



Frank Vermeulen, Francesca Carboni

Measuring Urbanisation in the Late Republican and Early Imperial Landscape of Adriatic Central Italy

Introduction

Although the archaeological study of aspects of Roman urbanization on the Adriatic side of Central Italy can lean on long standing traditions, it is only since the last two decades that this area of ancient Italy can fully contribute to the urbanization debate in the peninsula. This is largely the result of recent intensive field projects, such as in the valleys of the rivers Misa and Cesano in Northern Marche¹, where it is shown that a survey-approach should be fully integrated with small to large scale excavation work. Thanks to such a topographical method, preferably applied on (partially or completely) deserted sites with a high potential for surface reconnaissance, archaeologists working in this region are now in the position to look not only at such important matters as size, attributes and form of urban centres, but also at evolution, function and functional zoning. Short of total excavation of the urban areas, we are convinced that intensive overall artefact survey combined with geophysical prospections and aerial surveys, and a good use of available or newly acquired stratigraphic data, is one of the best approaches to detect the development and detailed organisation of the previously ill-known Roman cities in the area. With the hereafter presented case study we wish to underline this methodological statement.

In several articles we have presented some of the most striking results of new archaeological survey work, carried out intensively since 2003, in and around the central Adriatic coastal town of *Potentia*². The field surveys carried out by a team from Ghent University in and around this Roman colony at the mouth of the river Potenza (Marche region, Italy) include low altitude aerial photography, systematic archaeological field walking, artefact studies, re-study of excavated evidence, detailed geomorphologic field mapping, geophysical surveys and fine topographic mapping. This urban site has an excellent potential for the accumulation of new evidence by way of surface survey techniques, because of the small scale of excavations previous to our work in the area. The latter have since 2007 been joined by new excavations of the Ghent team under the direction of F. Vermeulen. Equally important is the current state of the terrain. Like many Roman towns in Marche, *Potentia* in some way became 'unsuccessful' from Late Antiquity onwards, and was completely abandoned³. As almost no present-day habitation covers the former town area and because agricultural practice still dominates the zones where its ruins lie buried, the ancient topography of

¹ DALL'AGLIO *ET ALII* 1991.

² VERMEULEN, VERHOEVEN 2004; VERMEULEN *ET ALII* 2005, VERMEULEN, HAY, VERHOEVEN 2006; VERMEULEN, VERHOEVEN 2006a; 2006b; VERMEULEN 2008.

³ ALFIERI 1977.

the city can still be well-studied with the help of intensive survey methods. In this paper we will briefly present some of the results elaborated during the on-going *Potentia*-surveys and small-scale excavations. They are representative for a different approach towards the topography of a regular Roman town, its functional zoning and changes in the use of space through time. This multi-disciplinary process builds further on the recent development of a wide range of surface-survey methodologies which have enhanced the potential for investigating ancient urban sites⁴.

The urban site of Potentia

With the foundation, in 184 B.C., of the coastal colony for Roman citizens *Potentia* (Livy XXXIX, 44, 10) the lower Potenza valley, and with it the whole area of northern *Picenum*, entered its definitive phase of Romanisation and real urbanization⁵. According to the written sources, which are particularly relevant for our topographic work, the colony probably soon received, in 174 B.C., a circuit wall with three arched gates, a street network with sewers, an aqueduct, a temple for Jupiter and a portico with shops to close the forum (Livy XLI, 27, 1 and 10, 3). Official sources for the later history of the town are, however, minimal. Around the middle of the 1st century before our era, probably in 56 B.C. (Cicero, *De Har. Resp.*, 28, 62), a major earthquake destroyed part of the town. Epigraphic evidence, however, testifies of the flourishing development of the town from the Augustan age onwards deep into the 2nd century⁶. The lack of substantial epigraphy from the 3rd century A.D. onwards could point to a downfall of the city's prosperity and, although the city became a bishops' seat around 400, it clearly did not survive the early Middle Ages⁷.

At present the archaeological site of *Potentia* lies some 100 m from the Adriatic coastline, on an almost N-S oriented beach ridge, south of the modern town of Porto Recanati⁸. The terrain is generally flat and sandy, with local gravel beds covered by a thin layer of alluvial clay, and most parts of the former city area lie today under grass and arable land. The beach ridge is cut to the south by what can now be determined as the main ancient river bed in Roman times. The present-day position of the river Potenza, more than 1 km north of the Roman palaeo-channel is a result of late and post-medieval human interference with its course⁹.

Old and new research

Before the start of our investigations in 2000 the urban site had been the subject of different topographic-archaeological activities, of which the most important are:

- Location of the site shortly after World War II by Nereo Alfieri¹⁰.
- Rescue-excavations in the 1960's and 1970's revealed parts of its northern cemetery and a housing sector in the NE corner of the town¹¹.
- First topographic plan made by Moscatelli¹², based on existing vertical aerial photographic data.
- Since the mid-eighties systematic excavation campaigns by the Soprintendenza per I Beni Arceo

⁴ See mostly: FRANCOVICH, PATTERSON 2000; PASQUINUCCI, TRÉMENT 2000; KEAY, CREIGHTON, REMESAL RODRIGUEZ 2000; RODRIGUEZ HIDALGO *ET ALII* 1999; BINTLIFF *ET ALII* 2001; KEAY *ET ALII* 2000.

⁵ For the general historical setting of early Romanization and urbanization in central Marche see e.g. ALFIERI 1977; MOSCATELLI 1987; PACI 1991; DELPLACE 1993.

⁶ PACI 1995.

⁷ ALFIERI 1977 and 1981.

⁸ VERMEULEN *ET ALII* 2005, 82.

⁹ ALFIERI 1947.

¹⁰ ALFIERI 1947 and 1970.

¹¹ MERCANDO *ET ALII* 1974; MERCANDO 1979.

¹² MOSCATELLI 1987.



Fig. 1 - Aerial view from the west on the archaeological site of the town of Potentia. Several crop marks indicate subsoil traces of the road system and the wall circuit.

logici delle Marche, have been organized on a regular basis in the monumental centre of the city¹³. These revealed a late-Republican temple with portico and parts of adjoining buildings (such as a *macellum*) of Republican and Imperial Age. The youngest archaeological finds in this area south of the town centre are dated in the early 7th century.

From 2003 onwards the Ghent University-team has developed a program of intensive aerial photography from a low flying aircraft, with yearly campaigns of systematic archaeological monitoring between spring and autumn¹⁴. These operations have produced remarkable oblique images, locating and visualizing many aspects of the suburban landscape, including the discovery of two Roman cemeteries, four roads connected to the town and several extra-mural settlement areas. The regular flights over the original intra-mural area of *Potentia* resulted in some excellent aerial views of crop and soil marks, exposing many unknown elements connected with the colony's street grid, the circuit wall, the city gates and some parts of housing and building structures (figs. 1, 2, 3).

To obtain an even more detailed vision, large-scale geophysical survey was initiated from 2004 onwards. Today almost the complete intra-mural area available for survey has been subjected to magnetometer coverage. This approach enabled us to locate many new elements concerning the street network,



Fig. 2 - Aerial view of the northern intra-mural part of *Potentia* with clear crop marks of the street network of the colony.

¹³ PERCOSSI SERENELLI 2001.

¹⁴ VERMEULEN 2004; VERMEULEN, VERHOEVEN, SEMEY 2005.

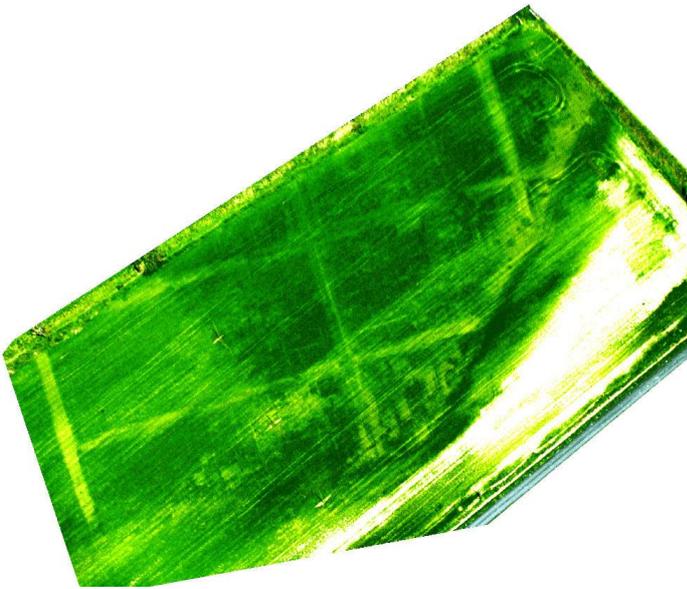


Fig. 3 - Rectified and enhanced oblique aerial view of the southern part of the city with clear crop marks of streets, sewer systems and building structures.

the town defences, a formerly unknown extra mural cemetery, the public centre and the build up areas. In addition to this relevant work, a micro-topographical model of the town area was produced, using detailed geomatics.

In 2002 and 2003 the team undertook two short campaigns of intensive and systematic field walking in and around the town-site of *Potentia*. That part of the wide urban area, inside as well as outside the proposed wall circuit, which is currently used as arable land, was subdivided in regular units and large samples of datable ceramics, building materials and other artefacts were collected in a systematic way. The results are fairly homogeneous over the whole intra-mural area of the city as conditions of visibility were almost the same in all prospected fields (fig. 4). This intensive field survey was carried out in close collaboration with the geomorphologic team of Ghent University in order to take into account biases induced by physical processes at the site, such as erosion and riverside sedimentation.

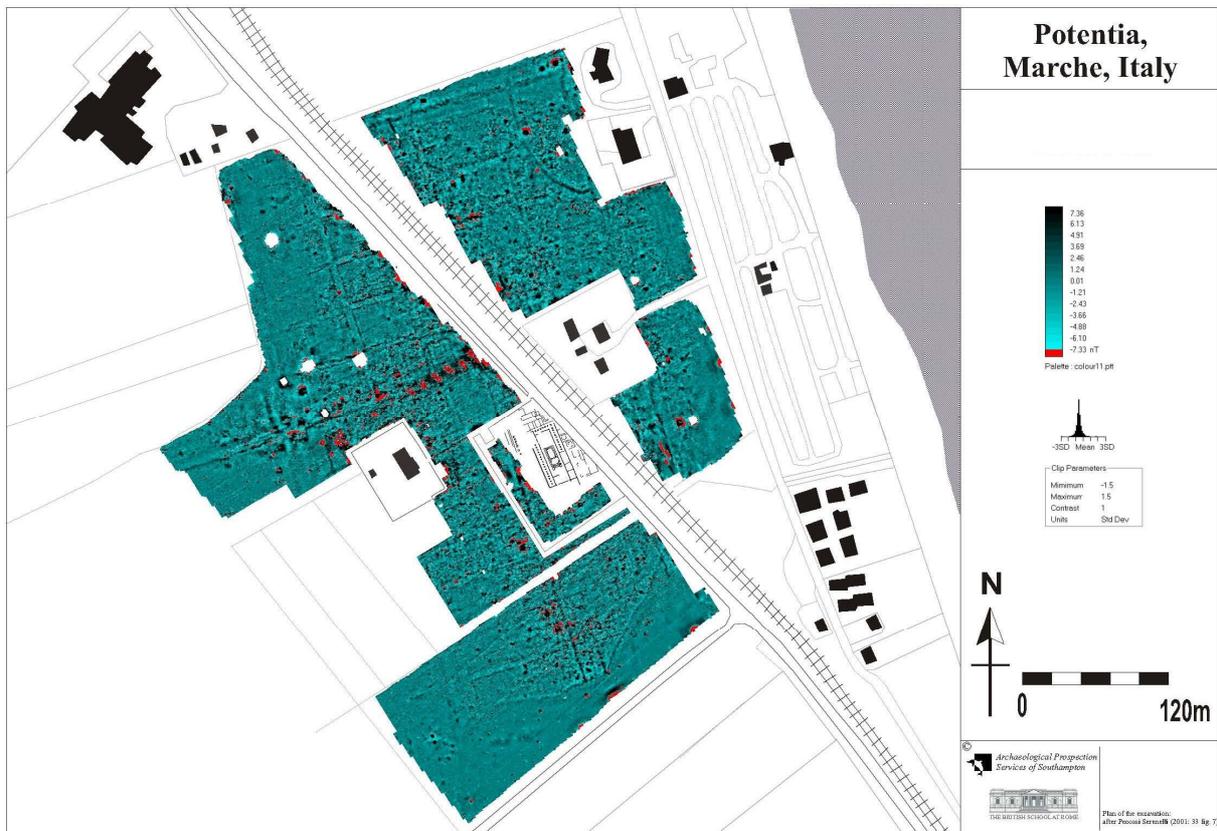


Fig. 4 - Resulting image from magnetometer survey in the intra-mural parts of *Potentia*.



Fig. 5 - Aerial view on the excavated temple sector east of the forum.

Finally also stratigraphic data were now fully taken into account. First, a re-examination was started of all excavated evidence from before 2000. Thanks to intensive collaboration with the Soprintendenza delle Marche we could not only re-study the material and structures from the old excavations in the north-eastern quarter of the town, but also integrate still un-published data and finds from the on-going excavations in and near the republican sanctuary (fig. 5) situated at the heart of the city¹⁵. Furthermore, we decided in 2007 to start new excavations to verify the location of the western city gate, as suggested by our surveys, and obtain reliable stratigraphic data about the circuit wall, the road system and the funerary area immediately west of the city. This on-going work is essential for identification of structures and dating purposes, but also with respect to the interpretation of the survey results and their topographic and functional analysis.

Summarizing results

After some 5 years of intensive new fieldwork on and around the colonial town of *Potentia* a first really detailed plan of the urban pattern is now available (fig. 6). It comprises the exact



Fig. 6 - Synthetic plan of the city and its surrounding cemeteries and road network, based mainly on remote sensing and geophysics operations.

¹⁵ PERCOSSI SERENELLI 2001.

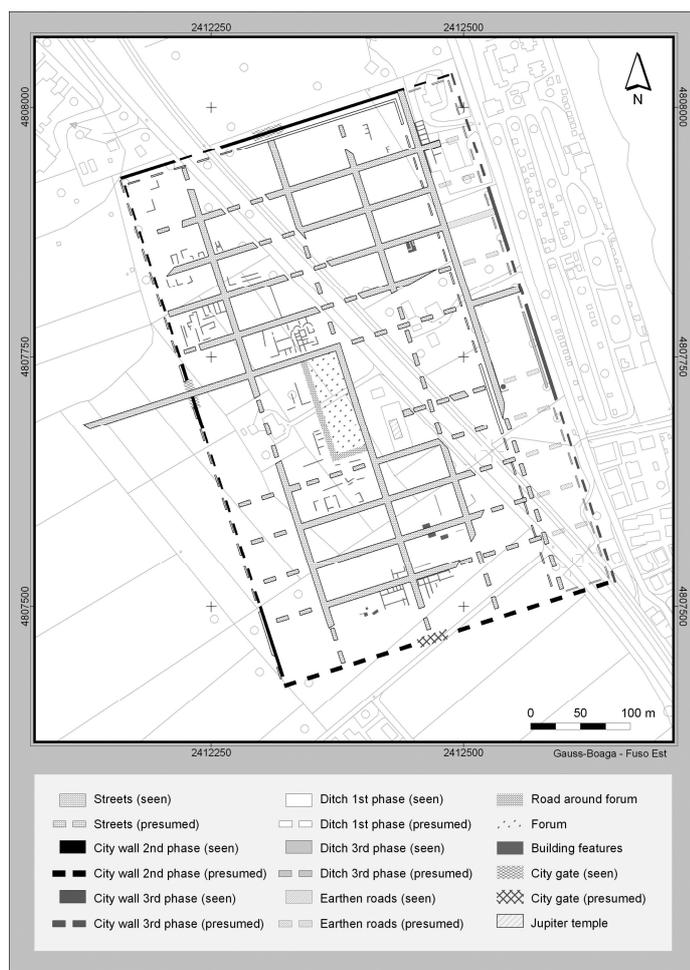


Fig. 7 - Detailed plan of some of the survey data with hypothesis for chronological phasing in the development of the town plan.

location of the town wall, including the three city gates (N, W, S), the full street network, the forum and several other monumental complexes, many elements of city housing, three extra mural funerary areas and a large segment of the suburban and rural settlement system and roads pertaining to the territory of the ancient city. Although some geomorphologic constraints mask the visibility of the ancient structures, especially in the western and southern parts of the city area, we can clearly distinguish a strictly rectangular town plan of some 525 by 343 m (almost 18 ha measured *intra muros*), lying parallel with the coast and subdivided in city blocks (over 50 *insulae*) by a regular street network. Linked to the gates in the centre of the northern, southern and western town walls are the dominating *cardo* and *decumanus maximus*, with southwest of their crossroads the now well-located longitudinal forum square.

As a result of a GIS-confrontation (overlay) of the existing and our new aerial imagery and with the information from the magnetic surveys and other fieldwork, we have put forward the idea of three major phases in the development of the *Potentia* circumvallation. We also would like to suggest that some of the detailed historical information about the early years of *Potentia* can be linked to this phasing (fig. 7).

- In a first phase, no doubt coinciding with the official foundation of the colony in 184 B.C. as mentioned by Livy, the chosen town area was probably surrounded by a max. 2 m wide ditch (*fossa*), maybe flanked by an earthen bank (*agger*) made from the dug out soil of the ditch. This ditch structure was only clearly seen as a dark and sharply delineated crop mark on vertical aerial images of the northern periphery and on some of the best oblique photography in the eastern and western parts of the city area. It seems to surround a very regular rectangular area, of only some 525 by 300 m, with an NNW-SSE orientation, and possibly represented the initial settling phase of the first colonists.

- Shortly later, according to Livy in 174 B.C., the site of the colony was fully urbanized. Thanks to the financial intervention of the censor *Fulvius Flaccus*, the new citizens clearly expressed the will to develop from a simple defended "military-looking" settlement into a real town with structures providing the base for full social and economic development. These urban structures were composed of a temple for Jupiter, a circuit wall with three arched gates, a regular street network with sewers, an aqueduct, and a portico with shops to close the forum square. It now appears that current archaeological data almost completely comply with this detailed historical information. This is for instance the case for the (second phase) of the town defences: the building of a circuit wall. The presence of a circuit wall was first attested during the cleaning in 2000 of a modern ditch, crossing the beach ridge from W to E¹⁶. Spatially the wall structure was well attested during

¹⁶ BUDINI, ROSSINI 2001.



Fig. 8 - Aerial view from the west on a large rectilinear crop mark of the *decumanus maximus* entering the city at the West gate where on-going excavations by Ghent University can be seen.



Fig. 9 - Excavations during the 2008 campaign of the area of the western gate of *Potentia*.

the geophysical surveys and especially on the vertical and oblique aerial photographs, as a quite sharp and pale crop mark, only some 2m wide. During our 2007 and 2008 excavation campaigns we were now able to study directly the remains of this Late Republican wall and the western gate connected with it (figs. 8, 9, 10). Although much hindered by *post*-Roman spoliation of the wall structure, its observed building technique, an ashlar structure of dry masonry made with large regular blocks of regional sandstone,

fits well with the chronology of the early urbanization of the city according to Livy¹⁷. Also the pottery found in association corroborates this statement. The W-gate was also built with sandstone blocks, and although again much spoliated, we could find the remaining threshold to the city and its associated *decumanus maximus*.

- Still hypothetical, but highly likely, is our identification of a third phase in the development of the town defences, one that explains an enlargement of the total inhabitable intra-mural urban space. We suggest that the circuit wall initially surrounded an area of the same size as the space confined by the first ditch of the colony (see above), but that this intra mural area was enlarged some 50 m to the east, in a later stage of the settlement's history. The initial eastern side of the city wall was then replaced by a street – evidenced by a larger and more pronounced trace in the aerial photographs than most other streets – and the new wall (and ditch?) was built on the edge of what is now a local coastal road bordering the current beach area. This hypothesis would certainly explain well why the sector in the north-eastern corner of the city,



Fig. 10 - Detail of the pivot stone of the western gate probably erected in 174 BC, ten years after the foundation of the Roman colony.

¹⁷ PERCOSSI SERENELLI 2001, 36.

excavated by Mercado in the 1970s, was only inhabited from the Augustan era (late 1st century B.C.) onwards. It would also explain well why in our aerial imagery the E-W streets of the housing blocks in the eastern periphery of the town have a different look than the other city streets (see further). Such a partial reorganization of the town is also suggested by the stratigraphic discovery of a destruction layer in the temple sector, dated around the mid-1st century B.C., when Cicero mentions a major earthquake destroying *Potentia*¹⁸. It could indicate that the town might have suffered much by this catastrophic event, and that major reorganization and rebuilding was necessary in the decades following the earthquake, as can also be seen in the whole temple area.

Apart from this first consideration regarding the total intra-mural space, and its possible enlargement during the town's long life, more specific observations can be made about the functional zoning within and around the city limits. Due to constraints of space for this short paper we will only summarize very briefly here the most important discoveries and conclusions, resulting from integrating and crossing all available data, new and old:

- all three detected roads leaving the city gates to the West, North and South, were bordered by cemeteries with funeral monuments facing the roadway;

- the suburban areas are at least partly taken in by industrial activities, especially Late Republican and early Imperial amphora production workshops;

- the central *insulae*, around the junction of the main *cardo* and *decumanus*, and lying immediately west of the temple area dug by the Soprintendenza delle Marche, represent the forum of *Potentia* (some 120 x 30 m); it was bordered on both long sides by rows of shops fronted by a portico, and on both short sides by several large public buildings;

- other public buildings located so far are, apart from the excavated temple and *macellum* directly east of the forum, a small theatre or *odeion* near the eastern city wall and a possible thermal installation in the southern part of the city;

- spread all over the urban centre are remains of housing structures, of which partial plans (some of the *domus* type, others clearly *tabernae*) are now discernable;

- according to the surface finds and some stratigraphic data the city of *Potentia* knew a serious contraction from the 4th century onwards and in Late Antiquity (until the early 7th century) only the forum sector and part of the northern half of the town space were still intensely inhabited and used¹⁹ (fig. 11).



Fig. 11 - Mapping of late Roman surface finds in the urban area seems to indicate a contraction of the inhabited area of *Potentia* during Late Antiquity.

¹⁸ PERCOSSI SERENELLI 2001, 39.

¹⁹ VERMEULEN 2008.

Conclusion

It has been argued here that combining a set of non-destructive survey techniques, such as systematic surface survey, geophysics, geomorphological observations and systematic aerial photography, with old and new excavation data, can create a methodology which is ideally suited to characterize the extent, organization and main chronology of abandoned Roman urban sites in Italy and elsewhere. The Potenza Valley Survey project builds upon these experiences and attempts to further refine the non-destructive exploration of Roman urban landscapes. It is only partly site-specific, as it is fully integrated into a broader Geographical Information System, which was developed as part of the whole project. Within this strategy three other (partly) abandoned towns in the valley (*Trea*, *Septempeda* and *Ricina*) and their hinterlands are being investigated in a similar intensive way. This work has proven to be of crucial importance for our understanding of the topography and evolution of a set of middle sized urban settlements that seem so typical for most of the Roman urbanization processes from the later Republic onwards. Their intensive investigation can procure a sound basis for more in depth analyses of the processes of change and adaptation that accompany the expansion and urban success of Rome in Italy and beyond.

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Frank Vermeulen

Universiteit Gent, Blandijnberg 2,
9000 Gent, Belgium,
E-mail: frank.vermeulen@ugent.be

Francesca Carboni

Universiteit Gent, Blandijnberg 2
9000 Gent, Belgium
E-mail: Francesca.carboni@ugent.be

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