

A HERITAGE TO BE PRESERVED:

TOPONYMY AND MICROTOPYMY IN TUSCANY

Abstract:

A research based on the GIS technology has been funded by the Tuscany Region and appointed to CIST (Centro Interuniversitario di Scienze del Territorio) and IRTA-Leonardo (Istituto di Ricerca sul Territorio e l'Ambiente) aiming at digitalizing the place-names extracted from the regional historic cartography. Place-names are indeed considered relevant elements in order to define the identity of Tuscany. The research is both synchronic (it collects place-names in series) and diachronic (from 1835 to the present day), and investigates: (i) the historical place-names which are not recorded in the regional topographic map; (ii) place-names which have moved; (iii) place-names which have changed.

Keywords:

Toponymy, Tuscany, Historical Cartography, Heritage

The research and its sources

The research aims at collecting toponymic denominations referred to out-of-town areas into a geographical database. Therefore, information concerning streets and squares inside the cities are ignored. Indeed, evident differences are found in urban and extra-urban place-names. In cities, above all from modernity to the present day, toponymies result from formal and bureaucratic choices which are typical of every municipal administration. On the contrary, in out-of-town areas toponymic denominations often come out of informal, bottom-up decisions, and official maps reflect the specific choices of the inhabitants, amplifying their approach and culture.

Due to technical and organizational needs, the research initially focused on both the natural and anthropic toponymies which refer to points or areas. Later, place-names referred to lines, such as rivers and roads, have been included in the geographical database.

The research is subdivided into two phases: the first phase recollects place-names. These names are digitalized in a chronological order and put into a geographical database. In the second phase the geographical database is analyzed with a multidisciplinary approach thanks to the support of diverse scholars.

Given that the research aims at reviewing and improving the regional toponymy digital archive, the start-point is the historical Tuscan cadastre. Such a cadastre has been edited in the first half of the nineteenth century and recently reorganized thanks to the 2004 CASTORE project, which consists of a collection of the historical cadasters of Tuscany and is the main source for the research. CASTORE indeed assembles the regional historical cadasters which are:

- the General Cadastre of Tuscany (1817-1835) made during the domination of Ferdinando II and Leopoldo II, Grand Dukes of Tuscany, referring to large part of the regional territory;
- the Bourbon cadastre which had a start in 1829 and has been completed in 1869 after the Unification of Italy, related to the territory of Lucca;
- the Este's cadastre, related to the territory of Massa and Carrara (1820-1835).

Maps stored in the Archivio di Stato of Tuscany have been studied, registered and scanned: 12,000 digital objects have been created. These objects have been accurately geo-referenced and then they

have been edited online at the CASTORE website so as to make them accessible for free through the WebGIS and the Web Map Service (<http://www502.regione.toscana.it/geoscopio/castore.html>).



Figure 1: Historical cadastre (1822), referred to Monteriggioni (Siena)

CASTORE is made up of a collection of geometrical parcel cadastres: this means that properties were surveyed by public officials who depicted the entire possession, hydrography, road system, and land use included. Its scales are 1:1,250-1:2,500 for main cities; 1:2,500-1:5,000 for smaller towns; 1:10,000-1:20,000 for index maps.

After the study of the historical cadastre, the IGM cartography has been studied too. IGM maps have been edited after the Unification of Italy in a 1:25,000 scale. IGM cartography is originally targeted to the military but has become a fundamental resource for the middle-sized topographic cartography.

Large differences are easily found between IGM and CASTORE cartographies, due to the different scales and the less detailed information which are found in the IGM. Anyway, the comparison between the two cartographies is particularly interesting, due to the different historical situations they depict.

Moreover, the present-day cadastre is analyzed too. This cadastre is in 1:2,000 scale and has a relevant and highly detailed depiction of the territory.

The geographic database resulting from the research complete toponymy information which are found in the Carta Tecnica Regionale of Tuscany. The latter map is made up of a series of cartographies regarding the entire regional territory at a 1:10,000 scale, and urban areas at a 1:2,000 scale.

Analyzing the results

As seen before, the research is focused both on collecting in a single geo-database toponymies which are indicated in four cartographies and on defining transformations occurred in the last two centuries.

Combination and confrontation of these diverse sources define a relevant digital database. Indeed, the new geo-database is based on a conceptual model which is apt for relating acquired data with

external databases. Moreover, linguistic and functional permanence of place-names is found. Three diverse fields are identified, each related to one cartographic resource (CASTORE, IGM, present-day cadaster and Carta Tecnica Regionale). In other words place-names found in each sources are inserted in specific tables. Variations are indicated in alphanumeric codes.

The structure of the database defining the regional toponymy changes is summed up in the following table which identifies four dynamics: (i) places holding their original name; (ii) places losing their original name; (iii) places acquiring a new name; (iv) places changing their original name.

Old name	Present-day name	Dynamic
PODERI BASSI	PODERI BASSI	The name was and still is found
Paganella	N.A.	The name was and is no more found
N.A.	Villa Azzurra	The name was not and is found
POGGIO AL BÀCIO	Mazzetta	The name was and is found but is different

Figure 2: Simplified logical structure of geodatabase

Moreover, data could be crossed and integrated with other geographical information, and could be edited in cartographies.

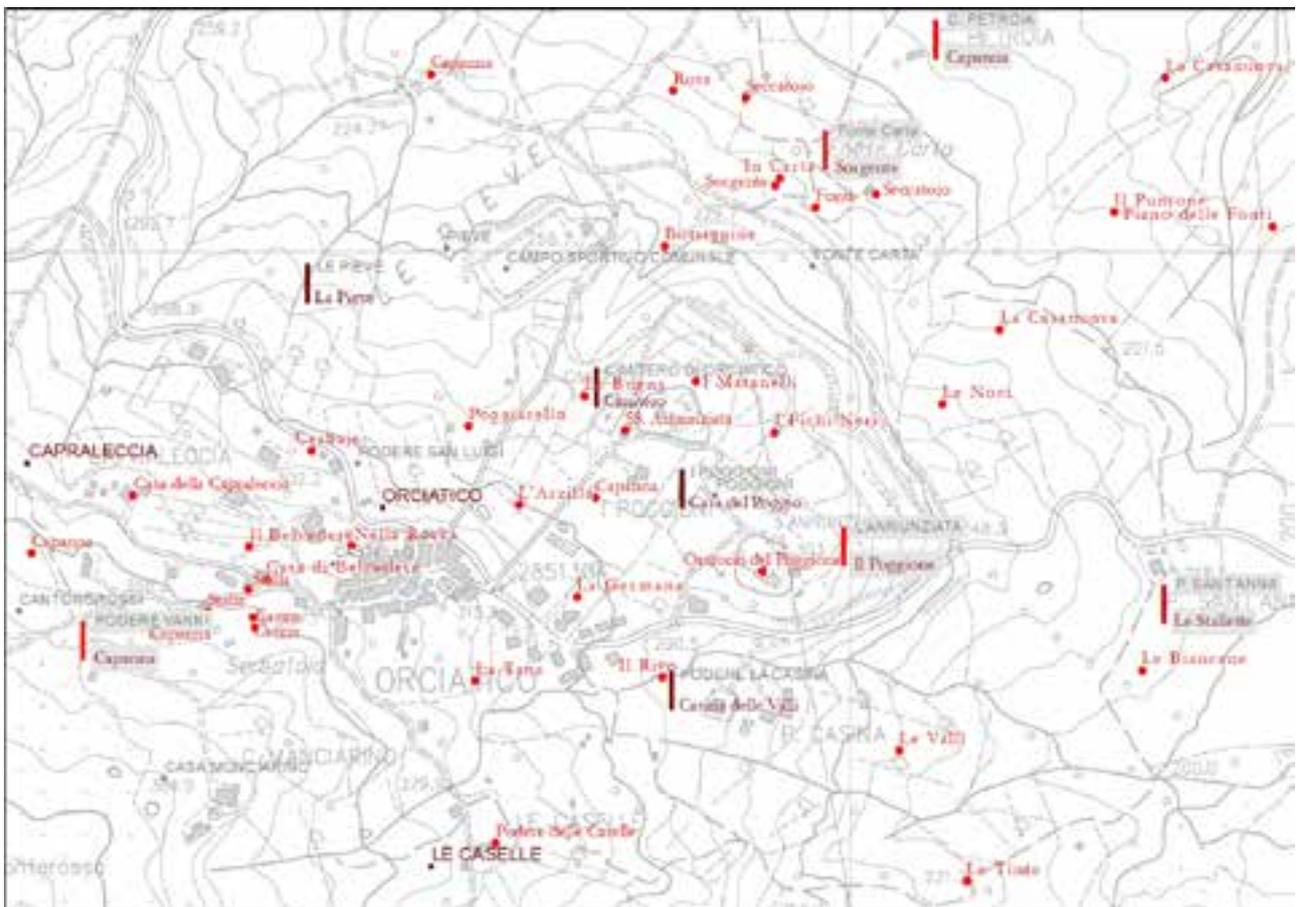


Figure 3: The integration of the sources in a brand-new cartography

Permanence, cancellation and creation of place-names

Thanks to the research, toponymy information in Tuscany is strongly improved. Moreover, the analysis put in evidence relevant differences between the diverse areas of the region.

In some areas of Tuscany, only a slight part of the toponymy found in the historical cadastre persists, while large part is missing. Usually, this happens in the surroundings of the main cities, especially Florence, where farm abandonment has been relevant after World War Two. Therefore, place-names referred to the old agrarian system (villa, podere, mulino, etc.) have frequently disappeared in these areas.

Generally speaking, missing place-names are rare in areas located in the South and the East of Tuscany, around the estuary of the Arno river, and in the whole coastal region. Missing place-names are instead frequent in the area going from Volterra to the northern border of Tuscany through Valdarno Inferiore, Val di Nievole and large part of Garfagnana.

On the contrary, new place-names are particularly frequent in other areas of Tuscany, for example in Maremma. Here, until large part of the nineteenth century, swamps and uncultivated land were particularly common, above all in the surroundings of Grosseto: in this area, only 18% of the land was cultivated at that time, and population was thus very low. The same area instead is presently deeply cultivated due to the massive land reclamation which occurred between the second half of the nineteenth century and the second half of the twentieth century. Even if the area around Grosseto is presently less populated than the rest of Tuscany, apart from the mountains, population is now much denser than in the past. This demographic increase is documented and reflected by the growth of name-places.

New place names are particularly frequent in the most populated areas of Tuscany, above all in the surrounding of Siena and in the densely populated area between Florence and Lucca.

Moreover, historical toponymies survived in some places due to the resilience of the traditional agricultural system. Indeed, in some part of Central Tuscany, such as Chianti, between Florence and Siena, viticulture has grown throughout the entire Twentieth century, also becoming a relevant economic source. In such a case, the traditional landscape survived, along with the place-names.

Toponymy changes are frequent in the central region of Tuscany, above all in the surroundings of major cities such as Florence and Siena. On the regional border, instead, and in the entire western and southern areas of Tuscany, name changes are particularly rare.

Density matters

Results of the analysis of the toponymy density in Tuscany are here presented. Density toponymy refers to the amount of place-names found in every surface unit between the half of the nineteenth century and the beginning of the twenty-first century.

A confrontation between the present-day density and the historical density is therefore developed. Such a confrontation is based on the *Point Density* function, which is applied to the database of the points referring to the toponymies found on the cartographies. Evaluation is based on a circular neighborhood with a 4000 meters ray, and it conveys the place-names density per square-kilometer. The present-day toponymy density, indeed, is particularly high in the most populated areas of Tuscany. Therefore, toponymy density emphasizes demographic density. Highest toponymy density is found indeed in the area between Florence and Lucca, in Valdarno Inferiore, in Versilia, along the Serchio river valley. Toponymy defines here a nebulous shape linking the main cities of Tuscany. The highest density value is thirteen place-names per square-kilometer.

In the historic cadastre, although density was higher in these same areas of the region, toponymy was particularly polarized in the immediate surroundings of the main cities, with a weaker density in the vast areas between two or more cities (e.g. Pescia, Figure 5). The density peak registered in this period is twenty place-names per square-kilometer. Moreover, toponymy was denser in some areas which presently are less dense. Such a difference is evident for example in the surroundings of Volterra, in Garfagnana, in the Alpi Apuane area. Moreover, areas once marginalized and poor of

toponymic denominations, and in particular Maremma (e.g. Braccagni, Figure 6), although presently less dense than other parts of the region, have faced toponymy growth.

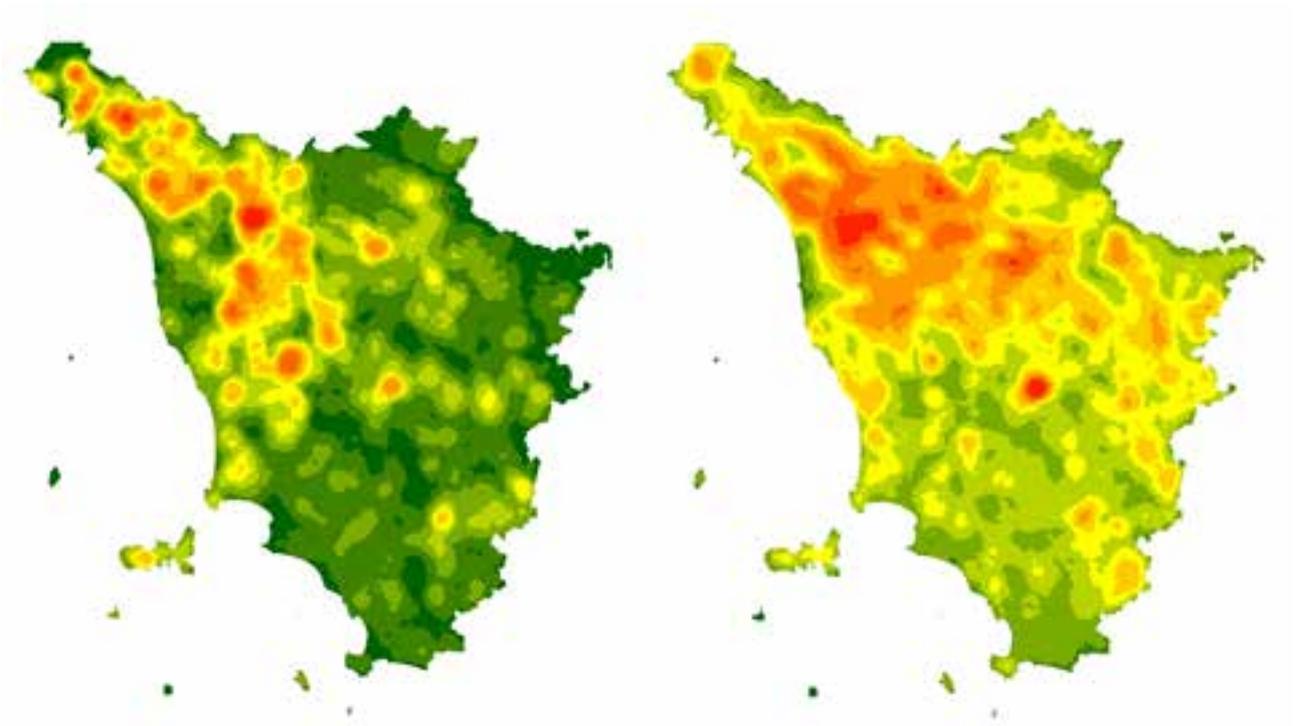


Figure 4: Toponymy density in Tuscany.

On the left in historical cadastre, on the right in the present-day cadastre. The green color represents lower densities, the red color higher densities



Figure 5: The surroundings of Pescia (Pistoia), on the left in 1954 on the right in 2014; the first shot represents the traditional territorial structure typical of central Tuscany



Figure 6: Braccagni (Grosseto), on the left in 1829 (historical cadastre), on the right in 2010 (Carta Tecnica Regionale Toscana); the first map represents the traditional territorial structure typical of Maremma

Summing up, the toponymy confrontation between the historic and the present-day cadastres puts in evidence a more homogeneous density today than in the past. Indeed, in the past, density was particularly polarized in suburban areas, fast decreasing going farther from cities and small settlements. Moreover, density was once higher in some mountain areas which are presently less rich in place-names. On the contrary, in the south and in the west of the region, it was weaker than presently.

These relevant changes are due to:

- the growing residential decentralization of the main cities due to numerous moves directed towards their surroundings;
- the massive growth of rural and urban settlements in the coastal regions, often related to the massive development of tourism;
- the reclamation of swamps both in the inland valleys and, above all, in the coastal valleys;
- the abandonment of mountains and hills which were previously cultivated due to considerable human efforts.

Summing up, toponymy enlightens the territorial identity, and helps identifying and explaining it. It puts in evidence characters, geographical aspects and the history of the places. Place-names, therefore, should be read according to historical periods, societies and ethnic groups which have created them.

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