategic location near the coast and along the river valleys, which constituted the easier communication passages, allowed them easy access to the Roman "global" economy. Although amphora production is closely embedded within the villa system, until now no kilns were found connected to individual farmsites. However, several kilns for the production of building ceramics were identified near the villas. Most probably agricultural production and amphora manufacturing took place in separate locations within the *ager Firmanus*. In fact, the amphora workshops seem to have been located especially along the coasts, where the harbour/ports of call network allowed quick shipments of the local goods. The villa owners could send their surplus products (mainly wine) to the coastal manufacturing and trading centres by means of pack-donkeys, as documented in *Apulia* by Varro, who mentions *aselli dossuarii*, which transported *oleum aut vinum itemque frumentum aut quid aliud* to the sea. (Varro, *De re rust.*, 2.6.5.). Since the Firman coastal area is now concealed by alluvial sedimentation and/or destroyed by the intense building expansion, chances of ever detecting these amphora kilns on the surface are extremely small.

Villas were not only identified in the central/eastern part of the study territory, but also in the interior and elevated hilly sector. They are rare, possibly because of limited visibility, and located on the terraces facing the rivers and streams. On the basis of the survey data they generally show the same structural, typological and chronological characteristics of the coastal villas. Judging by current land use, these villas were involved in a more extensive agriculture, based on cereal growing and pig and sheep

breeding. Actually wool-working was widespread in the district as documented by epigraphic sources (*CIL IX 5368*), as well as several loom-weights and spindle rings found on the rural sites.

According to the survey results, both the coastal and inner villas continued to be occupied throughout the centuries. Obviously, without stratigraphical data we cannot identify possible gaps and/or changes in settlement continuity (Wandsnider 2004, 53). Some Late Republican villas, which were recently excavated in the Marche region (Angeli di Mergo: De Marinis 2003; Colombara, Acqualagna: Verdonck & Vermeulen 2004, 184) appear to have been rebuilt in the Augustan period.

Early Imperial period (late 1st century BC-1st century AD)

After the battle at Philippi in 42 BC the *Firmum Picenum* was confiscated by Caesar's supporters and a colony was founded in its territory. The *Liber Coloniarum* (I, 226, 9-10 L.; Polverini 1987, 38-39) documents that the *ager Firmanus* was divided into *centuriae* each one being 200 *iugera* large (= 50 ha-wide allotments). The centurial *limites* have survived in modern rural roads, ditches and canals, mainly on the Tenna terraces and in the hilly central area between the Tenna and Aso rivers (Bonora Mazzoli 1986; Pasquinucci, Mencelli 2002b) (Fig. 6).

As in Italy in general and in other parts of the Marche region (Verdonck & Vermeulen 2004, 215), the centurial organisation of the countryside seems to have led to a flourishing of rural settlement. Many colonists' farmsteads were surveyed in the centuriated areas (Fig. 7). Depending on post-depositional effects, they are generally documented by sherd zones of 1000 to 2000 m²¹¹, made up of building materials, fine wares, amphorae, dolia, and coarse pottery. Diagnostic elements, which date the sites not earlier than the last decades of the 1st century BC, are the remarkable presence of Dressel 6 and Dressel 2-4 amphorae. The survey data also indicate that these farmsteads were carefully built in good

¹¹ In the Aso valley survival conditions are much worse (see above).

quality materials. They had brick columns and, depending on the function of the rooms, were floored with *opus signinum*, *opus spicatum* or tiles. On the basis of literary sources (Polverini 1987, 39) and the distribution of farmsteads in the *centuriae*, the average land property was not larger than 60/66 *iugera*.

These centurial operations were carried out in the Tenna and Aso valley bottoms and in the lower river terraces, where deforestation and tillage of uncultivated areas were most probably necessary. However, the reorganisation of the land, and especially the concurrent development of road and drainage systems, also involved the hilly areas already occupied by the Late Republican villas. On the basis of the survey data, it appears that in the Imperial period these villas continued to be occupied in the newly centuriated areas. Without any relevant literary and epigraphic sources, it is impossible to document changes in villa ownership. Possible gaps in continuity and/or the occurrence of rebuilding can be identified only by means of stratigraphical excavations.

Villas and farmsteads thus coexisted in the centuriated landscape. As documented by imported amphorae and vessels, they both were well integrated in the market economy. Cereals, vines, olive and fruit trees continued to be the main crops. Mediterranean distribution of local Dressel 2-4 and Dressel 6 wine amphorae confirms the importance of the Firman wine production (Cipriano & Carre 1989; Menchelli *et al.*, in press). Olive oil and wine production centres were also located in the countryside, such as the Monte Torto di Osimo site, where a complex including olive and wine presses was excavated. It was not connected with a specific farmsite, but provided rather a central infrastructure to serve the needs of the nearby farmsteads. Its main phase of use was the 1st-2nd centuries AD (De Marinis 2003).

The dense settlement pattern of the Firman countryside in the Early Imperial period is also documented by the distribution of many place-names which, as in the rest of Picenum, derive from the names of the owners of the centurial farmsteads and villas (Moscatelli 1995). As for the earlier discoveries of tombs in the study area, the bulk of documentation can be dated in the period from

the last decades of the 1st century BC to the 2nd century AD (Diebner 1991-1992).

In the Piceni region the centurial grid is difficult to identify in the field, because of the peculiar gromatic system applied in the hilly area, and because of post-depositional processes (Moscatelli 1993; Pasquinucci & Menchelli 2002b; Campagnoli & Giorgi 2004). However, even though the centurial *limites* survived only in small sectors of the study area, the whole Firman landscape appears to have been deeply remoulded by the centurial land organisation and by its ensuing settlement pattern. This well organised landscape, which displayed integrated agricultural, manufacturing and trading activities, more or less maintained its characteristics up to the late antique period (Pasquinucci & Menchelli 2006).

CONCLUSION

We have tried to show the bias and possibilities of the Pisa South Picenum Survey Project. In spite of the random nature of our evidence, we are convinced that a "total archaeology" approach -including quantitative and qualitative analyses, GIS applications, and the perception of the ancient landscape- allows us to propose a more accurate, and less stochastic reconstruction of the local landscape.

The influence of Rome on this landscape is clearly present in the *centuriatio* with its ensuing villa distribution.

References

- S.E. Alcock & J.F. Cherry (eds.) (2004) *Side by Side Survey. Comparative Regional Studies in the Mediterranean World*, Oxford.
- Archaeology of Power 1 (Fourth Conference of Italian Archaeology)* London 1992.
- G. Baldelli (1999a) L'Eta' del Ferro nelle Marche e in Abruzzo, in *Piceni Popolo d'Europa*, ed. G. Colonna, Rome, 55-56.
- G. Baldelli (1999b) L'insediamento di Montedoro di Scapezzano, in *Piceni Popolo d'Europa*, ed. G. Colonna, Rome, 169-170.

- O. Belvedere, A. Burgio, R. M. Cucco & D. Lauro (2005) Relazioni fra geomorfologia, processi post-deposizionali e visibilità del suolo nella lettura dei dati di prospezione archeologica, *Archeologia e Calcolatori* 16, 129-152.
- J. Bintliff (1992) Appearance and reality: understanding the buried landscape through new techniques in field survey, in *Archeologia del paesaggio*, ed. M. Bernardi, Firenze, 89-137.
- J. Bintliff (2000) The concepts of site and offsite archaeology in surface artefact survey, in *Non-Destructive Techniques Applied to Landscape Archaeology (The Archaeology of Mediterranean Landscapes 4)* eds. M. Pasquinucci & F. Trément, Oxford, 200-215.
- G. Bonora Mazzoli (1986) Rapporti fra centuriazione e viabilità nella valle del Tenna, *Atti e Memorie Deputazione di Storia Patria per le Marche* 89-91, 417-430.
- C. Boullart (2003) Piceni settlements untraceable or neglected, *Picus* 23, 155-188.
- L. Brecciaroli Taborelli (1984) Una produzione di anfore picene ed il vino palmense, *Picus* 4, 55-93.
- F. Cambi & N. Terrenato (1994) *Introduzione all'archeologia dei paesaggi*, Rome.
- P. Campagnoli & E. Giorgi (2004) Assetto territoriale e divisioni agrarie nel Piceno meridionale. Cluana, Pausulae, Urbs Salvia e Asculum, *Journal of Ancient Topography* 14, 35-56.
- M. T. Cipriano & M.B. Carre (1989) Production et typologie des amphores sur la côte adriatique de l'Italie, in *Amphores romaines et histoire économique. Dix ans de recherche (Collection de l'Ecole française de Rome 114)* eds. M. Lenoir, D. Manacorda & C. Panella, Rome, 67-104.
- M. R. Ciuccarelli, S. Menchelli & M. Pasquinucci (2005) Culti delle acque e romanizzazione nel piceno meridionale, *Histria antiqua* 13, 417-426.
- G. Colonna (ed.) (1999) *Piceni Popolo d'Europa*, Rome.
- G. Dall'Osso (1915) *Guida illustrata del Museo Nazionale delle Marche e d'Abruzzo*, Ancona.
- T. Darvill (2001) Traditions of landscape archaeology in Britain: issues of time and scale, in *One Land, Many Landscapes (BAR International Series 987)* eds. T. Darvill & M. Gojda, Oxford, 33-45.
- A. De Guio (1996) Dall'archeologia raccogliamla all'eco-cultural resource management: storie ordinarie di predatori della superficie perduta, *Quaderni di Archeologia del Veneto* 12, 212-216.
- G. De Marinis (2003) Insediamenti e strutture rurali: aggiornamenti per le Marche, *Journal of Ancient Topography* 13, 77-86.
- S. Diebner (1991-1992) La sfera dei sepolcri: apporti alla conoscenza dell'aspetto socio-economico del territorio, in *Le Marche. Archeologia Storia Territorio*, Ancona, 83-97.
- L. Drago Troccoli (1999) Il villanoviano di Fermo, in *Piceni Popolo d'Europa*, ed. G. Colonna, Rome, 62-65.
- E. Fentress (2000) What are we counting for?, in *Extracting Meanings from Ploughsoil Assemblages (The Archaeology of Mediterranean Landscapes 5)* eds. R. Francovich & H. Patterson, Oxford, 44-59.
- M. Given (2004) Mapping and manuring: can we compare sherd density figures?, in *Side by Side Survey. Comparative Regional Studies in the Mediterranean World*, eds. S. Alcock & J. Cherry, Oxford, 13-21.
- D.G. Lollini (1976) La civiltà picena, in *Popoli e civiltà dell'Italia antica*, Rome, 109-195.
- S. Menchelli (2006 in press), *Firmum Picenum*: città, territorio e sistema portuale, *Journal of Ancient Topography*.
- S. Menchelli, M. Pasquinucci, C. Capelli & M. Piazza (2006 in press) Anfore adriatiche nel Piceno meridionale, *Rei Cretariae Romanae Fautorum Acta*.

- L. Mercado, L. Brecciaroli & G. Paci (1981) Forme di insediamento nel territorio marchigiano in età romana: ricerca preliminare, in *Società romana e produzione schiavistica. L'Italia: insediamenti e forme economiche*, eds. A. Giardina & A. Schiavone, Rome-Bari, 311-347.
- M. Millett (2000) The comparison of surface and stratified artefact assemblages, in *Extracting Meanings from Ploughsoil Assemblages (The Archaeology of Mediterranean Landscapes 5)* eds. R. Francovich & H. Patterson, Oxford, 217-222.
- U. Moscatelli (1993) "Mensuram accipere debent". Sulla pratica agrimensoria in collina, *Ancient Society* 24, 103-118.
- U. Moscatelli (1995) The evolution of rural settlement in regiones V and VI from the Roman to the early medieval period, in *Settlement and Economy in Italy 1500 BC to AD 1500*, ed. N. Christie, Oxford, 303-309.
- U. Moscatelli (1999) Dispersione dei materiali archeologici e interpretazione: il contributo del GIS IDRISI, *Archeologia e Calcolatori* 10, 239-248.
- A. Naso (2000) *I Piceni. Storia e archeologia delle Marche in epoca preromana*, Milan.
- N. Negroni Catacchio (1999) L'ambra, in *Piceni Popolo d'Europa*, ed. G. Colonna, Rome, 100-103.
- C. Orton, P. Tyers & A. Vince (1993) *Pottery in Archaeology*, Cambridge.
- M. Pasquinucci, S. Menchelli & W. Scotucci (2000) Viabilità e popolamento fra Asculum e Firmum Picenum, in *Atti del Convegno di Studi. La Salaria in età antica, Ascoli Piceno, Offida, Rieti 1997*, Rome, 353-370.
- M. Pasquinucci & S. Menchelli (2002a) Anfore picene e paesaggio agrario: alcune considerazioni a proposito dell'ager Firmanus, in *Vivre, produire et échanger: reflets méditerranéens. Mélanges offerts à Bernard Liou*, Montagnac, 457-463.
- M. Pasquinucci & S. Menchelli (2002b) Viabilità, popolamento rurale e sistemazioni agrarie nell'ager Firmanus, *Atlante Tematico di Topografia antica* 13, 135-146.
- M. Pasquinucci & S. Menchelli (2004) Landscape archaeology in South Picenum. The Tenna, Ete and Aso river valleys, in *The Geoarchaeology of River Valleys*, eds. H. Dobrzańska, E. Jerem & T. Kalicki, Budapest, 28-48.
- M. Pasquinucci, M.R. Ciuccarelli & S. Menchelli (2005) The Pisa South Picenum Survey Project, in *Papers in Italian Archaeology VI (BAR International Series 1452)* eds. P. Attema, A. Nijboer & A. Zifferero, Oxford, 1039-1044.
- M. Pasquinucci & S. Menchelli (2006) Il territorio fermano in età tardo-antica, *Studi Maceratesi* 40, 185-194.
- E. Percossi Serenelli (1987) La facies ascolana: contributo alla conoscenza della civiltà picena, *Picus* 7, 67-136.
- S. Plog, F. Plog & W. Wait (1978) Decision making in modern surveys, in *Advances in Archaeological Method and Theory* I, ed. M. Schiffer, New York, 383-421.
- L. Polverini (1987) *Fermo in età romana*, in *Firmum Picenum* 1, eds. L. Polverini, N.F. Parise, S. Agostini & M. Pasquinucci, Pisa, 19-75.
- L. Polverini, N.F. Parise, S. Agostini & M. Pasquinucci (eds.) (1987) *Firmum Picenum* 1, Pisa, 1987.
- L. Quilici & S. Quilici Gigli (eds.) (2003) La carta archeologica della Valle del Sinni: dalle premesse alla realizzazione, in *Carta Archeologica della Valle dei Sinne*, Rome, 19-51.
- Regione Marche (1991) *L'ambiente fisico delle Marche. Geologia, Geomorfologia, Idrogeologia*, Regione Marche, Bologna.
- A. Ricci (1983) La documentazione scritta nella ricerca archeologica sul territorio: un nuovo sistema di schedatura, *Archeologia Medievale* 10, 495-506.

- G. Rocco (1999) Gli avori, in *Piceni Popolo d'Europa*, ed. G. Colonna, Rome, 103-104.
- M. Silvestrini (1999) L'insediamento dell'età del Ferro di Moscosi di Cingoli, in *Piceni Popolo d'Europa*, ed. G. Colonna, Rome, 166-167.
- C. Taylor (1974) Total archaeology, in *Landscapes and Documents*, eds. A. Rogers & T. Rowley, Bury St. Edmunds, 15-26.
- J. Taylor (2000) Cultural depositional processes and post-depositional problems, in *Extracting Meaning from Ploughsoil Assemblages (The Archaeology of Mediterranean Landscapes 5)* eds. R. Francovich & H. Patterson, Oxford, 16-26.
- N. Terrenato (2000) The visibility of sites and the interpretation of field survey results: towards an analysis of incomplete distributions, in *Extracting Meaning from Ploughsoil Assemblages (The Archaeology of Mediterranean Landscapes 5)* eds. R. Francovich & H. Patterson, Oxford, 60-71.
- N Terrenato (2004) Sample size matters! The paradox of global trends and local surveys, in *Side by Side Survey. Comparative Regional Studies in the Mediterranean World*, eds. S. Alcock & J. Cherry, Oxford, 36-48.
- L. Verdonck & F. Vermeulen (2004) A contribution to the study of Roman rural settlement in Marche, *Picus* 24, 161-229.
- F. Vermeulen & C. Boullart (2001), The Potenza Valley Survey: Preliminary report of field campaign 2000, *BABESCH. Bulletin Antieke Beschaving* 76, 1-18.
- F. Vermeulen (2003) The Potenza Valley Survey: Preliminary report on field campaign 2002, *BABESCH. Bulletin Antieke Beschaving* 78, 71-105.
- L. Wandsnider (2004) *Solving the puzzle of the archaeological labyrinth: time perspectivism in Mediterranean surface archaeology*. in *Side by Side Survey. Comparative Regional Studies in the Mediterranean World*, eds. S. Alcock & J. Cherry, Oxford, 49-62.

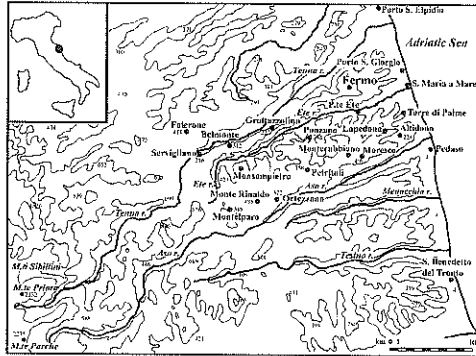


Fig. 1. The study area with the sites mentioned in the text.

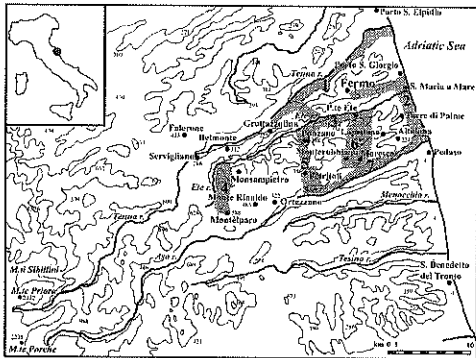


Fig. 2. The total transect area (ca. 145 km²). The study area covers ca 590 km².

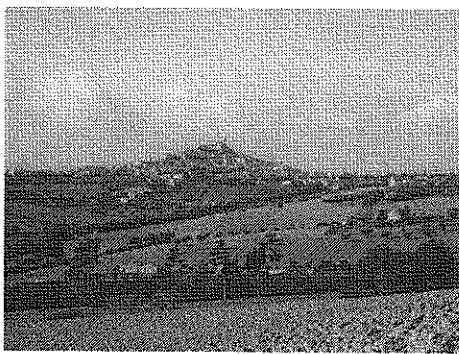


Fig. 3. A Piceni hilltop site modern Fermo concealing the ancient settlement located on the Girfalco hill.

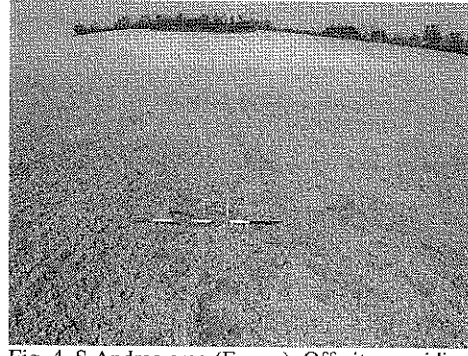


Fig. 4. S. Andrea area (Fermo). Off-site providing evidence of a Late Republican villa located on the ridge, now covered by a modern residence.

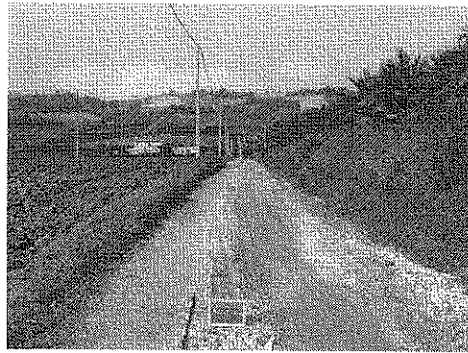


Fig. 5. A centurial limes in the Aso valley.

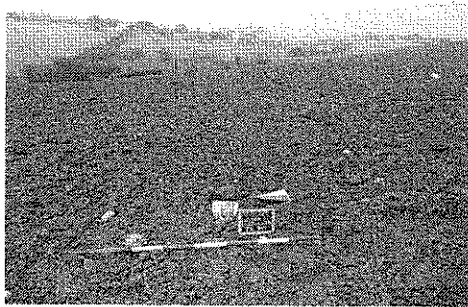


Fig. 6. Madonna di Castiglione (Fermo), a centurial farmstead.