

## ABSTRACT

This research concerns the population dynamics of the territory between the Sele and Lao rivers. The territory includes the southern part of Campania, the coastal area of Basilicata and the northern portion of the Calabria region. The territorial sample does not dial an indistinct area. The reasons of uniformity are exhausted in a kind of spatial contiguity. If it is plausible to take direct considerations from a synoptic view of the geographical area, one must appreciate the elements of differentiation or discontinuity in historical processes marked by peculiar and distinct human experience.

A macroscopic differentiation consists of the structural characteristics of the three cities that populate this area: Poseidonia, Elea and Laos, not excluding the indigenous element as a part of a morphogenetic phenomenon of the landscape, within a scheme of dialectical relationships, sometimes an opposition.

According to an established pattern, Poseidonia is an agrarian polis, Velia is a commercially-oriented city and we know too little about the oldest settlement of Laos to be able to insert it in one of two classifications. We know however, that it was the seat of the sybaritic people, who lived there after the destruction of their polis.

Compared to that framework the archaeological available documents reflect the land use just partially, in terms of exploitation of the basin, of settlement area, and of a place of contact and development.

The representation of one or more pictures of the population has not only the value of showing the impact that human activities have had on the region. Rather, from the examination of the terms of the humans modeling capabilities of the environment is possible to know the anthropic structures and the evolutionary processes. Archaeological data of a territory, all the sources of a landscape research in archeology, are the signs of the organization of resources on the basis of political and social level of a community, its ability to exploit soils and types of production, to rule the defensive needs and traditional knowledge systems.

Magna Graecia territory begins to be an integral part of the examination of the ancient city during the '50s and '60s of the twentieth century.

About this theme, the tradition of the historical, topographical and archaeological studies is very wide and gives us a methodological framework of numerous systems, based, in most cases, on non-systematic investigations, without any analytical and quantitative level, with the exception of recent stratigraphic excavations and surveys.

In many cases, the premises of topographical works have an historiographical purpose, such as the relationship between city and countryside, between *polis* and *chora*. At the same time, the bulk of

archaeological data, result of the tradition, still raises important questions about the organization of space in Magna Grecia. And the problem is more profound when considered in terms diachronic. That is to say following the evolution of individual territorial systems through archaeological evidence.

An accurate analysis studies of the historical, topographical and archaeological about the landscape of Magna Graecia, with particular reference to that portion of the Tyrrhenian coast examined in the present study aims to identify the most decisive aspects of approaches and methodological instances which have vivified the production of historical and archaeological synthesis in recent decades about the processes related to the ways and forms to employ, structure and organize territories and natural resources. The value of the survey lies in consapovezza that the setting of a new approach in the analysis of archaeological sources can only emerge on the basis of a thorough assessment of the logical and significant of the traditional research.

The outcome of the traditional works consists of small-scale series of maps, 1 to 25,000 or 1 to 50,000 that show the distribution of archaeological evidence, organized according to typology and chronology.

The presentation of the data leaves no room for considerations about the nature of the data. The general approach is the global census of the sources. The purpose of the catalog has more importance than the analysis. In the absence of a unitary spatial connection plan and in the absence of a chronological mutliscale grid on which projecting documents according to their intrinsic value and according to the fluctuations coming from the uncertainties of dating, bibliographical (or traditional) sources are isolated points in the space; the results create a generalized composition and locked, even if valid for a long period synthesis, not essential for the representation of evolutionary processes, articulated in time.

In this context, the aim of this thesis is to propose a different approach to the study of the territories. The main conceptual and methodological reference, followed in this work, falls within the boundaries of the current 'Landscapes Archaeology'. A field that tends to understand phenomena territorially stratified in a diachronic perspective. The study of spatial configurations, assumed to be non-random, within a framework into which themes geographical, geological, historical and archaeological are included, is, at present, a prolific field of study.

The landscape is an historical construction, realized in time and in space; it is the result of the man opera who consistently shapes the environment; it is the conditioning that the environment operates on anthropic activities, choices and events; it is a multi-genetic product. As such, the landscape is susceptible to be the subject of scientific and historical disciplines, and of spatial analysis and

physico-chemical measurements. As such, it is susceptible of being translated into working-models. At present these statements are not fully included in the scientific paradigm of studies of the Greek colonies of the West, rather they constitute only a generic reference for a research approach.

In this research, I assume the specificities of each document in order to verify its information assets, its object and each of its limitation. In fact it is not possible to use data without fully understanding the cognitive value. It means origin, purpose and degree of approximation.

The attempt to formulate new interpretations of the archaeological heritage can not ignore some basic questions. How the results of traditional studies can be integrated into a new research, which also requires the collection and acquisition of additional documents? There may be a regional analytical basis? When dealing with data of different quality, it is necessary to accept the data and find minimum correlations or it is better to look for ways to increase the quality of the data? Above all, in which way a database of territorial nature can not run the risk of becoming a mere list of sites and monuments, although produced on the basis of a detailed process of localization of the evidence?

In this perspective, the research has advanced in three directions. Firstly the main models of territorial behavior developed by past research were analyzed. Then the research has provided an analytical work of gathering evidence. In this phase the catalog of archaeological finds has been updated by consulting all available bibliographic and each Soprintendenza's archive. In these cases has been paid attention to the work of recontextualization space of sources, with the design of digital places of tempering. Finally, the study focused on the development of technological tools to analyze the data collected and to promote a problematic approach to the study of territory in view of integrating historical, archaeological and environmental sources

At this stage the project has provided the following schedule of work:

- Construction of a Geographic Information System, vector-based, multiscale and multilevel.
- Construction of a Relational Data Base
- Construction of a new model, multidimensional, valid for the topological analysis of the functional, spatial and temporal archaeological data.

In this regard, the work has addressed the problems regarding the registration, the representation and the processing of material sources for the study of the territory.

This has led to the formulation of a logical and formal structure for the management and analysis of archaeological sources taking into account the nature of the data, the spatial reasons (scales and symbols) and the dimension of time (chronology and duration).

It is not only a problem of data transcription in related tables, but a question of development a context of analysis in order to build spatio-temporal relationships.

The data are in fact cultural entities, characterized by spatial, temporal and functional variability. The change in the levels of approximation and of accuracy of each of the three entity changes the cognitive value of the data. On the basis of these synthetic considerations we arrive at the point of maximum criticality that concerns the evaluation of the data in relation to what has been modeled in traditional studies.

The construction of the data-model used to investigate the configurations of ancient populations responded to this need, first of all: check the consistency of the traditional interpretations in the light of the characteristics of archaeological sources. Similarly, the data-structure allowed us to formulate various hypotheses of cultural behavior of the territories. The ultimate goal of the work is in fact to propose a multidimensional story that weaves its laws with those of time and space and depends on them. In this way, the research proposes frameworks settlement dynamics and introduces new aspects about the evolution of population.

The research work on the solutions adopted to integrate the archaeological data in a single system of documentation, designed for GIS management, has also led to an in-depth analysis of the state of the art about the use of computer techniques and methods in archeology. In particular, I have addressed the issues of the options to create a database that can record and integrate the variety of information available without running the risk of reducing the cognitive potential of the data. At the same time, I have analyzed the current limitations of GIS to manage and represent the dimensions of the space, the typology and the time in terms of their integration. In this regard, I have tried to build up a multifaceted relationship, in which the various orders informational contribute largely to create a meaningful context. In these terms, the territory is transformed into landscape, as a result of the composition of multiple dimensions: the space that loses the simple value of a topographic box; the time that exceeds the sense of a mere linear sequence of events; the function that varies depending of arbitrary choices. The three dimensions of the landscape are integrated and interdependent and are organized in a logical structure of information, based on the assumption of specific conceptual constructs.

In this sense, the implementation of the data model has not only involved the construction of a technological base, but it is also linked to a theoretical work about the ways to classify, analyze and represent archaeological entities within the territorial context: the configuration of the anthropic landscapes.