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PART ONE
INTRODUCTION

WAR LANDSCAPES AND FORTIFICATIONS FROM THE 15TH TO THE 17TH CENTURY: THE USEFUL AND THE BEAUTIFUL (OR UNLESS?) AT THE SERVICE OF THE STATE

Federico Bulfone Gransinigh
Livio Petriccione
University of Udine

Abstract. *Since the end of the 15th century a new characteristic started to come up in the Italian cities and the communication networks, related to the cultural fervor and military construction techniques which in that period will find their maximum expansion. The attention to architectural orders, to the materials employed and to the socio-political systems here represented, is clear example of how the utilitarian concept can be linked with such interventions that nowadays are often considered as redundant and lavish.*

Keywords: *Fortifications, Renaissance, Landscapes, Ornament, Venice, Habsburg Emperor.*

Introduction

Since the end of the 15th century a new characteristic started to come up in the Italian cities and the communication networks, related to the cultural fervor and military construction techniques which in that period will find their maximum expansion.
The cities started to serve as war machines, establishing a connection between the different territorial macro-entities that will become stable from the 16th century onwards.
The military architects and mathematics theorists of the time, as well as the surveyors at the service of ballistics, will be the promoters of a city renovation that will define the war structures both from a military or structural and an aesthetical point of view, taking care especially of the appearance of walls, gates and towers, in contrast to the surrounding countryside. Those structures erected to protect the residential areas will be thus refined accordingly.
The urban gates of Michele Sanmicheli and the fortifications realized by several architects (Savorgnan and the various Ferrabosco, Vintana[1], Marmoro, etc.) in regions Veneto, Friuli-Venezia Giulia and in the territories of the near Croatia, Slovenia, Carintia and Hungary; as well as the works written by Nicolò

[1] Cfr. F. Bulfone Gransinigh, *I Vintana: una famiglia di architetti militari. Sopralluoghi, progetti e relazioni sulle fortificazioni nell'Austria Interiore dal XVI al XVII secolo*, Phd Thesis in Civil Engineering, Environmental and Architecture, supervisor professor Francesco Amendolagine, assistant supervisor professor Vittorio Foramitti, University of Udine, Academic Year 2013/2014.

Tartaglia[2], Federico Commandino and Giovan Jacopo Leonardi[3] will reveal a research of decoration and symmetry, close to the concept of Beautiful, combined with the utilitarian approach of protecting and setting a state identity.

Friuli Venezia Giulia: a membrane between States

The territory of the region Friuli Venezia Giulia has always seen passing numerous armies, troops, pilgrims and goods; Friuli, being a borderland, has always constituted a soft membrane between the territories that were called Alemanni and that we might call peninsular. The territory of this Italian region is therefore characteristic for being a border area at all levels, geographical, natural, geological, political, throughout all the course of history. Border area means separation between different systems, but also a point of encounter and exchange, the connection between different territorial systems.
The necessary correlation between geography and fortifications makes these turning out to be one of the elements that reflect more the link between nature, man's work and history. As written by Gazzola, defenses are a type of artifact that «both which may arise from the surrounding environment, whether it should blend in it, are the optimum overlap between the work of man and characteristics of places, to the point seem to be the concrete expression of congenital forces of nature, and in that sense are fully covered in the definition of the Code of landscape and cultural heritage of the landscape: a homogeneous part of the territory in which characters come to nature, human history or the mutual interrelationships.»
The interest of the Venetian Republic in this respect, as well as being a symptom of uneasiness due to the various Turkish invasions and the growing danger of the presence of the imperialists along all of the eastern border, was supported by the flourishing production of a whole series of treaties with themes ranging from theoretical geometry, to the static and casting of projectiles and specifically the art of fortifying. This interventional furor was materialized with a series of achievements in the land and at sea territories of the Venetian Republic, which opposed accomplishments along the entire eastern boundary intended by the Habsburgs, as we shall see later.
The development of modern fortification, therefore, found in the growing "Venetian territorial machine" the favorable substrate with the aim of realizing more advanced and modern methods: bastions, walls and entire fortified cities.

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[2] Cfr. N. Tartaglia, *Noua scientia inuenta da Nicolo Tartalea*, Stefano Nicolini da Sabbio editore, Venezia 1537.
[3] G. J. Leonardi, *Libro delle fortificationi de' nostri tempi*, manuscript of 1533 preserved in the oliveriana Library of Pesaro, published with introduction, transcription and notes by T. Salesse in «Quaderni dell'Istituto di storia dell'architettura», School of architecture - University of Rome, s. XX-XXI, fasc. 115-126, II sem. 1975, p. 74 (ff. 34v-35r).

The modern fortification is therefore a type of fortification which was developed to overcome the problem posed by the development of artillery: the development of these new techniques, which radically changed the relationship between city and countryside, for centuries the urbanism was influenced and provided new urbanism stimuli to architects and engineers.
This new conception of fortifying is mainly due to Francesco di Giorgio Martini, Antonio and Giuliano da Sangallo (creator of the polygonal bastion) and to Michele Sanmicheli. They derived their notions of obsidional and war arts from the Italian school of fortification.
This, founded in the sixteenth century, starting from the development of scientific research in the disciplines of geometry and mathematics developed especially in the centers of Padua, Florence and Urbino and Venice as a publishing center.
The territories of Inner Austria, those more damaged and those the research will focus on, will have from the 25th to the 27th century two enemies, different in terms of organizational and cultural approach to the Art of War, the "Dominant" and the Turkish Empire.
If in the Friuli region the border will be controlled by the fortifications of Gorizia, Gradisca, Carintia, Carniola and northern Dalmatia counties, earlier fortifications adapted to new needs; the Ottoman frontline will be safeguarded by new established outposts from Dalmatia to Hungary. Such military *renovation* will hardly develop in the Empire territories, as in the same period, the House of Hapsburg was competing with France and at the same time was keeping the widespread Protestant Reform and continuous problems in the Netherlands under control.
At first, all these factors will not help the Austrian power to create an homogeneity of fortification efforts and intents, unlike for the Serenissima, also due to the non constant presence of armies sent by the various nations subject to the Crown; moreover, the economic liquidity was not always available.
The Hungarian frontline was more vulnerable to the continuous pressure of Ottomans; even in a state of never ending military siege, Hungary, begging help to face Turkish military advance, was represented by local nobles not willing to give part of their incomes and rights to implement the State protection.
The above factors will reinforce mainly the already existing feudal structures, as citadels and castles. The interventions, mainly on existing structures, will not be exhaustive in terms of new modern fortifications tecniques.

The concept of "useful beauty"

At this point the use of classical distinctive characteristics and of architectural orders in military buildings is illustrated, that will find their symbolic explanation and representation in the antique style, which is developed and adapted masterly. One of the first promoters of this use was Donato Bramante,

who did use the style of Ancient Rome pragmatically[4].
According to these standards, the architectural language transforms the construction into a Manifest of the political, economic, social and artistic history of the city itself and of the State power that ordered it.
For this, in a concept of total reform of the fortified environment and of the deriving landscape systems, a common language adopted by the classical and already historicized powers, can concretely provide prestige and visibility to the power of the State.
One of most utilized elements among classical ones is the urban gate, a nodal point of the design and architectural theme par excellence, a sacred and fortified element, to represent the political and administrative will of the Potentate[5]. Such elements can be recognized in the constructions attributable to the Serenissima, Republic of Venice, as well as to the architectures desired and built by other States, in particular all those constructions founded between the 16th and 17th centuries in the states of Austrian Empire consisting of Gorizia area, in Friuli and Carintia, Carniola regions, Hungary, Dalmatia as boundary territories with Friulan region.
The House of Hapsburg, although in a soberer style, adopted the features of Italian Renaissance, commissioning works to Architects like Domenico Dall'Allio, one of main architects of monuments and architectural works realized in Graz in the 16th century.
If in the Medieval city walls the urban gates used to have a typical military conformation, with limited decorations, on the other hand, in the renaissance fortifications the gates architecture stands out with a particular strength respect to the low-rise walls homogeneously covered by bricks.
There are at least two concepts which have not been sufficiently treated by the historiography of fortified architectures: the first regards the symbolic and semantic values, both related to the use of various quotes to models belonging to the classical sphere; the second pertains to the different architectural, compositive, technological methods, up to those related to the materials employed in the construction of these buildings. Starting *ab origine* from the sources analysis, mainly from the Vasarian *lectio,* the relationship between *munire* and *ornare* can be reinterpreted within the field of fortified architectural buildings, that can be better defined by this comparison.

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[4] J. Summerson, *Il linguaggio classico dell'architettura. Dal Rinascimento ai maestri contemporanei*, Piccola Biblioteca Einaudi, Torino, 2000, pag. 29.
[5] M. Zorzi, «Superfluo ornamento? L'uso degli ordini nelle porte urbiche di Giovanni Maria Falconetto e Michele Sanmicheli», in G. C. Custoza (by), *Giornate di Studi Sanmicheliani, Securitas veneta ed architettura fortificata sanmicheliana: conoscenza, restauro, valorizzazione e recupero. Michiel da San Michiel circa il fortificar la Città di Udine e altri luoghi della Patria del Friuli*, International Conference 22-23-24 March 2012, Udine Gradisca d'Isonzo, Colloredo di Monte Albano, Osoppo, Verona, Knemesi, 2013.

Many printed sources of the Italian 14th and 15th centuries described the evocative, psychological and aesthetical value of the appearance, strictly functional, of the rocks and walls, as well as of the decorations placed "in an orderly manner" at certain points of the same.
Both Frontino and Vasari[6] define the fortified works[7] as pleasant and beautiful. Moments of pure aesthetic functional theory can be found in the writings of Alberti, who well described, in the paragraph regarding the "dictator fortress", the concept of beautiful combined with representation, as well as the observations of Gabriele Brusca, quoted by the valuable Stanislaus von Moos[8].
The military architecture seen as functional architecture is the idea conveyed by this study. The function defined herewith is attributable on a grand scale to many concepts of state utility and defines at the same time both identity and intents.
The attention to architectural orders, to the materials employed, and to the social-political systems represented by such interventions, will be an example of how the utilitarian concept can be compared to interventions that today can be considered as redundant and lavish. The decoration and the beautiful, considered not only in the use of materials and of architectural orders, but also analyzing the geometrical forms of the new cities plans, by the 15th-16th centuries, permits to get a sense of the coexistence of a will of representation, defense and economy which underlay the projects studied and desired by the military architects, within certain guidelines well marked by War Councils and Economy Commissions.
Italian school had a great influence on fortifications since the first half of 16th century and gave start to many interventions, raised along city borders, and inside various territories of *ancien regime* States. By the term "modern," we intend to define the architecture of fortifications, which was disclosed and developed in the atmosphere of Brunelleschi's perspective culture, after the invention of fire arms.
The main characteristic of such *novitas*, is a different conception of the military architecture; the componenents of such architecture interact between them as parts of a geometric system.
Within the project procedure of the fortified architecture, it becomes instead important to observe the intention to convey a message related to the exercise of the *res pubblica*.
A message transmitted by the use of architectural orders and of colour, declined in an ashlar masonry for the doors, and vice versa structured in the brick use.

---

[6] Cfr. G. Vasari, *Le Vite de' più eccellenti pittori, scultori e architettori*, Firenze, 1568.
[7] Look at the paper by S. von Moos, «Proscritto sul tema: fortificazioni e architettura moderna», in *L'architettura militare veneta nel Cinquecento*, Centro Internazionale di Studi di Architettura "Andrea Palladio" di Vicenza, Electa, Milano, 1988, p.170.
[8] Ibidem.

Along with this architectural research, well modelled stones are chosen for the reconstruction of works like the Tolmino castle in Slovenia, and for the architecture of the cities of new fondation or re-foundation along the Hungarian and Dalmatian borders belonging to the Hapsburgs; these information was found in the reports drafted by Giuseppe and Giambattista Vintana, architects at the Imperial court.

In the territories of the Serenissima, the first urban gates were realized in Treviso, where they assume a magniloquent character, then disclosed in the famous "*ornare et munire*" written by the doge Andrea Gritti[9] , and inaugurate, thus, the archetype which will be found in all the gates in Padua and Verona: those parallelepipeds projecting from the walls and richly decorated.

The *renovatio* in the venetian territories will be promoted by Michele Sanmicheli, whose works show evident connections to the antiquity, without forgetting the peculiarity of his structural approach to architecture, or rather the intrinsic nature of the orders by him employed.

Differently from Falconetto[10], an essential aspect of his works is the complementary relation between the order and the wall: in the architectures to him attributed with absolute certainty, rarely can be found a trabeate structure against a wall that is not combined with the arched wall, from which key bricks are projecting to support the architrave. Such "structure", generally made of stone, are built so as the architrave is sustained by the semicolums and/or pillars, as well as by the Arches's keystone that transmit the weight to the pillars.

In Sanmicheli's approach the primary motif of the roman classical architecture, the arch on the pillars of the order, is fully integrated and acquires a constructive as well as formal role, becoming unique in the renaissance architecture for its scrupulousness. Sanmicheli is therefore well far away from perceiving the order as decoration or only as a mean to compose rhythmically a wall, which is the main structural element.

This approach is probably the most interesting aspect for the Serenissima as a public client, as it became functional to a precise political plan: it was not a generic "antique" but the antique of Verona monuments.

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[9] Cfr. F. Bulfone Gransinigh, «Michele Sanmicheli: paesaggi da guerra nella Serenissima, *decus ac splendor italiae*», in G. C. Custoza (by), *Giornate di Studi Sanmicheliani, Securitas veneta ed architettura fortificata sanmicheliana: conoscenza, restauro, valorizzazione e recupero. Michiel da San Michiel circa il fortificar la Città di Udine e altri luoghi della Patria del Friuli*, International Conference 22-23-24 March 2012, Udine Gradisca d'Isonzo, Colloredo di Monte Albano, Osoppo, Verona, Knemesi, 2013.

[10] M. Zorzi, «Superfluo ornamento? L'uso degli ordini nelle porte urbiche di Giovanni Maria Falconetto e Michele Sanmicheli», in G. C. Custoza (by), *Giornate di Studi Sanmicheliani, Securitas veneta ed architettura fortificata sanmicheliana: conoscenza, restauro, valorizzazione e recupero. Michiel da San Michiel circa il fortificar la Città di Udine e altri luoghi della Patria del Friuli*, International Conference 22-23-24 March 2012, Udine Gradisca d'Isonzo, Colloredo di Monte Albano, Osoppo, Verona, Knemesi, 2013.

The architecture of urban gates became suitable to demonstrate it belonged to the past of region Veneto, which produced an architecture characterised by a Roman style yet declined in an independent and recognizable language.
The intention to express the magnificence and strength of the Venetian Republic with plenty of engraving is evident, as precious details are combined with the steady unrefined doric style characterised by the regular use of "*bozze...non rozze, ma pulite*", which acquire as more specific meaning in the celebration of a "*modus operandi per rem militarem*" as, being it rational, shows the sapience of the old orders, but at the same time it is completely realised with Istrian bright white stone.
The same intent of the Serenissima is reflected, as mentioned, in the walls realised by all those Italian builders, influenced by the peninsular school of fortifications, that practised their expertise in the territories of Austrian empire.
It is possible to comprehend also how the Venetian approach to the territory was much different and developed before the imperial one. Venice saw the possibility to create a series of citadels and fortresses on the mainland in order to create a network connecting immediately various points of its possessions.
Differently from the Austrian arrangement, especially along the Ottoman line, that saw a more structured organization of the territory based on border regions, the *Militärgrenze*, holding statutes different from the inside regions and characterised by the presence of populations integrated in the entire state defence machine, with precise obligations towards the empire but with important state and feudal benefits.
The different state organization brought to a different approach in the territory fortification. Centralized states like those of Hapsburgs and of the Ottomans, did not need to fortify all the territory, spreading it with outposts and fortresses; their strength lied in their army, that in the case of Hapsburgs was composed by elements from Vienna and others maintained in place (like the Uscocchi and Valacchi) and region of fortifications (border macro-regions) along the critical limits of the empire[11].
The Serenissima, controlling the territories from both the mainland and the sea, therefore non adjacent and heterogeneous territories, did not supervise all the borders with the armies; it was supported by fortified points spread on the territory, as precised by the Duke Francesco Maria della Rovere and his son Guidobaldo.
While Sanmicheli took care to fortify all the territories of the Venetian Republic, being it imperial interference or being it the neighboring countries and beyond the sea, the Turks; the Habsburg Empire fielding the family (of several

[11] Cfr. F. Bulfone Gransinigh, *I Vintana: una famiglia di architetti militari. Sopralluoghi, progetti e relazioni sulle fortificazioni nell'Austria Interiore dal XVI al XVII secolo*, Phd Thesis in Civil Engineering, Environmental and Architecture, supervisor professor Francesco Amendolagine, assistant supervisor professor Vittorio Foramitti, University of Udine, Academic Year 2013/2014.

generations) of architects, the Vintana, appointed Architects Imperials and responsible for all the fortifications in the areas of Styria, Carinthia, Carniola, part of the territories of Gorizia and Gradisca even beyond Trieste and Dalmatia.
The Vintana's were a family of architects from Gorizia, supervisors of military works of the city at the end of the fifteenth century up to the end of the seventeenth century with the task of perfecting the combat effectiveness of fortifications "[...] *following the progress in technique and practice of building fortresses* [...] ". Among its leading exponents there was Vintana Corrado (1549-1561), Giuseppe, son of Corrado (1561-1587), Giovanni Battista, Giuseppe's brother (1585-1605) and Giangiacomo (or only Giacomo), son of Giovanni Battista (1605-1620)[12].
The news about Corrado is scarce and fragmented: it is known that he was a superintendent of fortifications at the Empire in Vienna, but there is no information about realized works.
On the death of Conrad Vintana the royal order was to replace him with his son Giuseppe, with the office of imperial architect of the county of Gorizia by Archduke Massimiliano, by order of Emperor Ferdinando I, with the same wages as the father.
In 1565 he was commissioned by the Archduke Carlo to inspect the fortress of Gradisca, in an evident state of decay. It is documented that in Gorizia the Archduke ordered him "[...] *to give a strong hand to a warehouse for provisions, some wells and windmills, and move the powder magazine* [...]." In the same period he was also given the assignment for the layout of the town square, which was "*badly built*", especially towards the top. He was ordered, in particular to "[...] *knock down the houses and build decent ones* [...], *keeping the passages wide open to the upper city* [...]".
In 1566 he was again instructed to rearrange the bastion belt at the top and bottom part of the town of Gorizia. These precautions were taken following the intention of the Venetians to fortify Udine derived from the visits of a few decades earlier by Sanmicheli and the Duke della Rovere at which visit they recommended the reinforcement of the walls of Udine.
As shown in the drawing drafted by Giuseppe, the care in the design is focused towards the bastion placed at the entrance into the high fortress and to the gate that will be studied by the Architect Forabosco who brought a different proposal. The study in this case is carried out on a plan drawing and shows the spaces and functions inside the fortress. The gate in this case is realised with stone material and with well-defined geometries.
In 1572 he completed the work for which he is best remembered today: the home of the Civic Magistrate (or Municipal office) in Gorizia. In 1577 he worked on the fortifications in Hungary and later in 1580 at the castle of Graz, to enlarge the tank of the fortress.

[12] Ibidem.

Since 1583 the enclosure within the walls project, signed by him and the plans of the city of Gorizia, is preserved in the State Archives in Vienna (*Hof-und Haus Staatsarchiev*).
In the same year Giuseppe was called to Klagenfurt to check out the fortifications of the new city: already in 1534 it was planned to fortify the city according to the guidelines of the Italian defense system, but after the fire in 1535 which destroyed part of the city and wanting to put into practice the Massimilian law which forced the demolition of wooden houses, it was decided to combine the two projects creating next to the old one a new city.
Following this Giuseppe Vintana asked the Archduke Carlo to be transferred and be replaced in Gorizia by his brother Giovanni Battista (1581) who was named "*the scribe of the factories*" (assistant construction). Indeed, this request was granted, because later he became involved in the construction of the fortifications on the Croatia-Slav border, particularly in the castle of Tolmino, continuing the work started in 1583 by his brother.
During this period also his project for the fortified town of Stanjel in San Daniele del Carso. In this city he had planned the construction of modern Renaissance city walls, with the strategic disposition of watchtowers and fortified by a double gate access. He also intervened at the castle of Ptuj.
In the castle, Giuseppe Vintana carried out a demolition and re-construction of the fortified structures and re-qualified various spaces in the tower. In fact, the castle of Ptuj (*seu* Pettau), was already rather important starting from the XVI century together with the cities of Maribor, Radgona e Varaždin. For this reason, when the archduke Carlo d'Asburgo decided to improve the protection of the fortified structures pertaining to the territories of Inner Austria, and the documents report that many architects cooperated to the works of the castle.
In the first phase, in the middle of the 15th century, Gianmaria de Lalio (*seu* dell'Alio) and Antonio de la Porta de Riva used to operate, while in the second phase, between 1564 and 1584, among others Baldassarre Peruzzi and Giuseppe Vintana worked to this project. In the third phase from the end of 15th century to the beginning of 17th century Francesco Marmoro and Cesare Porta were involved.
All these designers allowed to transform the castle of Ptuj, from a medieval fortress to a Renaissance construction.
Giuseppe Vintana was active in Ptuj between the 1564 and the 1584[13], but it is not clear if the architect has actually designed any structure or, being the supervisor of the fortresses, has only written the reports about the works progress recorded in Graz archive. For sure, in the second phase of the works where the Vintana was attending, some bastions were added (at South, internal parts and at East), three portals, of which one was designed by Baldassarre

[13]J. Curk, *O utrjevanju Ptuja v sredini 16. stoletja*, in «Časopis za zgodovino in narodopisje», 16, 1980, p.7

Peruzzi, and new "casematte", special fortifications. In the meantime the walls were partly renovated, and an important staircase and a sequence of arches in the courtyard were realized, as well as the norther part was extended towards east. In view of these considerations, it is observed that the fortifications subordinate to the state fulfilled two main functions: to protect, by means of architectural structures and soldiers garrisons, and to represent and define an aesthetical and "ordered" language which can be clearly understood and easily referred to the economic and political powers. The beautiful, then, was not seen as unnecessary decoration, yet as a proof of the identity and strength of the prince.

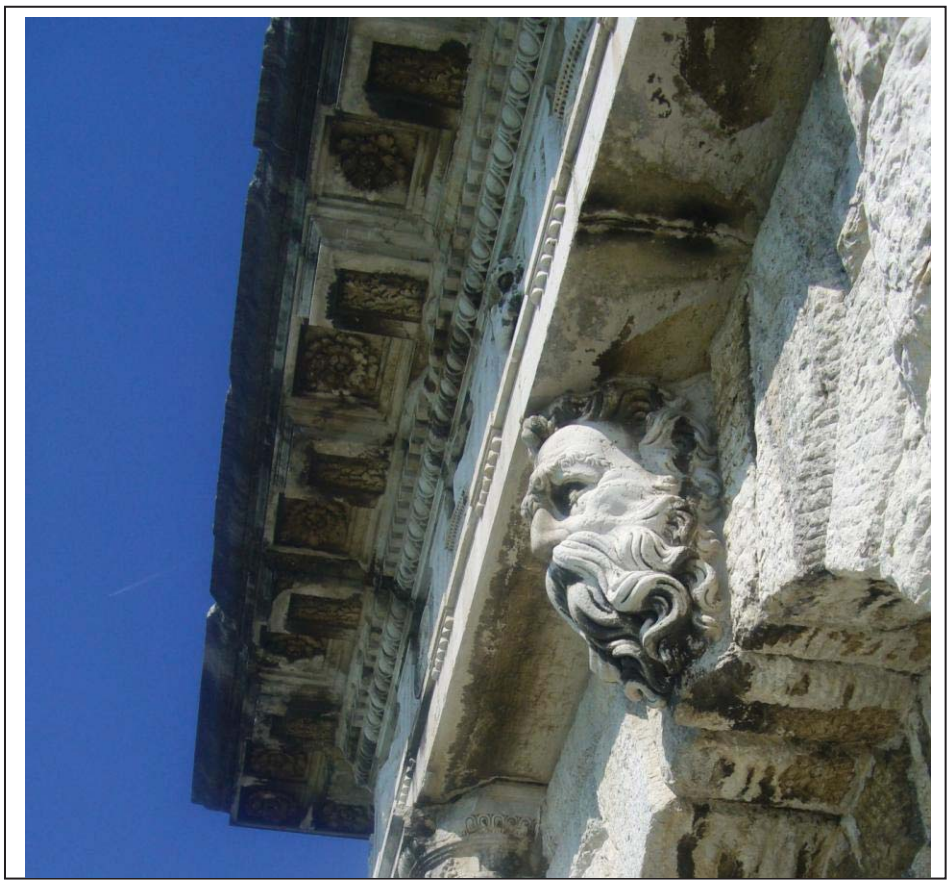

Figure 1. **Michele Sanmicheli, decoration of the gate of water, Forte Sant'Andrea, Venice.**

Figure 2. **View of the castle of Ptuj (*seu* Pettau). G. M. Vischer, *Topographia Ducatus Stiria*, 1681.**

Summary

In this study, the architectural language of the styles and of the decoration was defined and read trough the eyes of the powers that have always administered the territories of Friuli Venezia Giulia and of the boundary regions. The use of decoration was reinterpreted from the politic point of view, by analysing it as the classical language used to a representative scope; such approach was of the main elements that ruled the design of the fortified structures between the 16th and 17th centuries. Along with the studied of ballistics, of the geometry and of the "functional" architecture there were many studies of the style and "manners" so to satisfy the expression wills of the states served by renaissance architects.
A list of examples was presented and among these were examined the architectures designed by Michele Sanmicheli for the Serenissima, Republic of Venice and of the family Vintana, imperial architects at the service of Hapsburgs. The architectures of the two confining powers, Venezia and the Hapsburgs, are emblematic to define a different approach to the territorials fortifications. Similar languages for States with rather different administration and management of the territory.

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