ARCHAEOLOGICAL SURVEY IN ITALY BETWEEN ANCIENT TOPOGRAPHY AND LANDSCAPE ARCHAEOLOGY

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It is undoubtedly one of the credits of Andrea Carandini have introduced in Italy the methods of archaeological excavation and survey developed around the middle of the XX century by Anglo-Saxon scholars, inspired to the basic principles of the new archeology and in the field of landscape archeology to a deterministic approach.

In both cases, a lively debate supported this required methodological innovation, in part due to a physiological resistance to innovation; in part to an aggressive manner, the partisans of innovation brought forward their reasons. Regarding the aspect that interests us here, the surface archaeology and survey, represented in Italy mainly by the Roman and Bolognese schools of ancient topography, the judgment of the innovators is strongly negative:

- The methodology is rudimentary.
- The archaeological maps are a fine dust of pointless dots. Paradoxically, a similar expression, *broken pots and meaningless dots*, has been used to criticize the methodological drift of processual landscape archeology.[1]
- Ancient topography does not produce detailed and historically trustworthy chronological maps, due to a lack of attention to the stratigraphy of the territory, a result of a lack of attention paid to the classification and the chronological seriation of the finds. It is also criticized the map as archaeological cadastre, a key concept in the design of archaeological maps developed by the ancient topography.
- Topography is seen as a science sectorial and technocratic, to be replaced by landscape archaeology (later archaeology of landscapes), true archaeological and historical science.

This setting is kept in Appendix II (Celuzza-Regoli) in *Storie dalla terra* by Carandini,[2] which distinguishes between census of archeological findings and landscape archaeology. The first is sufficient for the safeguard of the archaeological heritage and land use planning, but goes no further.

Finally, he suggests that surface archaeology splits into an intensive archeology of sample areas (stratigraphic and historical) and an extensive archeology devoted only to build archaeological maps aimed to the protection of cultural heritage.

It should not be forgotten, however, the methodological progress due to Carandini and his school: the adoption of forms to record the data collected in the field (fig. 1), the introduction of precise definitions of site and topographic unit, the adoption of a method of intensive survey of the ground, the choice to investigate a selected geographical and

Fig. 1: Site Form, Albenga project (Carandini-Settis 1979).

environmental context moving from a historical problem. After the experience of the Valle dell'Albegna and Cecina projects[3] archaeological surveys

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1 R. Witcher, Broken Pots and Meaningless Dots? Surveying the Rural Landscapes of Roman Italy, BSR 74, 2006, 39 – 72.

2 A. Carandini, Storie dalla terra. Manuale di scavo archeologico1 (Bari 1981).

3 E. Regoli, Il progetto di ricognizione topografica della Valle del Cecina, in: M. Bernardi (ed.), Archeologia del Paesaggio (Firenze 1992) 545 – 560; N. Terrenato, La ricognizione del-

became a team effort such as archaeological excavations, conducted by a team of researchers working with different tasks for a single purpose.

These assumptions, which are the basis of the Albegna project[4], are explained for the first time in the introduction to the exhibition *Slaves and masters in Roman Etruria*[5], where ancient topography is defined "descriptive" and of antiquarian/technical character.

Carandini, instead, connects his own research method to the experience of the British School in southern Etruria, seen as a real pioneering research of landscape archaeology.

It is interesting to note, however, that in Potter 1985[6], there is a clear appreciation for the research of the Roman school, while drawing the research methodology and assumptions of the British School in southern Etruria on the English tradition.

We can find this approach, although with more subdued tones, in the manual of Cambi and Terrenato,[7] where there is a judgment more favorable to the tradition of ancient topography, albeit reductively defined as archaeological and monumental topography. In a recent manual, Cambi[8] explicitly recognizes the derivation of Italian landscape archeology from the tradition of historical topography, innovated with a stratigraphic attitude. Even in recent times, the culture of the stratigraphy is seen as missing in the ancient topography, which is considered careful to settlement typologies and not to the evolution of landscapes.[9]

However, how much is true that ancient topography was indifferent to the historical evolution of the surveyed areas? If we look back over the history of the *Forma Italiae*, can see that from the first volume of the series[10] the aim of the research is not just to be a census of archeological sites, but to serve in all branches of archaeological studies, based on the program launched by Lanciani for the *Tabula Imperii Romani*. Maps are programmed for each historical period; different geographic scales are adopted depending on the areas under investigation, a census not only of the Roman monuments, but also of the pre-Roman and post-Roman monuments. Of course, the emphasis is on "monuments" (I. Gismondi), but there is also a historical narrative, though minimal. There is a clear awareness of diachrony, even if restricted to the monuments and consequently to the settlements, but not a clear awareness of the stratigraphy of the landscape. In the following volume too,[11] a brief historical-topographical synthesis was published.

The challenge of the *Forma* was resumed only after the war, in the sixties, thanks to the financing of the CNR. In the preface to the volume of C.F. Giuliani,[12] the archaeological map is defined by F. Castagnoli both a cadastral and a topographic palimpsest. For the first time, there is a reference to the need for knowledge of the archaeological finds (ceramics etc.) and profiles of historical interest (defense system, land-tenure) are provided, with a presentation of historical and archaeological findings. Although the scatter areas are not yet cataloged, but only the findings of individual ceramics are considered. This approach, gradually more and more refined, we find in the *Formae* published in the second half of the 60s and 70s.

In 1967, the *Forma* comes out from central Italy for the first time with the publication of the work by L. Quilici, *Siris-Heraclea*.[13] This volume acknowledges, always in the preface of Castagnoli, some important news:

- The scatter areas are much more numerous than the monuments.
- They are conclusive evidence of the settlement system in the various ages.
- The topographical location of the areas of pottery sherds is important for the reconstruction of the road system.
- The distribution of the rural settlements is essential for evaluating demographic and economic issues.

la Val di Cecina: l'evoluzione di una metodologia di ricerca, ibid., 561 – 596.

4 F. Cambi – A. Carandini, Paesaggi d'Etruria (Roma 2002).

5 A. Carandini – S.Settis (edd.), Schiavi e padroni nell'Etruria romana. Catalogo della mostra (Bari 1979). See also, A. Carandini (ed.), La romanizzazione dell'Etruria. Il territorio di Vulci. Catalogo della mostra (Firenze 1985).

6 T. W. Potter, Storia del paesaggio dell'Etruria meridionale, tr. it. (Roma 1985).

7 F. Cambi – N. Terrenato, Introduzione all'archeologia dei paesaggi (Roma 1994).

8 F. Cambi, Manuale di archeologia dei paesaggi (Roma 2011).

9 S. Campana, Carta archeologica della provincia di Siena: XII (Montalcino) (Siena 2013).

10 G. Lugli, Terracina (Forma Italiae 1) (Roma 1926).

11 P. Mingazzini – F. Pfister, Surrentum (Forma Italiae 2) (Roma 1928).

12 C. F. Giuliani, Tibur II (Forma Italiae 9) (Roma 1966).

13 L. Quilici, Siris – Heraclea (Forma Italiae 10) (Roma 1967).

- Survey is not the discovery of individual monuments, but a historical research.

The volume is provided with an articulated and extended analytical and interpretative synthesis. The field experience of the 60s and early 70s allows Castagnoli to develop a precise methodology for field research, made explicit in two articles in 1974 and 1978:[14]

- The archaeological character of the topographic map versus the historical-geographical approach (since Gamurrini, Cozza, Pasqui, Mengarelli, 1891).
- Systematic coverage of the ground, taking into consideration any kind of documentation (since Gamurrini and Co.).
- The criteria of *Forma Italiae*:
  1) Archaeological survey of the territory.
  2) Taking into consideration all the data, not just the monuments but also the mobile material, and any evidence to testify a presence in every single place.
  3) Catalog in short numbered forms, located in good *topographic* maps.
  4) Graphic and photographic documentation.
  5) Interpretation of individual data aimed to a historical and topographical synthesis.

The article in the same volume on the territory of Castel di Decima offers a first embodiment of this method.

The *Forma Italiae* is then for Castagnoli: archaeological cadastre and a tool for a historical study of ancient territories. Its purpose is the historical interpretation; the base is the punctual recording of all finds. It must also consider the large amount of materials before ignored, including fragmentary and scattered elements that make sense for an integral reconstruction (structure and distribution of the ancient settlements, road network, agricultural exploitation, economic and social evaluation, evaluation of the cultural and artistic level, of geographical constraints). He considers, finally, the usefulness of the archaeological map for the management of cultural heritage (Tibur map, used for the local strategic plan of Tivoli).

Later in the 80s and 90s the *Forma* adheres more and more to these assumptions, with the increase of the intensity of the research, with the consideration of geographic areas and not only of cartographic partitions, with an increasing attention to all the finds and to their classification and dating. Until becoming vehicle of important methodological updates (Azzena-Tascio, in Marchi- Sabbatini 1996; Guaitoli, in Tartara 1999).[15] The first Congress of ancient topography[16] is the arrival point of this path.

This review history of the *Forma* does not want to be a posthumous defence of ancient topography, in particular of the Roman school, now useless, least of all I will say that the basic assumptions of ancient topography and landscape archaeology were the same, to say paradoxically, as some of my colleagues did, that basically ancient topography and landscape archaeology have always been the same thing. They are not the same thing, in my opinion, they had two different stories and different theoretical principles; it is certainly true that a clear awareness of the stratigraphy of the landscape developed slowly in ancient topography and only recently appears fully achieved. However, we can ask ourselves if it was really needed a confrontational approach between the two fields of research, or if even in Italy, as elsewhere in Europe, a "peaceful" confluence of new methods and new principles in the local tradition of territorial research would be possible.

The problem of cartography

It may seem like just a technical issue; in fact, the cartography produced by a research reflects in itself the setting of the research.[17] The maps produced by ancient topography always use a topographic scale, because they originate also from the

14 F. Castagnoli, La "carta archeologica d'Italia" e gli studi di topografia antica, in: Ricognizione archeologica e documentazione cartografica, Quaderni dell'Istituto di Topografia Antica dell'Università di Roma VI (Roma 1974) 7 – 17; Id., La Carta archeologica d'Italia (Forma Italiae), in: Un decennio di ricerche archeologiche II, CNR, Quaderni della Ricerca Scientifica 100 (Roma 1978) 269 – 283.

15 M. L. Marchi – G. Sabbatini, Venusia (Forma Italiae 37) (Firenze 1996); P. Tartara, Torrimpietra (Forma Italiae 39) (Firenze 1999).

16 G. Uggeri (ed.), Metodologie nella ricerca topografica. Atti del I Congresso di Topografia antica (RTopAnt IV, 1993).

17 B. Amendolea (ed.), Carta archeologica e pianificazione territoriale: un problema politico e metodologico (Roma 1997).

need for preservation, which requires the ability to identify the position of an archaeological resource. The first *formae*, however, used symbols to state the typology of archaeological sites and monuments and a color symbolism to explain their chronology. The adoption of symbols may seem inconsistent with the need for accurate localization, but we must take into account that the cultural heritage, considered and mapped, was primarily monumental.

The maps produced by *Forma Italiae* after the war immediately arise the problem of the most effective and accurate localization of the finds, since the first two volumes (Giuliani 1966 and Quilici 1967). There is an explicit option to punctual localization and to limitation of symbolism (fig. 2), a need for the territory of Siris-Heraclea, due to the nature of the finds, not monuments but simple
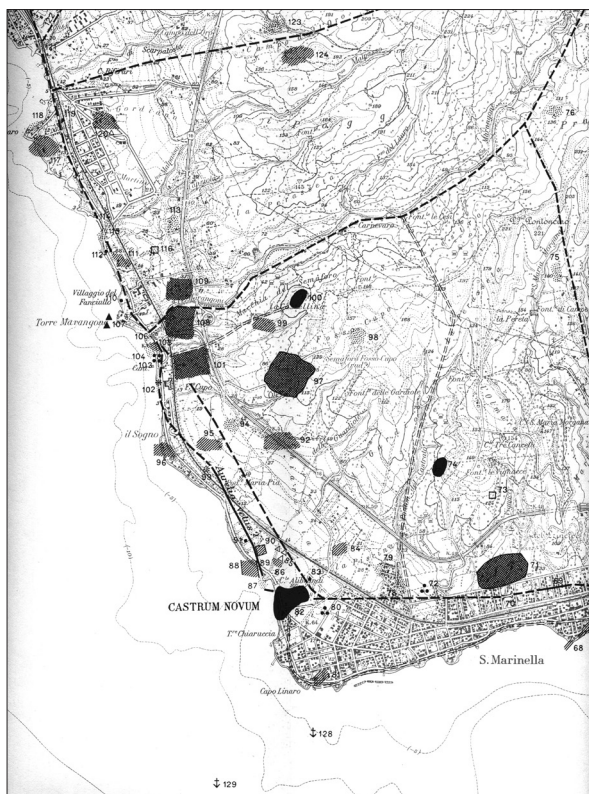

Fig. 2: Archaeological Map, Forma Italiae (Gianfrotta 1972).

areas of pottery sherds.

Sommella and Azzena further affirm this need, reiterated by Castagnoli, in two meetings on archaeological cartography held at the end of the 80s and 90s, *Archaeological Cartography. Problems and prospects* and *Archaeological Risk: if you know it, you can avoid it*.

In the speeches and the debate of the first conference, Carandini's position[18] can be summarized as follows:
- There are two schools: the Roman and the British.
- The connection between research and protection has variable aspects.
- A distinction is drawn between cognitive protection (= research) and protection planning (= archaeological maps).
- Intensive research (historical approach) must be done in sample areas, extensive research (for protection) out of the samples.

He recognizes, however:
- The need for a common denominator and integration of the two traditions (extensive and intensive archaeology).
- The leading role of the Roman school in digital cartography.

The option for a clear distinction between the two approaches to landscape research is expressed by the production of an unpunctual cartography: historical maps are important, not topographic maps (figg. 3 – 4).

In his speeches, Sommella[19], in both meetings, reaffirms:
- The two levels of *Forma Italiae* (archaeological data and historical synthesis) i.e. there is one valid methodology for both the purposes of research and protection.
- The survey of the territory must be global, i.e. no confidence on the sample areas, both for the protection and the historical research.
- The need of high quality maps (e.g. aerophoto-grammetric maps, fig. 5).
- The location of the findings must be punctual.
- The role of innovative computer cartography[20] and the introduction of GPS.

18   A. Carandini, Dibattito, in: M. Pasquinucci – S. Menchelli (edd.), La cartografia archeologica: problemi e prospettive (Pisa 1989) 285 – 290.

19   P. Sommella, Conclusioni, in: M. Pasquinucci – S. Menchelli (edd.), La cartografia archeologica: problemi e prospettive (Pisa 1989) 291 – 305; Id., Dopo Lanciani, in: M.P. Guermandi (Ed.), Rischio archeologico: se lo conosci lo eviti. Atti del convegno di studi (Firenze 2001) 20 – 28.

20   P. Sommella – G. Azzena – M. Tascio, Informatica e topografia storica, ACalc 1, 1990 211 – 236; G. Azzena, La cartografia archeologica tra tematismo e topografia, in: M. Pasquinucci – S. Menchelli (edd.), La cartografia archeologica: problemi e prospettive (Pisa 1989) 25 – 37; G. Azzena, Tecnologie cartografiche avanzate applicate
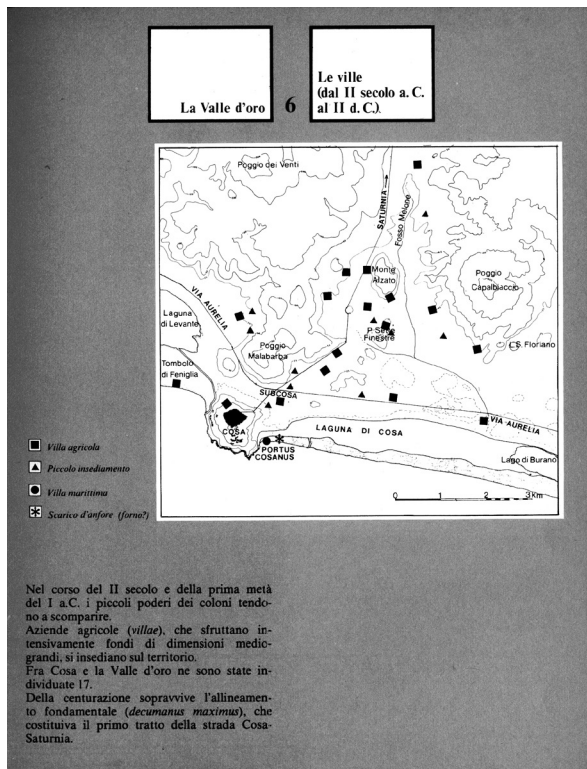
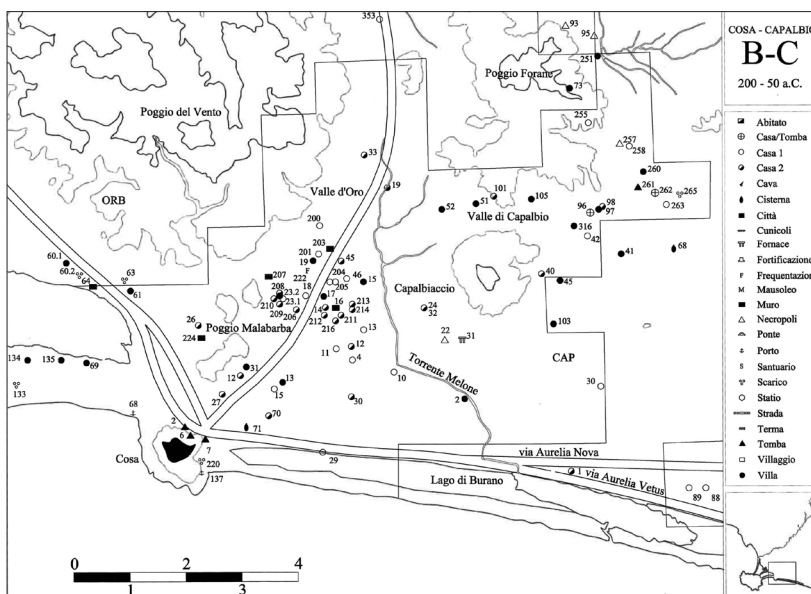Fig. 3: Phase Map, Albenga project (Carandini-Settis 1979).

Fig. 4: Phase Map, Albenga project (Cambi-Carandini 2002).

Both Sommella and Azzena[21], still use the term cadastre (for Azzena, an objective basis for our studies, with no *a priori* interpretation, but in fact we all know today that the recognition of a site in the field is the result of the interpretation of an archaeological situation on the ground).

This conscious oscillation between the two meanings of the archaeological map is evident in the third major conference on archaeological cartography we take into account, whose title is emblematic: *The archaeological map between research and planning*[22].

It is steady, in several contributions, the emphasis on cartography as a tool for historical research and an instrument of landscape protection and local planning. Obviously all papers are aware of the double purpose, but emphasize one or the other and the projects submitted are sometimes explicitly directed only to census and planning.

In the foreword R. Francovich and M. Pasquinucci, seem to underline two statements:

- The map allows a rapid assessment of the "archaeological resources" on a regional scale, from the prehistoric age to present industrial times.
- The users are:

Archaeologists to plan their interventions and optimize resources, in harmony with the development of society.

Planners because prior knowledge avoids the risk of cost deviations (variances) during project execution.

The ultimate goal is still a policy of cultural heritage enhancement.

In the speech of A. Bottini, *The archaeological map as an instrument of protection*, it is stated:

- Knowledge is aimed at the protection and enhancement, not at an abstract and speculative knowledge.
- The main target is to help the public administration to guide the choices of local planning.
- The archaeological map is essential for decision-making that affects all citizens. The archaeological map therefore cannot have regulatory power.

alla topografia antica, in: M. Bernardi, Archeologia del paesaggio (Firenze 1992) 747 – 765.

21 G. Azzena, Carta archeologica d'Italia – Forma Italiae, in: M.P. Guermandi, Rischio archeologico: se lo conosci lo eviti. Atti del convegno di studi (Firenze 2001) 225 – 227.

22 R. Francovich – A. Pellicanò – M. Pasquinucci (edd.), La carta archeologica tra ricerca e pianificazione territoriale. Atti del Seminario di Studi (Firenze 2001).
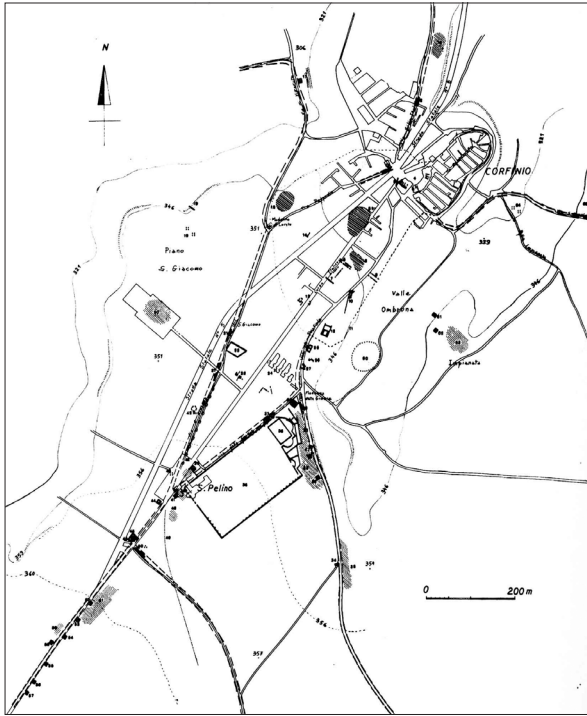
Fig. 5: Aerophotogrammetric map, Istituto di Topografia Antica, Roma (Castagnoli 1974).

- The map has no redeeming value.

The search for regulatory standards and the need for guidelines and glossaries go also in this direction.

It is, however, important to emphasize three other important results:

- The archaeological map is between inventory and forecast (of the archaeological risk, territorial and urban) (M. Milanese).
- The archaeological map must be an expression of a global archeology of the area under investigation. An archeology that studies the cultural heritage in the totality of its aspects. Globality means to give importance in the same way to all information (T. Mannoni).
- The subject of the study should be the humanized landscape, but especially in Italy the territory is studied as a settlement and relational space, and only partially and occasionally as a used space. It is an archaeology of rural settlement networks (R. Francovich and M. Valenti).

All three of these statements sound of particular interest for the development of our discipline, and it seems appropriate to note that none of these scholars was part of the two schools we have so far treated.

The methodological update

How successful was this debate in the practice of fieldwork? We looked at some of the most significant territorial research projects, or those we know better.

It seems to me that some general principles have been established, even if we cannot say that we have created a common methodological standard, a problem that concerns all the survey research around the Mediterranean.

- The survey area must be homogeneous in terms of geography, because it is more significant for processing historical data.
- The scholars who come from traditional ancient topography prefer full coverage of the ground; other scholars use mostly sample areas and targeted areas (fig. 6). Of course, a combination of the two methods is possible, if useful.
- Survey remains fundamental for research, and must be intensive and systematic. However, we are aware that survey alone is not enough, but we have to combine fieldwork with other investigative techniques, such as remote sensing and geophysics, and other sciences such as palynology, paleo-environmental reconstruction, geo-archaeology.
- The debate on the definition of site / UT / sporadic finds, the minimum survey units in the field and on the methods of collection of the artifacts (the collection of artifacts displayed on the ground should not be selective and to some extent must be controlled) was definitely useful.
- However, it is set apart the quantitative approach typical of landscape archeology of the seventies, perhaps never really implemented in Italy.
- The historical setting of the research remains prevalent.
- The use of GIS and GPS is now universal. In my opinion the full potential of GIS as a system of data analysis, rather than data management, have not yet exploited. The cost-surface or visibility and inter-visibility analyses are quite repetitive, often (not always) lead to obvious or trivial results.
- We have to record some disappointment. This also explains why the social archeology of landscapes aroused so little echo in Italy. The real perception of the landscape by human communities remains difficult to reconstruct, using archaeological data only. Often analysis has been
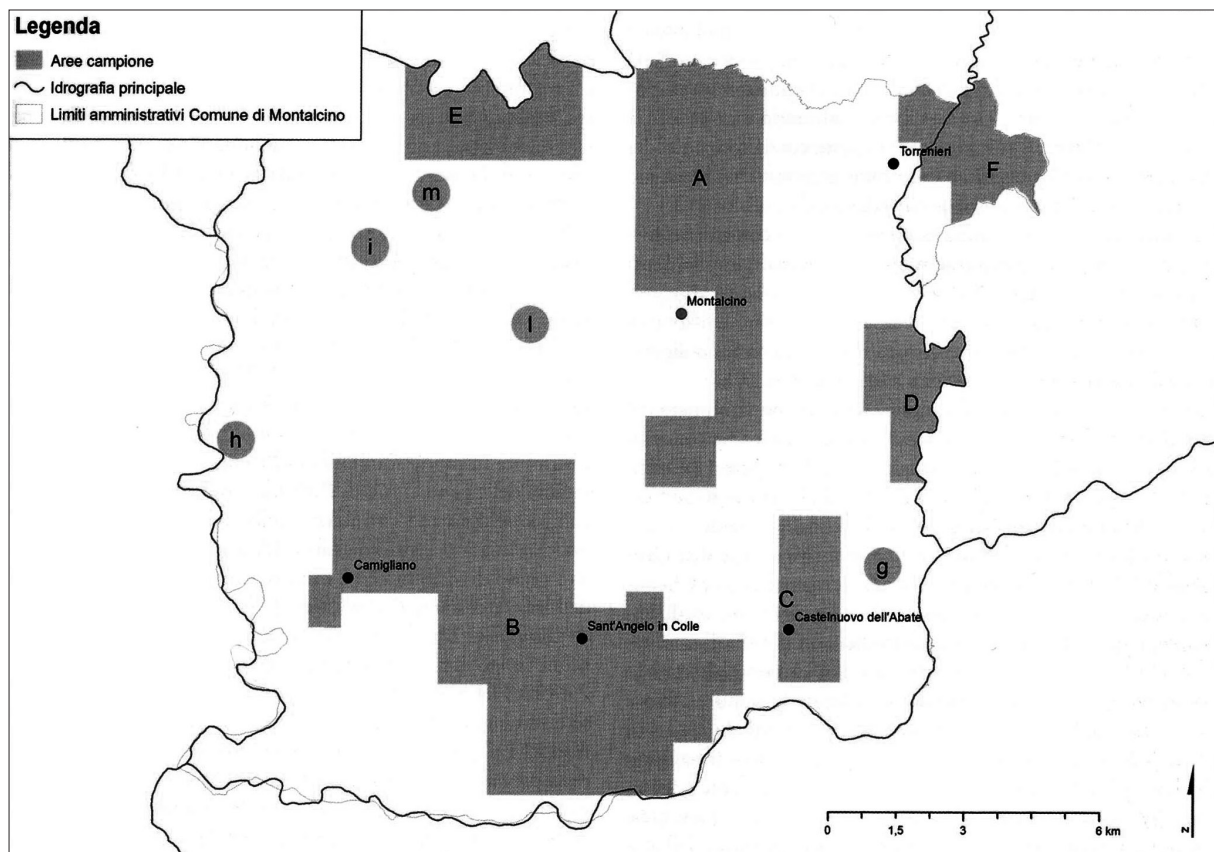
Fig. 6: Sample areas, Montalcino project (Campana 2013).

limited to the usual recurrent landscapes: settlement, sacred, ethnic landscapes, landscape of security and landscape of memory.

- It has also proved illusory the idea that GIS would allow to overcome the problems of scale. The scale of the digital maps, as well as the DEM (Digital Elevation Model) and DTM (Digital Terrain Model), affects the possibilities to analyze, just as the scale of the old paper maps.

In fact, the introduction of the Anglo-Saxon methodologies meant undoubtedly a methodological advance and required a long period of adjustment of the procedures in the field. Nevertheless, it has never led to the adoption of the principle that underlies the Anglo-Saxon landscape archeology, namely that the human activities on the territory are conditioned (determined) by economic laws, primarily by the exploitation of resources. Some attention to production systems and to the economic potential of the areas under investigation is, however, present in our research, based mostly on analyses of land evaluation.

None of the Italian researches shows a reconstruction of geo-morphological processes comparable to British and American projects, nor a comparable reflection of their influence on human behaviour. I do not mean that geologists and geo-morphologists are not included in the Italian teams, but generally, the geomorphology is used to understand the problems of visibility and their effect on the collection of findings, or it is related to settlement choice.[23] We find a suitable paleo-environmental reconstruction in few researches, even for the difficulty of collecting data in the Mediterranean environments we work without archaeological excavations and samples.

The contribution of Anglo-Saxon research was so influential in the field methodology, but, at a theoretical level, the historical approach is always strong in the Italian research, even if the questions

23 G. Leonardi, Assunzione e analisi dei dati territoriali in funzione della valutazione della diacronia e delle modalità del popolamento, in: M. Bernardi (ed.), Archeologia del paesaggio (Firenze 1992) 25 – 66; N. Terrenato – A. J. Ammerman, Visibility and Site Recovery in the Cecina Valley Survey, Italy, JFieldA 23, 1996, 91 – 109; O. Belvedere – A. Burgio – R.M. Cucco – D. Lauro, Relazioni tra geomorfologia, processi post–deposizionali e visibilità del suolo nella lettura dei dati da prospezione archeologica, ACalc 16, 2005, 129 – 152.

and problems we ask today are undoubtedly far more complex and in-depth than before.

In this sense, the affirmation of Campana that there is little landscape in the Italian landscape archeology is, in my opinion, true. Italian landscape archeology is rather a settlement archeology, even in the best and most modern sense of the word, and this is true for most (not all) of European Mediterranean landscape archaeology.

There remains the problem how to identify emptyscapes as named by Campana, i.e. those empty areas between rural settlements, which would allow us to understand the transformation of landscapes, meant as geo-morphological changes, land use, agricultural spaces, physical and biological transformation processes (pl. 1, 1-2). The role of geophysical surveys over large areas could be decisive to address this problem (pl. 1, 3). However, what is feasible with geophysical surveys over large areas? Nor can we underestimate the problems of chronology of the traces identified by geophysical surveys, which would require the extensive use of expensive paleo-environmental investigations.

Finally, I believe that we are all increasingly aware that the landscape is a complex object, which needs a variety of approaches and methodologies. It is not by chance that we moved from an archeology of landscape to an archeology of landscapes (landscapes are the sheets of a palimpsest to browse) and finally to the archaeologies of the landscapes (landscapes are many, complex and time varying and approaches and methodologies as numerous). That is, we realized that the landscapes are many and varied, and the methods of investigation can be so many. An archeology of complexity,[24] or, as some scholars prefer to say, a global archeology of landscapes.[25]

24 G.P. Brogiolo, La tutela dei paesaggi storici tra archeologia preventiva e archeologia d'emergenza, <http://archeologiamedievale.unisi.it/NewPages/SAMI/Sami-doc/tutela_paesaggi.pdf>; O. Belvedere, La ricognizione sul terreno. Problemi e prospettive, RTopAnt XX, 2010, 31 – 40.

25 G. Volpe, Per una archeologia globale dei paesaggi della Daunia. Tra archeologia, metodologia e politica dei beni culturali, in: G. Volpe – M. J. Strazzulla – D. Leone (edd.), Storia e archeologia della Daunia. Atti delle giornate di studi (Bari 2008) 447 – 462; F. Cambi, Archeologia (globale) dei paesaggi (antichi): metodologie, procedure, tecnologie, in: G. Macchi Jánica (ed.), Geografie del popolamento. Casi di studio, metodi e teorie (Siena 2009) 349 – 357; G. Volpe – G. Goffredo, La pietra e il ponte. Alcune considerazioni sull'archeologia globale dei paesaggi, ArchMed 41, 2014, 39 – 53.