

Interpretation of the City Walls: Venice and Parma from Above

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Abstract

Representing the shape of the city means fixing the physical consistency of a reality related to a certain time, through the knowledge of authors who over the centuries have tried to reconstruct the complex form of the city, representing it from above, simulating a point of observation without a doubt privileged and absolutely ideal. Venice and Parma are selected to explain the image of the city through authors who have recorded graphically from above, among other elements, the boundaries between nature and artifice. The parallel and compartmentalized narration is articulated through the reading of Jacopo de' Barbari's bird's eye view of Venice (1500) and Paolo Ponzoni's bird's eye view of Parma (1572). In fact, in this period, a particular urban iconographic representation is adopted, the 'planimetric perspective', obtained from a plan made following a geometric survey, so that the perimeter of the walls and the road plot appeared in all their completeness; the buildings are instead depicted with the perspective, described from a point of view located at variable height above the horizon. The growing attention of cartographers and designers towards the city is linked to the new type of state organization that considers the city as a functional entity enclosed within the walls, whose view from above allows us to understand its consistency and peculiarities.

Keywords: perspective iconography, image, city, urban walls, city doors.

Introduction

The image of a city can be metaphorically understood as a filter to observe the history of a culture and ideas [Nuti 1996, p. 15], in the relationships between art, science, visual perception, communication. These representations are first of all a figurative document [Nuti 1996, p. 12] through which information on the built space that meets the definition of city is communicated.

Over time, graphic methods to represent the city have used different conventions, by which urban information has been transmitted. This has produced different languages or ways of representing them, the result of choices in which cultural models converge, mechanisms of visual perception, figurative codes, technical skills, scientific knowledge, practical purposes and requests of

the audience for which the representation is intended [Nuti 1996, p. 12].

Cartographic production is, therefore, understood not only as a document of the organization of the territory in which a society has historically evolved, but also as a testimony of the way this society is placed; only from the crossing of these two elements and from their diachronic interpretation is possible the identification of the functions of the city, its characteristics and the changes that have occurred over time.

Of course, cartographic production is not always able to offer a complete vision of the elements that make up the city: from time to time the prevalence of different motivations, led to a selection of the represented elements;

therefore, it is not always easy to compare subsequent documents; the very presence, in a certain historical epoch, of prospective or planimetric map production, or their mixing, depends on numerous factors interacting. They favoured some representations rather than others in relation to functionality, surveying techniques, dominant aesthetic canons and cultural and political influences of the society to which the map was destined.

Every historical image, even the most sophisticated, is never objective: it represents the way in which the client, on the one hand, and the author, on the other, have set themselves against the city to be reproduced and have interpreted and represented it. The city visible in a map is therefore never 'that city', but often the conventional idea of the city.

In order, therefore, to interpret the city as largely as possible, to understand its evolution that has led to the current urban forms, while it is essential to know its history on the basis of existing documentation and bibliography, on the other hand it is no less important to study how, over many centuries, there was perception of those forms, of how they through the cultural filters of respectively era, were

collected, interpreted and transmitted visually [Nuti 1996, p. 133].

The image of a city, as a cultural vision, also reflects its limits and conditions: the different components, in fact, have had, depending on the case, greater or lesser impact, such as the conditioning due to the technical tools used, developed precisely to help or replace the eye in data transcription [Nuti 1996, p. 89].

Faced with the emergence of new ways of representation that claim to impose the real as a starting point to artistic work, the portraits built on the old and now proven medieval models during the fifteenth century will gradually cede the field to the 'eye bird view of real' [Nuti 1996, p. 12]. The claim of 'truthfulness' for the image of the city begins to be formulated explicitly towards the end of the fifteenth century; the truth becomes the acknowledged starting point of the image, in the sense that all the information contained in it derived from a personal contact of the author with the place described. The city that the designer approaches physically and personally become in its whole the object of representation and the method by which

Fig. 1. Perspective map of the city attributed to Jacopo de' Barbari and published by Antonio Kolb, Venice, 1500 [Cassini 1971, pp. 30-33].



it is, in this era, portrayed is that of perspective, used in Florence in the early 1400s by Filippo Brunelleschi.

In the fifteenth century the 'urban and territorial survey', in the current meaning of the term, is considered a fundamental discipline for knowledge of the city and the countryside and, in parallel with the expansion of cultural interests typical of that time, direct and indirect measuring systems also evolve, and the treatise on the subject begins in embryonic form.

Many names of cartographers, architects and engineers who in the second half of the sixteenth century dedicated themselves to territorial and urban cartography, but a separate affirmation merits the cartography of Rome, which continues to monopolize the attention of scholars including Leonardo Bufalini, author of a map of the city in 1551, map drawn up on the basis of a general survey, and Antonio Tempesta, author, in 1593, of a pseudo-perspective representation with a rather high point of view, such as to allow immediate reading the overall urban structure, the green areas, the monumental buildings and the road network.

The type of image produced by the perspective views don't produced a suitable vision, because, with the compression of the elements due to the inclined of perspective, only a small part of the urban objects could be reproduced. It is therefore used in this period a particular urban iconographic representation, based on a plan made from a geometric planimetric relief such that the perimeter of the walls and the road plot appeared in all their completeness; the buildings, on the other hand, are represented with three-dimensional views, in order to give a schematic representation of their volumetric consistency [Nuti 1996, p. 144].

In this period, of great importance is also the *Cosmography* of Sebastian Munster, dated back to 1544, which placed among the declared objectives 'the images and descriptions of the noblest cities', and demonstrates the growing interest in urban iconography. Only in 1572 was born an ambitious publishing enterprise the first book of the city, a set of representations completely independent of a text and no longer subordinate to maps: *Civitates Orbis Terrarum* is the name commonly accepted for all the work, composed of six volumes published between 1572 and 1617; this work soon became a true prototype, cliched and re-issued with additions: model, in short, of a new publishing genre that will last a long time [Nuti 1996, p. 13].

The most innovative aspect of this production is due to the characteristics of the basic setting: the relationship; in fact, it is no longer that between the customer and the product to

be performed, but between the finished product and the public as an end user. For this reason, the work is placed on the borderline between market and science, between object to sell and instrument of culture. The *Civitates* is thus configuration, as an expressive document of a long research that has been carried out around the creation of a language for the representation of the city.

The 'planimetric perspective'

The 'planimetric perspectives', compared to the first sixteenth-century views, modified the point of view of the representation, to eliminate the inconveniences arising from the view from above, if made at an angle not too wide with respect to the horizon, led to the overlapping of parts built in the representation of densely built areas. The most appropriate term to indicate this new way of representing is that of 'eye bird views', because it explains both the two-dimensional metric origin and the three-dimensional pictorial aspect [Nuti 1996, p. 138].

This system of representation, aimed at overcoming the limits of topographic conditions, of technical means, of the human gaze, is thus developed through an artifice: "a 'geometric ratio' ensures respect for the overall shape, the relationship between the parts and the whole, the arrangement of the neighbourhoods. The individual parts of the city are the smaller volumetric units, the blocks of houses. One can thus identify the spatial framework of the urban organism in its successive phases of growth, one can perceive the city as an object composed of full and empty spaces, and the nature of the differentiated voids in squares, streets, free spaces" [Nuti 1996, p. 144].

Dull of note is the attention paid to the minor building fabric, which is acquiring urban dignity, and therefore graphics, like the great architectural organisms. The search for a type of figuration that consistently analyses the relationships between roads, minor buildings, green spaces and monumental buildings is constant in this field throughout the seventeenth century.

The second criteria, the '*ratio perspective*', "describes the external aspect of the city, the place that surrounds it with the hills, the rivers, the fields, then its border, with the walls and the bulwarks; finally, the interior, with the appearance of buildings both public and private, so that they can recognize and possibly compare the different ways of building" [Nuti 1996, p. 144].



Fig. 2. The liquid walls of Venice in the plan of de' Barbari: the water doors and the functions between land and water (elaborazione grafica Virginia Droghetti).

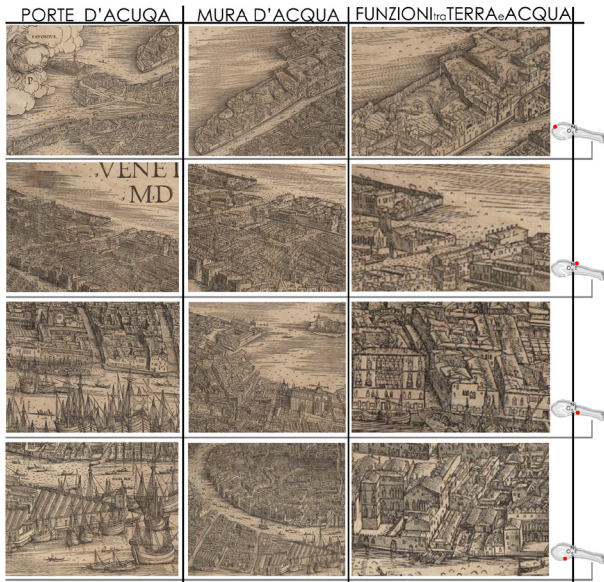


Fig. 3. Synthetic abacus: the water doors, the walls and the functions between north and south edge (graphic elaboration by Virginia Droghetti).

The process of construction of the prospective plant begins right through the 'geometric ratio', while the 'ratio perspectiva' has to complete the representation keeping in mind the purpose to be reached: to present to the observer an image with effect-true, as credible part of the observed reality [Nuti 1996, pp. 149, 150]. In the representation, a thin border runs between imitation of the true and simulation of the true, conflict that will be resolved, in part, in the eighteenth century in favour of the measure, with the total renunciation at the second moment, the overlap of the elevation.

Jacopo de' Barbari's bird's eye view of Venice, published by Antonio Kolb in the 1500

The prospective map attributed to Jacopo de' Barbari (fig. 1) is a woodcut printed on six sheets of six matrices and measures 134.5x282 cm. The matrices are kept at the Museo Correr in Venice, while the exact number

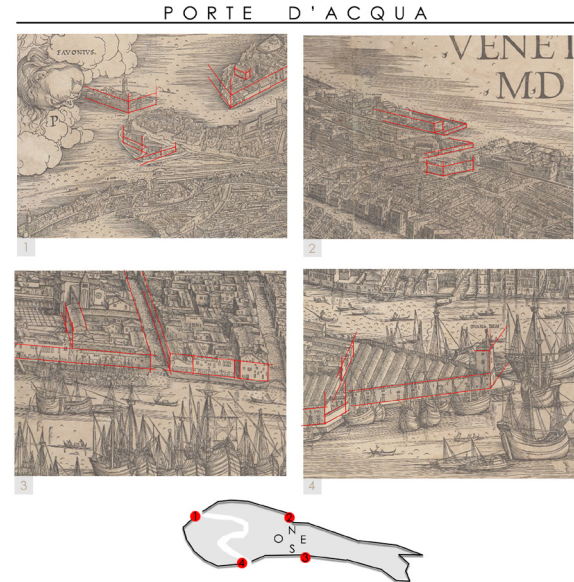


Fig. 4. A study of the lines of construction of the water doors in the map of de' Barbari (graphic elaboration by Virginia Droghetti).

of the original issue is not well known: copies of which are found in several places, in Venice there are six copies [1]. The work, commissioned by Anton Kolb, required a work of three years, and was published in 1500 by the same client with the title on top at the centre of the map: *Venetie MD*. The city is represented with great skill in which particular attention is paid to the dictates, allowing to bring out the clarity of the singular urban structure, despite its extraordinary variety highlighted by the interlacing of canals, fields and campi (venetian squares). The map is surrounded by eight faces that blow, to personify the main winds, indicated by Latin names. Also, in the upper part of the engraving are reported, in addition to the title, the gods Mercury and Neptune; therefore, the symbols of tradition such as the lion of San Marco are absent, alluding to a profane vision. Venice is presented as a solid manufact emerging from a liquid space. A solidity that is revealed, in particular, in relation to the mobile environments that de' Barbari represents in the unfinished margins of mud and wood still under construction. This dichotomy between completed

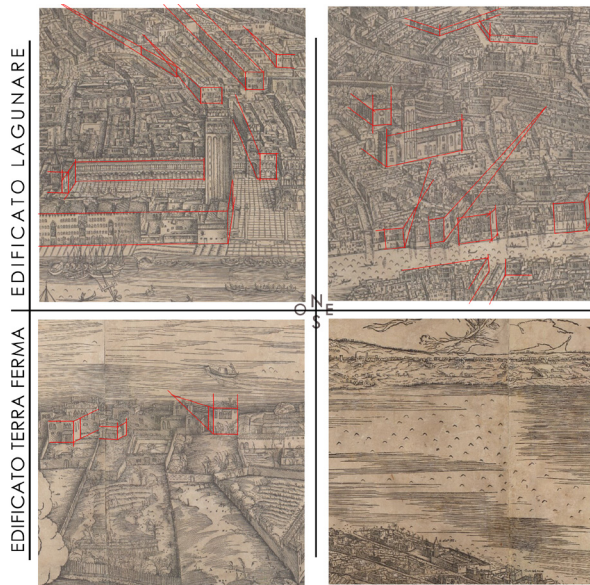


Fig. 5. A study on the lines of construction inside and outside the walls in de' Barbari map (graphic elaboration by Virginia Droghetti).

and 'fragmented' city is also revealed in the representative mode: deforming and approximating the marginal areas north of the city (gardens, vegetable gardens, shipyards and empty land), expands and highlights the inland waterways, brings out the area of the Arsenale (centre of the republican fleet) and celebrates San Marco (political and religious centre) with a theatrical perspective built on the geometric pattern of the pavement of the square. Until the last centuries of the Middle Ages, as one of the earliest iconographic sources of Venice affirms [2], its appearance is completely different: there were no streets and there was no land network. This network was established only later to connect the various parishes when the network of channels came to overlap a second network of land. In addition, the numerous reclamations work led to an urban thickening that was determined in rationalizing the relationship between the expanding settlement systems and its waters, to produce a real geography of spaces bordering between nature and artifice.

These transformations had shaped and defined the urban context according to new rules, also 'geometric', and had

in fact generated the formation of a new model of urban 'edge' (fig. 2). The plan of the de' Barbari, observed in its details, records in evident way the role and the characterization of these edges that did not represent only the direct source of supply for the workings, but also represented the most convenient transit route for the transport of materials from the mainland. On these edges, therefore, a geographically marginal area is formed which is a consequence of a late structural consolidation that since its first organization qualifies an indispensable connective node. Observing the map, in particular the crown on board reveals itself in all its morphological diversity and accuracy of detail: to the north, still uncertain and transitional boundaries in which surface waters and beaches served as a line of demarcation between the city and the lagoon, between land and water; while to the south, towards the basin they march, the edges already manifest themselves as real urban organisms (fig. 3). "Here, the structure of the city loosened up to make way for wide, simplified geometries on which lay undeveloped areas, vineyards and vegetable gardens and a few dwellings, in which, to use the words of Cristoforo Sabbadino, the lagoon acted as the 'walls of Venice'" [Sabatino 1987, p. 23]. This affirmation is repeated later by Michele Sanmicheli who defined the lagoon as the fortification of this city, as if they were walls [3].

The precision of the graphic detail suggests a representation of the city based on an accurate urban survey, contracted, then, in perspective from an anomalous point of view from above. A point of view that alludes to an ideal vision, given the impossibility of reaching such a high point of view at that time. A sign of the 1500s that lies intermediate between science and art, in which the meticulous accuracy of the details is sometimes opposed to the perspective deformation resulting from the adoption of several vanishing points (fig. 4). The map offers a definitive and at the same time changing image of Venice, which is, like the city itself, the author manages to maintain a dynamic relationship with the reality that represents and the movement that inhabits it. This peculiarity still makes the plan of de' Barbari one of the most used sources to understand the figurative space of Venice. Along with the map of de' Barbari, there are other representations, less detailed and later, which reaffirm the structural value of the lagoon environment [4].

Despite the early sixteenth-century visions, the myth of Venice still lives today the close relationship between land and water, the waterfront and the lagoon liquid plain [Dal Fabbro 2020]. A lagoon that in this map is represented with



Fig. 6. The noble city of Parma by Paolo Ponzoni and published by Francesco Conti, Piacenza, 1572 (Archivio di Stato di Parma, Mappe e Disegni, vol. 2 n. 13).

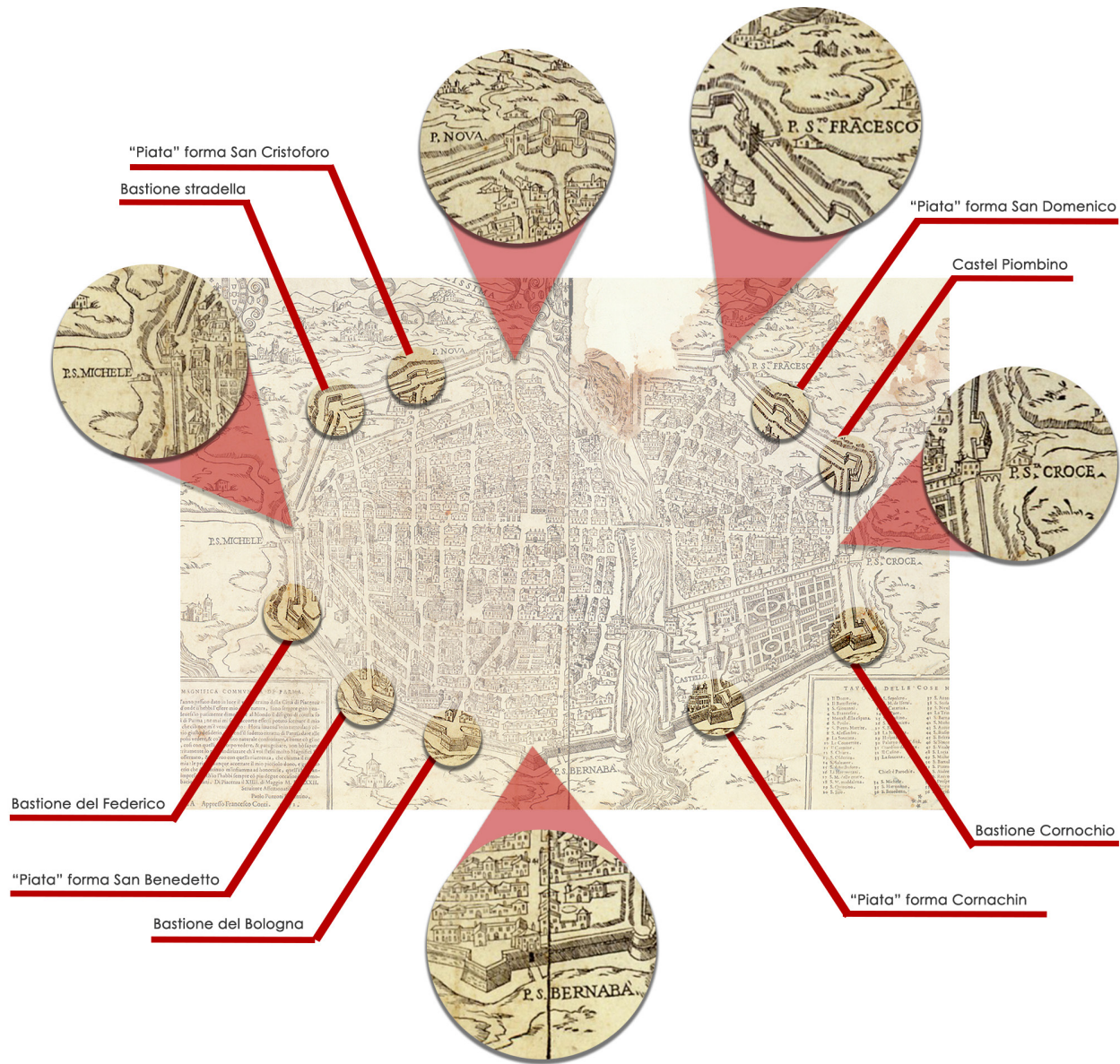


Fig. 7. The walls of Parma in the Ponzoni map: the gates and the bastions (graphic elaboration by Virginia Droghetti).

linear and dotted lines, and whose landscape 'beyond the liquid walls' even if slightly hinted provides a clear idea of the mainland (fig. 5).

La nobilissima città di Parma by Paolo Ponzoni
and published by Francesco Conti, Piacenza, 1572

In 1572, Francesco Conti published in Piacenza the 66x88 cm map etched on copper, entitled *La nobilissima città di Parma* (fig. 6), made by Paolo Ponzoni and now preserved in the State Archives of Parma, in the collection *Mappe e Disegni*, and another copy at the Palatine Library of Parma.

The city is represented according to an orientation rotated of 180 regarding the today conventional view of the city that sees the geographic north in the upper part of the urban representation; in the upper part of the engraving, there is in fact a reference to the hilly slopes of the Apennines, which is located south of the city.

Also, in the upper part of the engraving are shown, in addition to the title, inserted in a festoon, three coats of arms of uncertain interpretation [Vernizzi 1994].

Very important is however the reference to the cardinal points, inserted in a correct way to the east and west of the Via Emilia (obviously in reference to the rotated representation of 180); there are no graphical or numerical references to the reduction scale and the unit of measures used.

The representation summarizes the schemes indicated above: within the urban fabric, circus-written by the city walls (fig. 7), formed by buildings sketched and tightly leaning against each other to form the blocks, stand out some buildings that are designed with greater clarity and detail: as is often happens in urban representations of those centuries, the centres of civil power (the civic square with the Palazzo del Comune), the religious centre with the cathedral and the baptistery, churches and parishes and works to defend the city. The buildings facing the urban stretch of Via Emilia are represented in a schematic way, but are equally recognizable: see for example the Palazzo del Comune with the very high civic tower, the imposing mass of the SS.ma Annunziata and the cruise plan of the Ospedale Maggiore.

Also, the position, the shape and dimension, although indicative, of the city doors (fig. 8) are very precise, and contributes to conferring on this representation the value

of very reliable iconographic document in the description and diffusion of the knowledge of the architectural and urban elements present in 1572, date contained in the lower left panel in the engraving.

In this type of perspective iconography also becomes fundamental the 'Table of notable things', present in the lower right of the engraving; a real legend, in the modern meaning of the term, further descriptive element that gives each building a reference number; with descriptive reference in the 'Table of notable things' emphasizing, therefore, the importance of some places compared to others.

The representation of the elements inside the urban fabric, from the geometrical point of view, is often closer to an axonometric projection (therefore parallel) than to a perspective (central projection) as often the vanishing points are missing and the elements in their dimensions projected from an improper projection centre are clearly visible; the representation of the scattered settlements in the territory surrounding the city is different, which instead seem to see the horizontal lines converge towards different vanishing points.

The representation of the walls is very accurate and allows to see in a precise way the different configuration of the various bastions, reading, depending on their location along the walls, the inner part or the outer part (fig. 9).

The configuration of these architectural elements is rigorously described, highlighting the linear or curvilinear forms that are confirmed in the different positions by the bibliographical and historical-architectural references available, allowing a precise and reliable documentation of the real configuration of the walls, also described in other plans of the city, both coeval (albeit less accurate) and subsequent.

All along the walls the three-dimensionality is enhanced and underlined by the use of shadows applied along the sides facing north and west, while the shadows are completely missing. Also, in the representation of the fabric built inside the walls sometimes appears the shadow carried, consistently reported in the same sides, but not present in a homogeneous way on the buildings of the whole city (fig. 10).

The representation of the walls is completed with the indication of the moat, whose escarpments are represented with a dense hatching, and whose crossing is punctually described through the representation of bridges at the gates on all sides of the city.

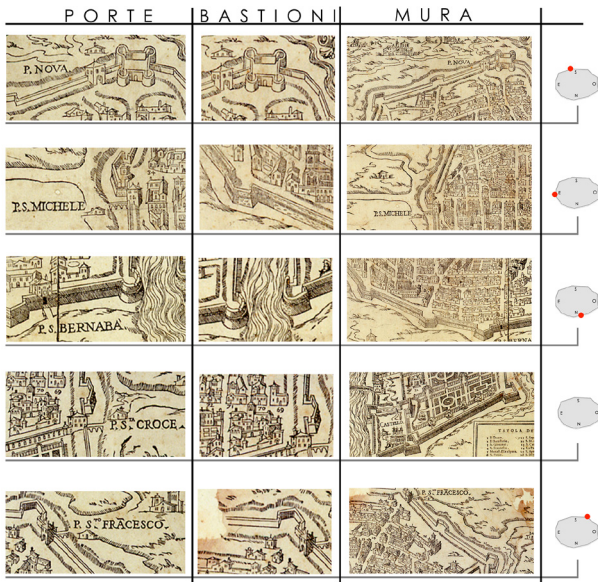


Fig. 8. Synthetic abacus: doors, bastions and walls (graphic elaboration by Virginia Droghetti).

Conclusions

Taking the city as a progressive development of an organic vision –to use Franco Farinelli words an *imago mundi*– is the basis of the exploration on metaphors on which the stories of the urban image are based [Farinelli 2009].

The reading of the city through its representations is obviously an exercise that must take place knowing the cultural filter with which the author has transcribed reality, framing it in the temporal, political and scientific context in which it moved.

The urban images described above were chosen not by chance: almost coeval, both the result of a surveying operation that defines the urban structure from a planimetric point of view in a precise way, allowing the reading of the fabric in a timely manner, all accompanied by a three-dimensional representation with a leg on each side of parallel and central projection, aimed at describing the characteristics of volumetric consistency and the image that the city wants to transmit in a logic of objective communication of urban events.

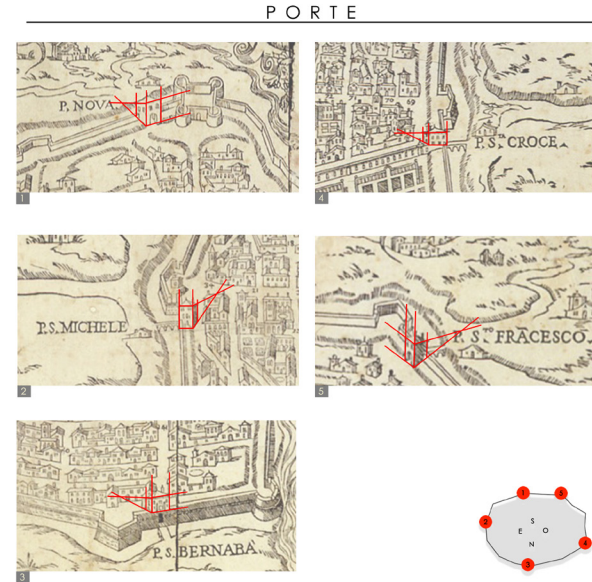


Fig. 9. A study of the construction lines of the doors in the Ponzoni map (graphic elaboration by Virginia Droghetti).

Specifically, Venice is an inexhaustible source of evidence: widely painted, portrayed and filtered by artists, engravers and topographers whose outcome is a dense cultural product of knowledge. This heritage contributes to the knowledge of the places that, in Venice, in 1500 sees one of its first testimonies in the woodcut of Venice by Jacopo de' Barbari. In fact, this solid heritage of observation between real data, scientific representation and typographical accuracy allows to observe, through the different points of view used to the author, the dominant elements of the city of Venice.

Compared to the previous arrangement, here the fabric has thickened with a consequent contraction of the water spaces. A meticulousness that allows to read the urban space of water and land in all its details. This issue intensified in the second half of the fifteenth century when the fronts of the city, as mentioned, began to come alive under the pressure of a growing demography. It was around the middle of the century that the interventions aimed at regulating, through the construction of banks, the 'stretch marks' of the edges of Earth's space



Fig. 10. A study on construction lines inside and outside the walls in the Ponzoni map (graphic elaboration by Virginia Droghetti).

were also concentrated. These were the years in which the expansive push, the control and the management of the urban space, saw a slow transition from fragmentary practices to actions of overall logistics to smooth the profile of the dolphin city [Howard 1997]. The idea of Venice as a city in continuous motion is recognized

Notes

[1] The original print was probably twenty copies. In Venice there are six, including four at the Correr Museum; one at the Marciana National Library and one at the Querini Stampalia Foundation.

[2] The reference is to the Venice Plan from the “*Chronologia Magna ab origine mundi*”, by Frà Paolino da Venezia, Venezia, 1346. Manuscript paper on parchment of 350x340 mm. placed in the Marciana Library. The centre is formed by the compact structure of the islands and their churches, whose

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as a significant value of its own image. A motion that is reflected in its urban fabric that, after settling in the amalgamation of the elementary urban cells (the islands of primitive formation), took care since the thirteenth century to extend its boundaries beyond the natural line of demarcation between land and water. If for the other city realities, the urban expansion corresponded to an advance beyond the medieval walls, for Venice the process was more invasive because it provided the destruction of the liquid walls –or the lagoon– that surrounded it. More than growth in Venice, there was talk of change, referring to the relationship between land and water, but also the settlement and functional structure of the city. Even Parma [Miani Huluhogian 1984], despite the different role has historically played, has known a great representative fortune, which we find above all, in addition to the perspective plan of the Ponzoni, in some cornerstones of the zenith representation such as the map of the Emerald of 1592 and the Sardinian Atlas of 1767, framed as true tools of knowledge prior to the implementation of important interventions, of urban type in the first case (the choice of the location of the Farnese fortified citadel) and of a fiscal type in the second case (the mapping of private property).

Both the above-described representations, thanks to the point of view placed at the top, with an inclination of about 30 hectares with respect to the horizon, allow to keep together the description of the planimetric consistency of the urban fabric and the reading of the volumetric and formal image of the two contexts, with particular reference to the system of walls, built and natural, that characterize them.

name identified, also in the current name, the various areas of the city.

[3] In ASVe (archivio di stato di Venezia), *Scavi ed Esecutori alle acque*, reg. 119, c. 23r-v.

[4] The small woodcut Vinegia in the vigorous synthesis imagined by B. Bordone of 1536 in his *'Isolario'*, and also the famous map of 1557 by Cristoforo Sabbadino.



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