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Looking for a coastal profile: Elba Island as a model for historical iconographic interpretation

Keywords: Elba Island; historical iconographic materials; dynamics of coastline; portolan charts; maps; views.

Summary: In the following pages we propose a discussion around questions connected with the selection of historical iconographic materials. We deal with a topic which is propaedeutic to the georeferencing work or to any application of digital technologies to cartographic heritage objects. It has also strong implication with the use of historical iconographic materials in order to establish the condition of territory in modern period (XVI-XIX cent.).
That's why we will look at the historical iconographic production which reproduces Elba Island between 14th and 19th century.
Placed in the Tuscan archipelago, Elba is the third largest island of Italy with a surface of 223 km2. We may consider Elba not only a significant case of study but also a representative model of an area which attracted a large and composite iconographic production. Its insular character encourages the design of a territory in the fullness of its physical (and maritime) borders: a condition which we hardly find in the iconography of continental coastal strips. The history of this island testifies of the political fragmentation of a territorial unit. Elba was ruled by the Appiani House of Piombino but in 1557 borders were fixed to delineate the Portoferraio enclave of Tuscan Grand Duchy while Porto Longone (nowadays Porto Azzurro) moved to Spain at the end of the same century. The political events together with the centrality of Elba in the Mediterranean routes on the one hand produced a large amount of iconographic materials and on the other hand allow a differentiation of figures as a result of the drawings of different navies and States.

Terrestrial maps, nautical charts, views, as well as architectural drawings, have all contributed to the delineation of the Tuscan coastline during the past centuries. These materials have also contributed to our understanding of the natural and anthropic phenomena that have profoundly changed some portions of the low sandy coasts over time, and to our understanding of the dynamics and even, in some cases, the cause of such changes. Of course maps, like any other historical source, may be reliable or misleading, may focus on particular aspects of a subject at the expense of others; it is therefore up to the historical investigator to assess the consistency and validity of cartographic representations. Historical investigation becomes key when you consider drawings that, from the fourteenth to the nineteenth century, only slowly come to form an accurate representation of the profile of Elba Island. During this long period, Tuscany's largest island—like the rest of its archipelago—assumes contours that vary depending on the authors of the map—whose decisions frequently border on arbitrariness. Nevertheless, a careful reading of these maps which may appear, by today's standards, incorrect or containing omissions, brings out certain elements, sometimes unique and often of great interest.
A step forward in the acknowledgement of the reliability of iconographies can be done by identifying the motives and the period in which the map was drawn, its author and any school of refer-

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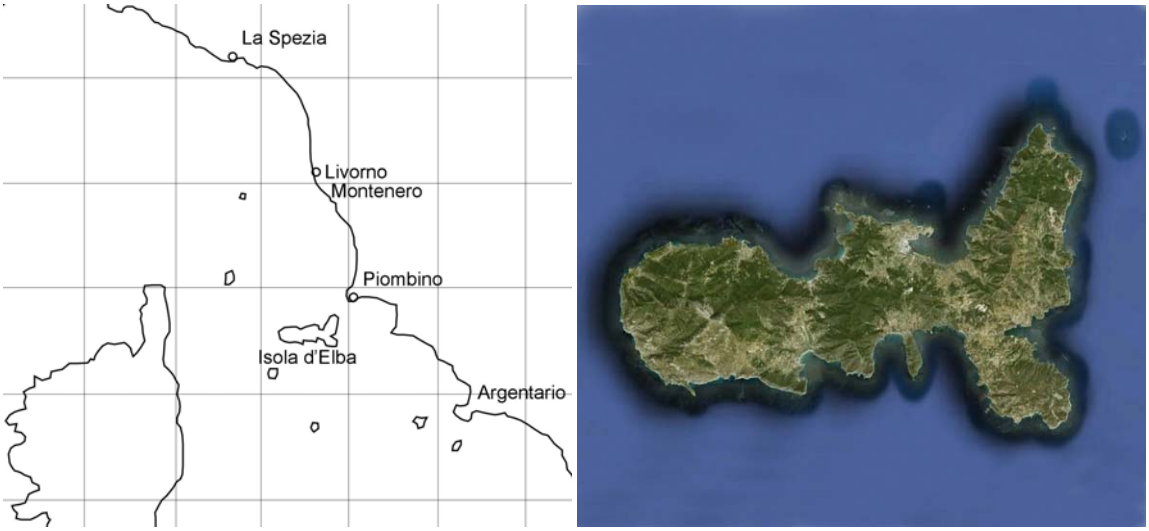
ence he may have had. Comparative analysis deals, however, with three elements which, as we shall see later, may be misleading, if only because some iconographic types (as in the case of the nautical and Portolan charts, the Isolarii and, to a lesser extent, of landscape painting), were not conceived to respond to the needs for land management. Such maps do not conform to the model of representation to which we are accustomed today. Emblematic, in this sense, are works of medieval nautical cartography (Fig. 1-3)[1]. These are works which represent for us, once you put aside the defects of Ptolemaic representations of the world of the fifteenth century, the only charts of reference for the Mediterranean shores during the centuries under consideration. Naturally, the portolan charts have their limitations. First and foremost of these is scale: a drawing of a Mediterranean area of 2.51 million square kilometers which can extend up to 3700 km in longitude, using a goat skin that could commonly fall between 51-66 cm in height, and 90-102 cm in length, Consider also, with one exception with regards to the Atlantic coasts (Lepore, Piccardi, Pranzini, 2011a), that these charts were not drawn with a technique derived from astronomical measurements, or geodetic standards, but were the result of data collected during a sea voyage that have to do rather with nautical directions and distances measured in time.



Elba Island.

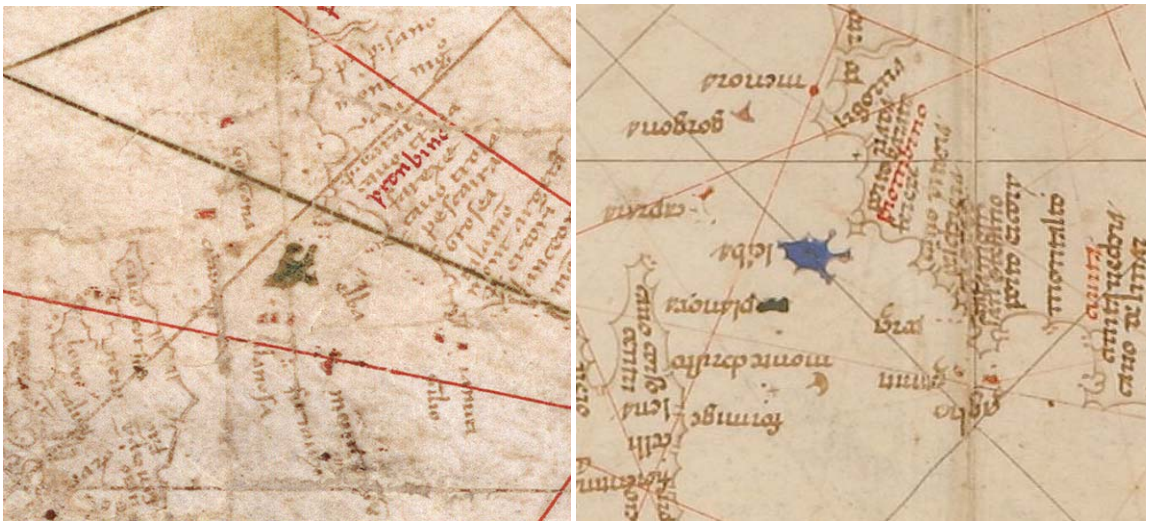


Figure 1-2: Pietro Vesconte (y. 1311) (Detail) and Anon. veneziano (II quarter XV cent.) (Detail).

1. ASF, Carte Nautiche, 1; BPP, II, 32, 1624; ASF, Carte Nautiche, 21

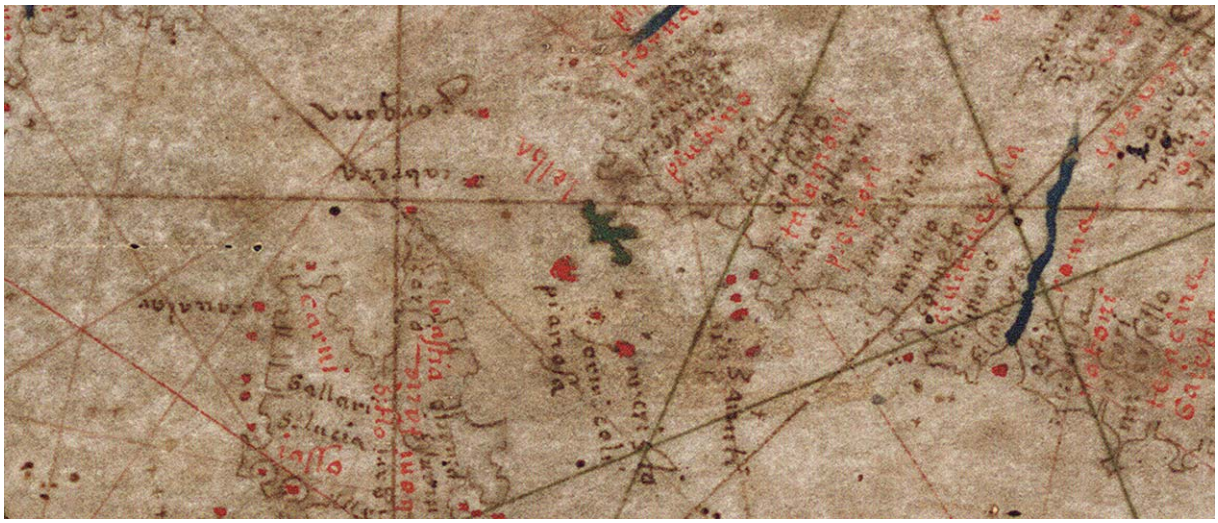


Figure 3: Placido Oliva (y. 1620). The Tuscan Archipelago (Detail).

The portolan chart describes coastal profiles, but the chart's scale and the limits of a technique which, among other things, should align itself with the ability of its recipients to understand this representation, called for a simplification of the coastline resolved through an elementary yet pragmatic device: the chart contains a selection of coastal components aimed at guiding the navigation and therefore focuses on items of specific interest to sailors. This device is evident in the marking of the depth of the bays, in the exaggeration of the size of the capes, and in the oversizing of islets and reefs.

In 1403, Francesco Beccari inserts a latitude scale that we will find repeated by other cartographers only in the following century. What we are most interested in emphasizing here, however, returning to the question mentioned previously regarding the identification of the date of a map as a reliable indicator of its significance, is that a comparison of the positions of the Atlantic toponyms of the chart of 1403 and of those same areas drawn in the four nautical charts elaborated between 1504 and 1575, highlights the precision of Beccari's chart. Parallel examples occur in terrestrial cartography (Lepore et al., 2011b).

When we address a map's author, another indicator of the reliability of the cartographic product, we are again faced with a complex issue—if only because a substantial part of the tens of thousands of geo-cartographic products produced between the thirteenth and eighteenth century are often anonymous and undated. Nevertheless, even when a map is signed by one of the most famous authors, some considerations are necessary. The splendid atlases of *Theatrum Orbis Terrarum* by Abraham Ortelius, as explained in the *Catalogus Auctorum* that accompanies the first edition of 1570, are the result of a selection or a revision of other maps prepared in different countries and periods. Ortelius's work reveals an obvious inspiration from the new geography of Mercator and establishes the definitive overcoming of the Ptolemaic view. However, the many maps presented in his atlases (such as those that served as models or inspiration for new maps) may have been drawn in the previous years, sometimes even in different centuries. Thus the 1570 map of Europe that extends to the partial representation of Asia and Africa highlights the inspiration drawn from Olaus Magnus' *Scandinavia* (1539) and Giacomo Gastaldi' *Asia* (1559) and *Africa* (1564). In addition, in his *Catalogus Auctorum*, Ortelius turns once again to the works of Petrus Apianus (1495-1552), Cornelis Anthonisz (Cornelius Antonii approx. 1505-1553), Johan-

nes Putsch (Johannes Bucius Aenicola, 1516-1542), Caspar Vopelius (1511 - 1561), Martin Waldseemüller (1470 - 1521) and others[2].

Regarding what concerns us more directly here, the *Tuscany* map of 1570 makes explicit reference to the 1536 map of Girolamo Bellarmato (Fig. 4)[3], while the *Dominio Fiorentino* that appears in the 1595 atlas (and will be reprinted until 1645), reveals the debts that it owes to the map of Stefano Buonsignori, engraved by Vito Domenico in 1584: this map will remain the primary source of subsequent cartographic representations released in Tuscany throughout the seventeenth century and well into the eighteenth century (Rombai, 1993). The island drawings in the table *Insularum Aliquot Maris Mediterranean Descriptio* of 1570 (which includes Elba, Sicily, Sardinia, Corfu, Djerba and Malta) are the result of several different authors and dates of composition (from anonymity to Jean Quintin Lafreri, from Giacomo Gastaldi to Fabio Licinio etc..). The perpetuation of a geographic figure, even for *only* a half of a century, can become a problem when we come to study specific coastal strips (Guarducci et al., 2011);. It is enough to consider the actual phenomenon of the retrogradation of the mouth of the Ombrone river, which has now exceeded a growth-rate of 10 meters per year (Pranzini, 2001). This rate of erosion is not much higher than that of the progradation which took place, in the same area, between XVII and XVIII century.

Figure 4: Girolamo Bellarmato, Tuscany in 1536 (Detail).

In the world of pre-geodetic maps, the *cabreistica*, showing only modest portions of the Tuscan territory (we refer in particular to the Grand Duke's maritime "farms," or both the private and Ducal land holdings) is the one that ensures—taking into consideration the necessary interpretive premises—the most realistic rendering of a territory and a continuous updating of geographical data. To the contrary, to ask for such updating is unrealistic in the case of regional chorographies.

Maritime landscape painting, on the one hand, gradually overlaps *cognoscenza* (the descriptive information already written in the portolans,) and, on the other hand, also informs us of those coastal strips neglected by the nautical charts. Views also insert themselves into the spaces already occupied by the micro city views that we find in the less pragmatic portolan charts. Cartographers already engaged in terrestrial maps may have been challenging themselves by making these paintings. Commanders, ship officers, and sailors intent on completing portolan charts or taking

2. http://www.orteliusmaps.com/book/ort131.html
3. ASF, Carte Nautiche, 39

notes for their preparation, may have been taking advantage of the downtime of a sea voyage to engage in landscape painting. At the same time—in journeys from one port to another—the painters may merely have been travelers or merchants perhaps motivated by a geo-naturalistic interest or more simply by picturesque subjects. Only at the beginning of the second half of the seventeenth century, and thanks to the French views which will have a profound influence on all of the Italian production, the journalistic, amateur or pictorial approach to the representation of the land (well expressed in the seventeenth-century Figure 5), goes side-by-side with the more rigorous cartographic representation of the coastline expressing a real interest in the actual forms of the coastal cities (Fig. 6)[4].

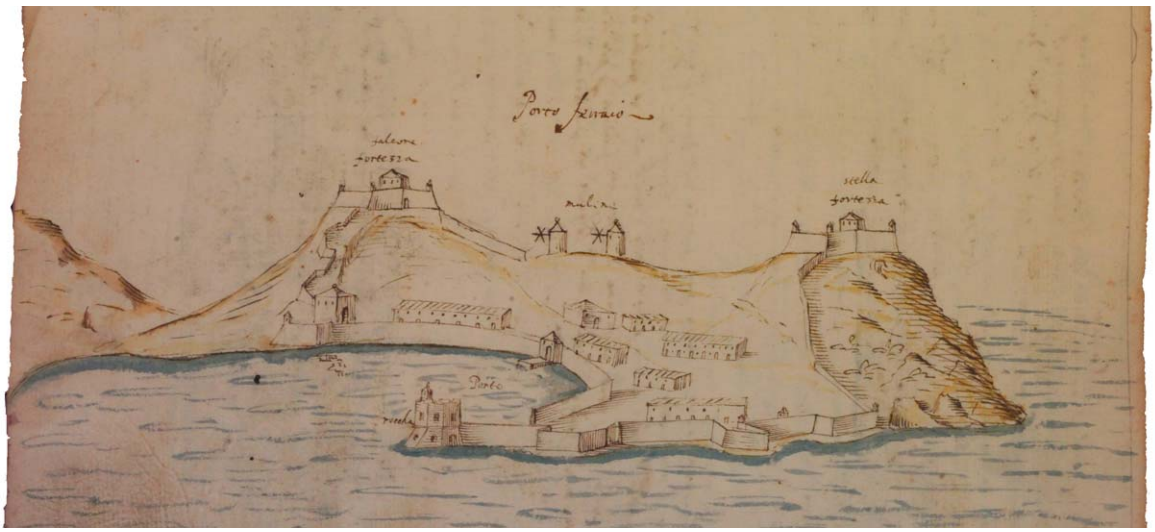


Figure 5: Erasmo Magno da Velletri, Portoferraio in 1602 (Detail)

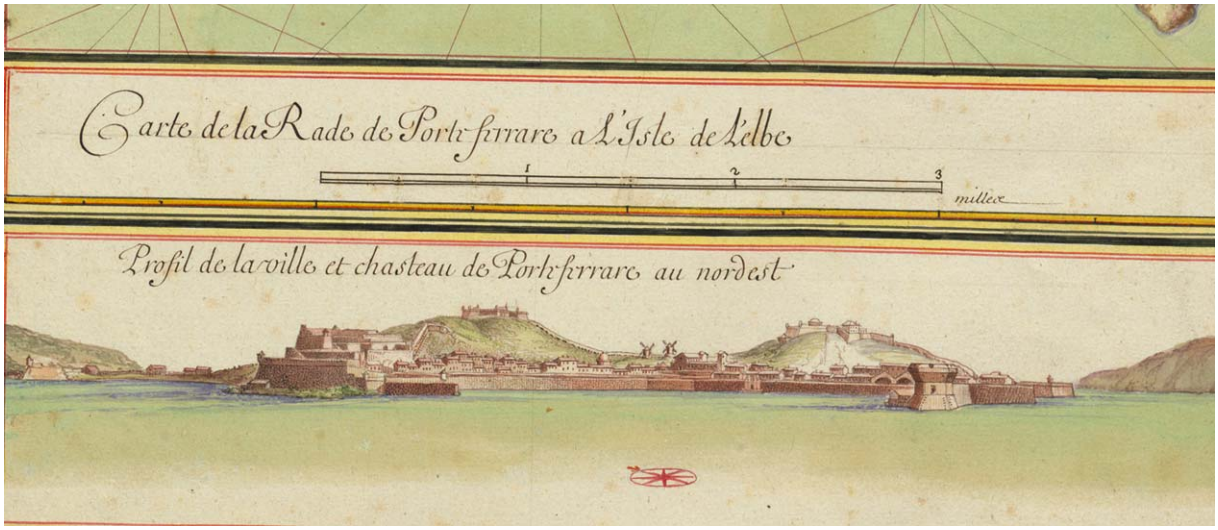


Figure 6: Jacques Pétrée, Portoferraio in 1679 (Detail)

Keeping the above assumptions in mind, the comparative analysis of geographical products (not yet standardized fortunately) becomes essential to making a historical survey on territory. Not all areas of the world are as fortunate as Tuscany, where archives, public and private holdings, both Italian and foreign collections, display a vast iconographical heritage of the period from the mid-

4. CVP, SHM, SH, 98, c. 10

dle of the sixteenth to the middle of the nineteenth century (even if it is hard to find terrestrial large scale specimens preserved that were produced during the previous, Medieval period.) The dispersion of this iconographical heritage can be traced to three major factors: first, the political fragmentation that characterized Tuscan politics until Italian unification, the two dynasties (Medici and Lorena) which ruled the Tuscan Grand Duchy, Elba island's occupation by foreign powers (Spain and France). Secondly, the central position of Elba in Tyrrhenian navigation and along the Mediterranean trade routes created a situation that encouraged the cartographic productions of foreign fleets. Thirdly, there is also the tendency for private collectors to obtain such maps, a habit that emerged during the eighteenth century, and of which the De Stosch collection of Vienna is emblematic. Among the tens of thousands of maps of Elba preserved today, a good portion (Guarducci et al., 2011) are devoted to the archipelago and the continental coastline—an area that has become solely a Tuscan concern only in the twentieth century.

Unfortunately, the *cabreistica*, which is extremely diffused in the panorama of the cartographical representation of the continental territory, is practically non-existent in the island one. On the other hand, the absence of property maps may be partially filled by the mapping of, say, coastal defenses that, as in the case of watchtowers, sometimes express in a very large scale, the situations of extremely small portions of land. These maps, along with those related to maritime settlements, seaports, or to activities related to the exploitation of the sea (as in such rare examples as the mapping of salt marshes, fishing areas, etc.), are capable of giving us an immediate perception of the territory.

Its 223 km^2 make Elba the third largest Italian island and a significant case study. Its history gives witness to the political fragmentation of a territorial unit: the island was part of the Principato of Piombino but in 1557, Portoferraio, enclave of the Tuscan Grand Duchy, was created, while Porto Longone actually went to Spain at the end of the same century. Therefore, Elba lived all the conditions which led to the dispersion of many of our historical cartographic sources on the one hand and, on the other, today we can look at the diversification of the samples as a the result of different cartographic schools.

The characteristics of an island favor its depiction in a map as a territory in its entirety and within its actual physical boundaries. This is an element difficult to find in the maps depicting subcontinental coasts. Aside from certain exceptions (such as maps of the plain of Grosseto), an iconographic stratification capable of representing a territory both synchronically and diachronically, and with the same wealth of detail as the maps of Elba display, are difficult to come by. It is a reasoning that also applies to the depiction of the city of Portoferraio (Cosmopolis, the city of Cosimo and the pride of Medici military architecture), and an inviting base for the military operations in the Mediterranean area. Even the views of the city, are distinguished from the immobility that denotes certain large cities, whose representation is developed from surveys of the past gradually upgraded or saturated.

To our knowledge, the first map entirely dedicated to the Island of Elba is inserted in an undated copy of the *Liber insularum archipelagi* by Cristoforo Buondelmonti. Four editions of this volume have been preserved dating from the period between 1418 and 1430, and another 64 editions from between 1420 and 1642. Buondelmonti, with this volume, inaugurates the *Isolarii*, a genre that will enjoy good fortune until the seventeenth century. If it is true that entropic phenomena make every generalization designed to distinguish cartographic models risky, books dedicated to islands can be traced back to a less pragmatic typology with respect to the earlier portolan charts. Often they show a scholarly knowledge and integrate historical, geographical, and nautical knowledge. The proposed date of the specimen found in the National Library of Florence is 1420,

but uncertainty persists, as the *Liber* focuses on the Aegean and Ionian seas and the copy in question is the only one that, as far as we know, contains the Tuscan island: this could mean that it is a later insertion into an already existing text.

We can reasonably consider the illustration framing Corsica and the Tuscan Archipelago of the printed *Isolario* by Benedetto Bordone (I ed., 1528,) as a drawing later than the manuscript just examined; one that, while highlighting the gulfs of Portoferraio and Porto Azzurro, seems quite incomplete and rather unreliable. In 1572 Tomaso Porcacchi (1530-1585) from Castiglione Fiorentino, published *L'Isole più famose del Mondo*. Here the Tuscan island assumes a profile similar to the table of the Insularum aliquot maris Mediterranei descriptio by Gastaldi and inserted into Ortelius' 1570 collection. Even the work of the humanist from Arezzo, which comes under the heading "Porcacchi – Isole e funerali" , was reprinted several times in the next century. This drawing of Elba now seems to be the result of a greater effort towards geographical representation, however, Porcacchi's Isolario still has defects and distortions of the territorial reality; for example, the complex sequence of capes and inlets that characterize the island are missing, and other topo-geographic inacuracies are widespread, such as the example of the position of the city of Rio, or the Gulf of Porto Azzurro facing south.

In the case of Elba, the coastal alignment to geographical reality with its representation in maps began at the end of the sixteenth century. This is attested by—aside from the comparison with present day maps—a perceptible harmony between views and planimetric representation. The authority of the *Pianta di Portoferraio e suoi termini giurisdizionali con lo Stato di Piombino dell'anno 1575 seguita alle capitolazioni di Londra per la cessione a Cosimo I di Portoferraio* (fig.7)[5] is unquestionable. In 1559 the Treaty of Cateau-Cambresis sanctioned the submission of Siena to Florence under the authority of the emperor, maintaining the newborn Stato dei Presidi (Argentario, Orbetello, Talamone) and the Principato degli Appiani with Piombino and Elba Island (with the exception of the Portoferraio area). The chart of 1575 follows, instead, the agreement between Francesco I, Filippo II, and Jacopo VI Appiani which, on the one hand, expands and geographically establishes the boundaries of Elba's Grand Duchy enclave and, on the other hand, renews the lease of the iron mine in Rio. On the map, the boundary points are identified as precisely as possible and the fortress of Portoferraio is rendered planimetrically.

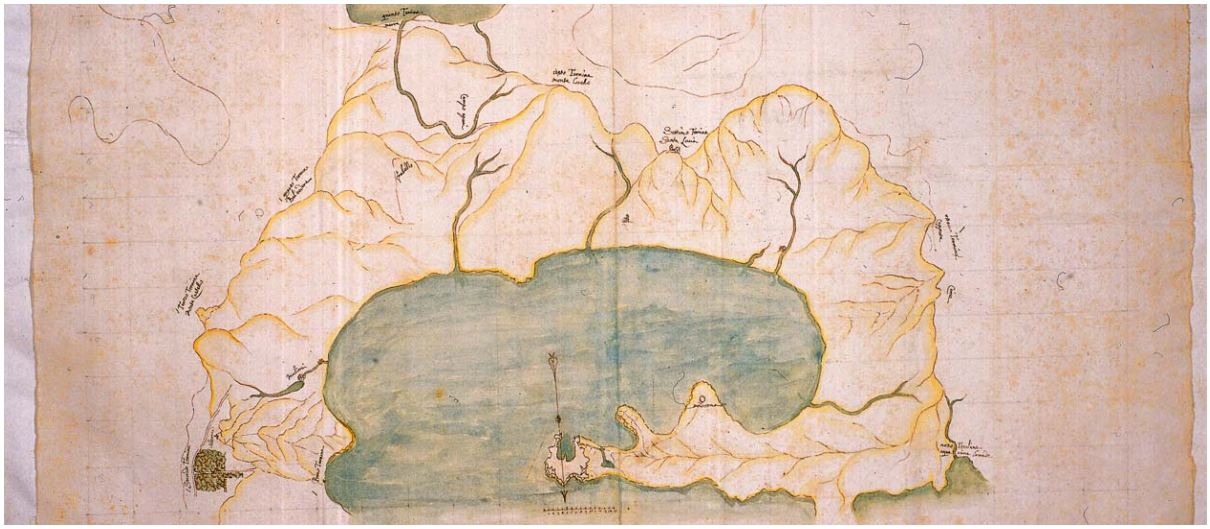


Figure 7: Anonimo, Portoferraio enclave in 1575 (Detail).

5. ASF, Piante antiche dei Confini, 38, c. 2

Erasmus Magni or Magno da Velletri's view of Elba (Fig. 5) focuses on the fortress of Cosmopolis. This map is preserved in a bound manuscript volume entitled *Imprese fatte dalle Galere toscane di S.A.S. messo in luce da Erasmo Magni da Velletri, dedicato a S.A.S Cosimo II dei Medici*[6], which contains accounts of some of the Grand Duchy's companies of galleys of its fleet of the of late sixteenth and early seventeenth centuries. The descriptions of the sites are accompanied by a series of ink drawings and sometimes watercolors. This 1602 map originated during a cruise along the Tyrrhenian coast from Livorno to Calabria and well represents that portion of the cape of Portoferraio cut by the *Canale delle Ghiae*. The design focuses on the circle marked by walled fortresses of Stella and Falcone. Ample undeveloped spaces are highlighted on the inside of the fortress while the few buildings already constructed overlook the marina where the main city gate leads into the harbor. In short, this is a map that can be considered consistent with the urban development of Portoferraio, which probably included a population of a few hundred inhabitants characterized by the strong presence of military residents.

A view of Elba drawn in 1673 by the Knight of Santo Stefano Ignazio Fabroni (Fig. 8) also helps us to understand the urban development of Portoferraio. The drawing is part of a series of notebooks written on board the galleys of the fleet of the Grand Duchy of Tuscany between 1664 (the year in which Fabroni, only eighteen years old, began to sail) and 1687. The notebooks are grouped under the title *Ricordi di viaggi e di navigazioni sopra le galere toscane dall'anno 1664 all'anno 1687*[7]. In them we find the Mediterranean coasts and islands portrayed through simple sketches as well as more articulated views that display a rigorous use of perspective and topographical details from their many detailed depictions of both buildings and fortified structures, to their views of the set of ports, cities, and landscapes in which coastlines and the island's profile appears. Figure 8 shows the new developments surrounding the buildings already recorded in 1602 and, in particular, the neighborhood near the Porta a Mare or city gate leading to the sea and the *Porta a Terra* or the city gate leading inland.

Figure 8: Ignazio Fabroni, Portoferraio in 1673 (Detail).

Half a century after Fabroni, in 1733, Luigi Viviani represents the fortified city in a perspective from the sea, a city that now stretches to occupy the slopes of a small peninsula (Fig. 9)[8].

6. BRF, Ricc., 1978, c. 31r
7. BNFI, Ms. Rossi-Cassigoli 199, 89r
8. BMOF, Acquisti diversi, 142/1 e 142/2, cc. 90v-91r

Portoferraio, in adherence to the ideas of the original designer, Giovanni Camerini, is here distinguished by an orthogonal road network typical of a military town. The scene is animated by the inclusion of several boats either sailing or at anchor in the harbor. The main buildings (including the bastion of the mills with four windmills, the arsenals and the pavilion already included in the 1673 drawing) are configured vertically. Beyond the '*Canale delle Ghiaie*', the cultivated fields are represented with the technique of a land surveyor. This view is part of the *Compendio Istorico del governo economico, e militare della Toscana* dedicated to "His Majesty King Charles of Naples and Sicily, Duke of Parma and Grand Prince of Tuscany".

Figure 9: Luigi Viviani, Portoferraio in 1733 (Detail).

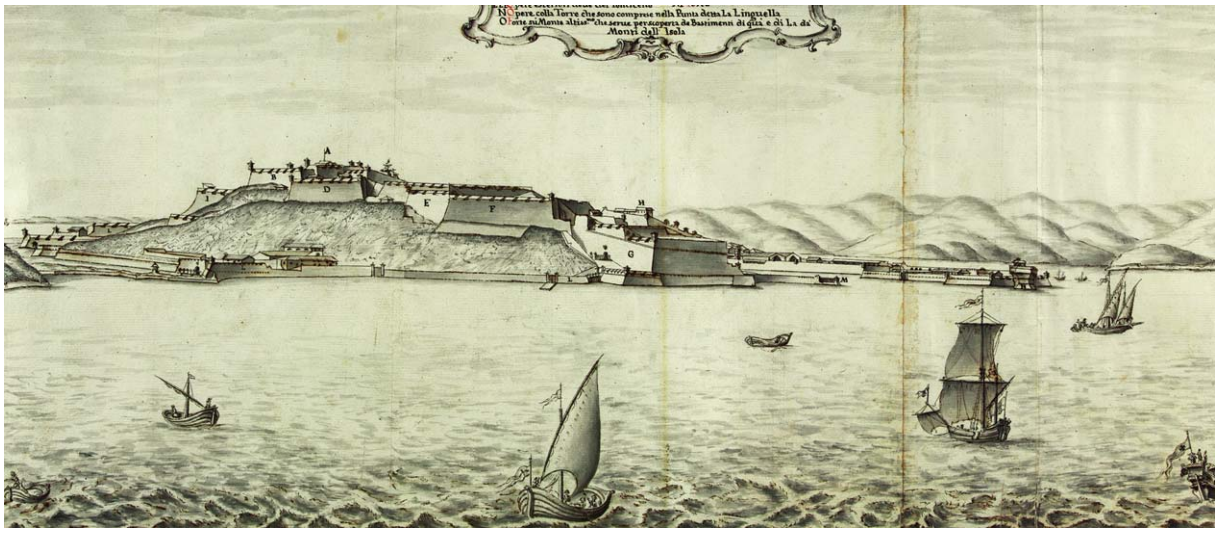


Figure 10: Anonimo, Portoferraio beginning of the XVIII century (Detail).

The view of Portoferraio as seen from the sea is an anonymous drawing, in manuscript form, that goes back to the beginning of the eighteenth century (Fig. 10)[9]. It can be found in the collection *Piante di tutte le ville, fortezze e città dello Stato, e confini della Toscana di Sua Altezza Reale*, a bound register illustrating the border areas of the Grand Duchy and containing dozens of plans, drawings, and perspectives of individual fortifications, villas, cities, and smaller, mostly fortified,

9. ISCAG, f. 1614

towns. The figures depicted have been drawn on several occasions and in different periods by engineers and architects of the Grand Duchy, and the majority seem to go back to the period of the long reign of Cosimo III; they are therefore largely attributable to the years between 1670 and 1737, but there are also many illustrations of sieges and the French conquests in the Stato dei Presidi (a. 1646). Here Cosmopolis is depicted by a distinguished and professional-looking landscape painting mediated by a geometric sense completely absent in Figure 8. Comparing Figure 10 with the drawing of 1602 (Fig. 5), done by a chronicler *ante litteram* in the wake of a military fleet committed to defending the Elba coastline from barbarian invasions, we note that the 1733 drawing has been executed by an anonymous professional artist who accentuates the depiction of every type of boat coming into the port.

If, with the passing of the centuries, such views demonstrate different expressive possibilities—distinguished even from personal artistic tastes traceable to the history of landscape painting, an art form capable of reproducing both rural and urban landscapes (Rombai 1993) —terrestrial mapping, on the other hand, moves (with a more explicitly illustrative task reserved for frames, white spaces or margins) toward a more rapid process of standardization dictated by the controlling politics of territorial management of the newborn Grand Duchy. In Tuscany this process began in the mid sixteenth century. Even in the heart of the Renaissance, without bothering the likes of Leonardo da Vinci, cartographers were neither geographers nor specialists in mapping—a science that will take some time to define itself. The earliest Renaissance cartographers could dedicate themselves predominantly to painting, to miniatures, to engraving, to territorial assessments and much more. In the Grand Duchy, the process of specialization is only achieved after a long time and through the efforts of many different protagonists: cosmographers, state mathematicians, architects, military-geographer engineers, and finally the nineteenth-century cadastral engineers who, starting from the most basic and irregular trigonometric surveys (from a time in which you can still count the number of Tuscan sites delimited by precise geographical coordinates on the fingers of one hand) face the transition to geodetic mapping with their geographical accuracy sometimes resulting less accurate than those achieved with the prior technique. To have an acceptable drawing of the territory of the Gran Duchy made with fully scientific criteria, we will have to wait for the *Carta Geometrica della Toscana* of Giovanni Inghirami, first printed in 1831 and structured around the geodetic measurements for the first geometric cadastre.

As we return to terrestrial cartography of the period and to the island chorographies, we find confirmation of a more obvious adherence to the territorial reality, accompanied, however, by significant inaccuracies present even in the works of the most trusted authors. In 1620 Fabio di Gio Antonio Magini publishes the table *Elba isola olim Ilva* (Fig. 11)[10], which is part of the collection of maps of Italy produced by his father (a geocentric astronomer, cartographer, and mathematician who died three years earlier). Essentially, this table appears to be an enlarged detail of the same island that appears in the map of the *Territorio di Siena* (Territory of Siena) printed by Gio Antonio in 1600. Magini's representation will be quite popular through its diffusion in the atlases printed by Ortelius and Blaeu. Considering this map, along with a glance at the map of Tuscany of the Medici cosmographer Giuseppe Rosaccio of 1609 (the so-called *map of the horse*, Fig. 12)[11], we find ourselves once again facing an example of how a map with later date or with a larger scale (that of the Horse being naturally smaller with respect to the Elba table, which has a scale of approx. 1:400,000) does not correspond to a new land survey, or to any refinement of the coastal profile.

10. Private collection, E. P., Firenze
11. ASF, Carte nautiche, c. 20

Figure 11: Fabio di Gio Antonio Magini, Elba in 1620.

Figure 12: Giuseppe Rosaccio, Tuscany in 1609 (Detail).

The Rosaccio map summarizes the majority of the Tuscan cartographic production of the 16th century (the works of Bellamato, Buonsignori, Malavolti, Florimi, Pindemonte). However, this map does not provide, overall, any great improvements in the cartographic depiction of Tuscany unless you consider, in the original, an innovative and "more accurate" profile of Tuscany's largest island. Nevertheless, it will be the representations of Gastaldi and Magini to enjoy the most editorial success, whereas you need only glance at *Pianta dell'Isola dell'Elba* (Fig. 13)[12] to recognize, without any great effort, the correct profile of the island.

12. ISCAG, f 1620

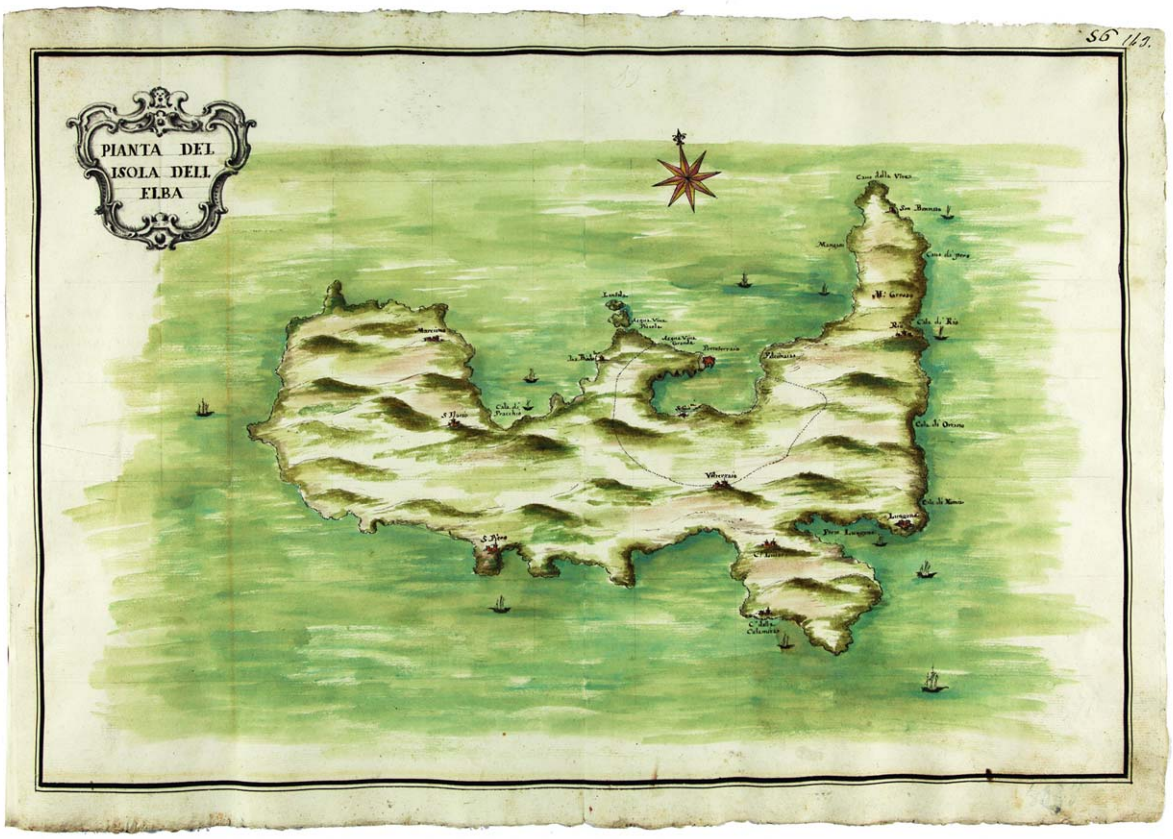


Figure 13: Anonimo, Elba beginning of XVIII century.

This undated, anonymous map is traceable to the years between 1670 and 1737 and does not have a scale of representation. With the north at the top, the map represents the largest Tuscan island with a configuration of its entirety that is much better with respect to many contemporary products and even later pre-Napoleonic maps, so much so that it could even come from the early decades of the eighteenth century. Nevertheless, many more inaccuracies will mark the southern profile, most evident in the shape of the bays of Stella, Lacona, and Campo, as well as further inland, in the position excessively west of the Volterraio castle. A comparison with the map of Elba inserted in the *Raccolta di piante delle principali città e fortezze del Gran Ducato di Toscana* (anonymous but made between 1739 and 1749 under the direction of Colonel Odardo Warren, Fig. 14)[13] highlights a phenomenon already noteworthy in the maps examined to date. In essence, in the same map, the insular areas of the different coastal areas can be defined with varying approximation with any concern for the date of the drawing. The distortion of Warren's map is evident: on the one hand, the southern and eastern areas are acceptably configured, whereas the northern zone is neglected, and the western one takes on an arbitrary shape—this is the exact opposite of Fig. 13. The examples of areas more or less accurate, within the same map, will remain consistent until the nineteenth century. Thus Ferdinando Morozzi, in a map traceable to between 1772 and 1784, that, although referring to the meridian measurements of Padre Boscovich, reproduces clear distortions with respect to other pre-geodetic specimens. The same is true of Jan Joseph Tranchot's map (Fig. 15)[14]. Tranchot was one of three trigonometric specialists committed, between 1770 and the end of that century, to the geometric mapping of Corsica: a project that co-

13. ASF, Segreteria di Gabinetto, 695, cc. 294-295
14. BNF, Marine, Portefeuille 82, Div. 7, c. 8/1 D

involved 31 land surveyors, 9 artists and 42 writers. After that undertaking, Tranchot continues to work for the *Depot de la Marine* (French Navy), deepening his knowledge of astronomy. In the same year that he draws the Elba map, he receives a special mention from the French Academy of Science for his work. He then becomes a hydrographic engineer and, later still, the director of the topographical bureau of the *Depot de la Guerre* (French War Ministry). Very few cartographers of the late eighteenth century can boast of such a résumé, one destined to ensure the quality and reliability of his maps. The problem is that his map of Elba is based on the measurements of Corsica, which were aimed at calculating the distance from the northern coasts of Corsica and Sardinia to the islands of the Tuscan Archipelago. These measurements considered Elba (as to the other islands of the Tuscan Archipelago) only from two geodetic points, one of which is the *Monte Capanne*, "and little real mapping of Elba was undertaken by Tranchot and the mapping team." Nevertheless, with a profile so inadequate, this map "was the best map available to the French when they invaded the Island of Elba."[15].

Figure 14: Anonimo, Elba middle of XVIII century.

Only with the *Carte de l'Archipel Topographique toscan ou de l'Ile d'Elbe et des les adjacentes dressée gravée au Depot et de la Guerre d'apres les leves exécutés par les Ingenieurs Geographer Military eu 1802 et 1803 de modele pour serve de Topographique* (Fig. 16)[16] will we achieve a complete and reliable map of the island of Elba. The surveys for this map—conducted by Puissant and Moynet and a small team of topographic engineers, which led to the drafting of the map in scale 1:10000—were completed in 1803 and were, most likely for reasons of secrecy, not diffused until 1814 and 1821.

15. http://geog.queensu.ca/napoleonatlas/Elba/M.13.C.00.200(2)_small.htm
16. BNF, Cartes et Plans, GE C 9440

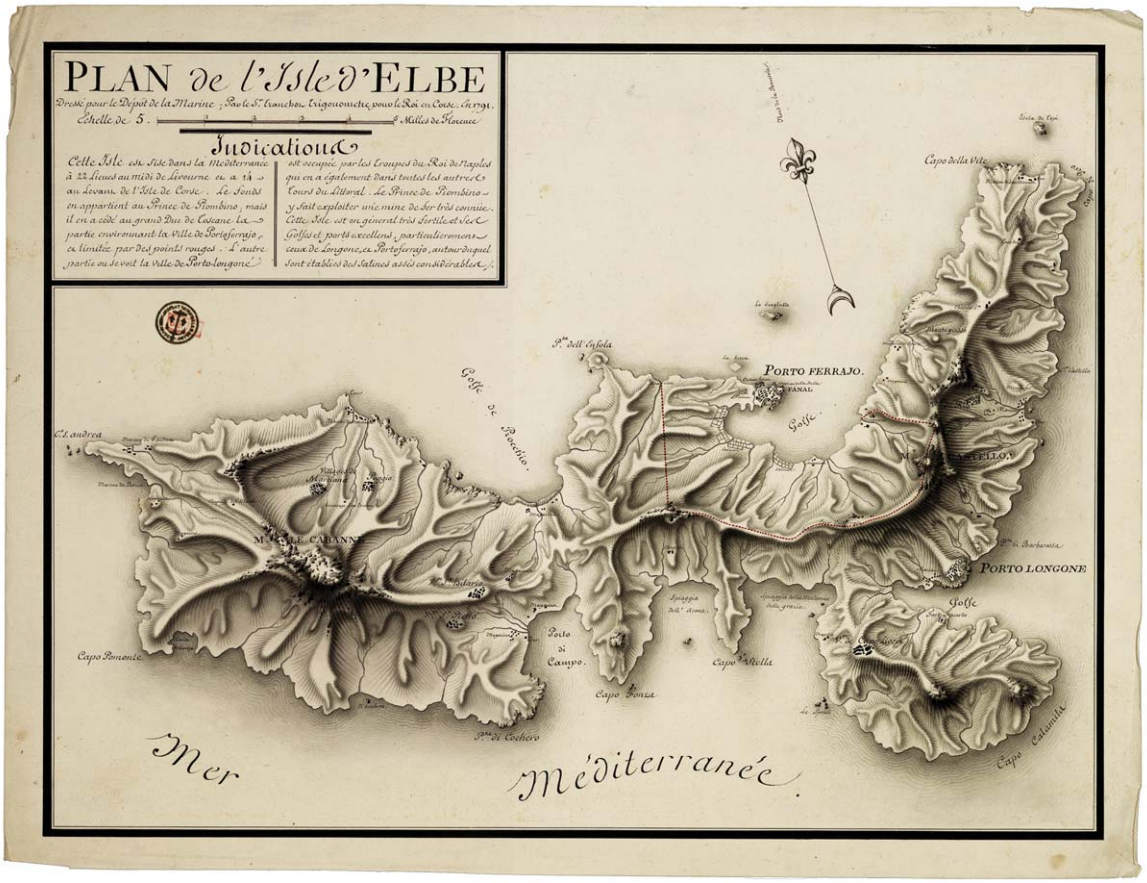


Figure 15: Jan Joseph Tranchot, Elba in 1791.

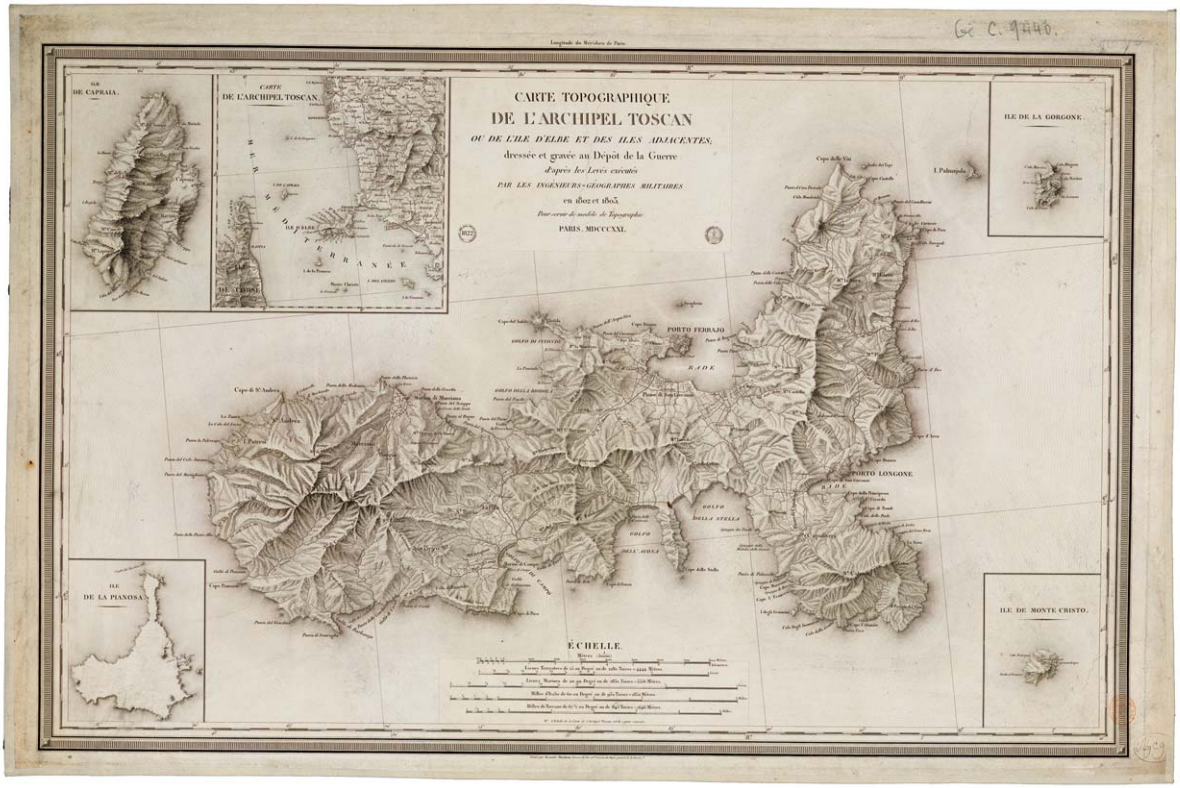


Figure 16: (L. Puissant, M. Moynet and J. Tranchot), The Tuscan Archipelago in 1821.

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Abbreviations

ASF: Archivio di Stato di Firenze

BMOF: Biblioteca Moreniana di Firenze

BNF: Bibliothèque Nationale de France

BNFI: Biblioteca Nazionale di Firenze

BPP: Biblioteca Palatina di Parma

BRF: Biblioteca Riccardiana di Firenze

CVP: Chateau de Vincennes Paris, Service Historique de l'Armée de Terre

ISCAG: Istituto Storico della Cultura e dell'Arma del Genio di Roma

SUAP: RAT Státní ústrední Archiv Praha, Rodinny Archiv, Toskánscky ch Habsburku