DEFENSIVE ARCHITECTURE OF THE MEDITERRANEAN
XV to XVIII Centuries

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Fortifications of Stato dei Presidii
The gateways of Spanish Governors and the Guzmán Powder Magazine in Orbetello
History, military technique and musealization
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Abstract
The gateways in Orbetello fortified walls represent a relevant example of decorative devices wisely integrated into technical and military apparatus. Every passage has a specific functional connotation in the defensive system of the city, within curtains and powerful bastions. Thus, they comply with symbolic and representative criteria. They display Spanish Governors’ emblems, a sort of seal on the magnificent fortifications of the Stato dei Presidii. Coats of arms and heraldic symbols stand out solemnly and are visible from a long distance. The order of architecture frames the gateways and houses the systems to raise and lower drawbridges. Beyond these fortified passage areas, sheltered by wide embankments, the massive building of the Guzmán Powder Magazine stands. As the rest of the fortifications, the building was raised on essentially utilitarian purposes. However, it has the same symbolic power as the bastion gateways, sign of the Spanish military supremacy in the Mediterranean Sea in the XVII century. The historical analysis, preparatory to restoration, aims at highlighting the beauty of these devices, that must be available, regarding their didactic and museum value.

Key words: Mediterranean Sea, Fortresses, Monuments, Restoration.

Scholars are well-familiar with the technical and functional aspects of Orbetello fortification. This paper aims at highlighting not only the functional but also the decorative details of this fortification.

Firstly, we will focus our study on the city gates of the capital city of Stato dei Presidii.

Secondly, we will consider the Guzmán powder magazine.

The gates are architectonic elements bearing considerable relevance: here, practical or utilitarian aspects perfectly match the order of architecture. Stone seems to be carved by a skillful stone-cutter. On the one hand, pilaster strips, pilasters, and coatings are made of limestone; on the other hand, friezes, architraves, and cornices are made of ductile materials. A careful analysis of proportions permit the juxtaposition of capitals, cornices, windows, gables, and battering ram housing (1). Drawbridge door operating beams have been set in a highly symbolical structure. Under the gable, the designer has drawn a wide rectangular frieze to place a memorial slab. On the top, the gable frames the coat of arms, which had to be clearly visible in the
telescope of those who were reaching the fortress.

Fig. 1 Porta di Terra (land gate): drawbridge

In the eyes of a man of the XVI century, there was no difference between function and ornament. Friezes as well had a precise function: they stated the presence of the notables of Spain on those territories. The refined baroque geometry perfectly serves the purpose.

The Porta di Terra (meaning "land gate") has three gables and the biggest one is over a memorial slab. The smaller ones are on the side wings.

On top of that, a two faces architrave appears clearly under the frieze. The cornice is over it, providing the slender volutes of the higher level with a base. The creative solution with the classical order shaft emphasizes the verticality of the elements close to the arch. The tripartite horizontal scheme prevents us from perceiving the recesses for door operating beams as incompatible elements. The complete integration between technique, functionality, and adornment suggests that it is the work of a single designer. Not only did military engineers of Presidios master poliorceticon, but also technical solutions as well as the esthetical ones. The latter seem to be satisfactory but also a little bit formulaic. Each gateway is accompanied by gatehouses, characterized by short and “threatening” embrasures. They are emplacements fanned out to hit enemies’ legs and stop immediately their action: they also recall the warlike aspect of a defensive front. Moving toward the interior of the fortress, we reach the main gate, the so-called Porta Nuova protected by the bastion ‘La Rocca’. Here, the decorative elements are concentrated around the arching. It is the only opening in the huge and solid city walls. The order of architecture is minimal on the purpose of emphasizing a hidden passage, concealed in the polygonal geometry of the fronts. The original aspect has been altered by the addition of a double archway, built at the beginning of the XIX century in order to facilitate vehicle traffic. This compromise solution was adopted as an alternative to the wall demolition. Although the city walls have been preserved thanks to this solution, they result deprived of the necessary contrast between bastion and passage, which originally was more striking and catching. On this occasion as well, the functional aspect is
emphasized by the gatehouses whose room has been occupied by the modern archways. The gate is not an isolated element in the bastion system, as it is inherently connected to other buildings, namely barracks, shelters, and lodgings. A gable, along whose sides two wings extend as a diaphragm, hides the pitched roofs. The arch is framed and adorned by ashlar and vertical pillar strips, which give it special emphasis. The gates matches an unquestionable esthetic element to the functionality of a military building. Yet, the best example of perfect compromise between form and function is the Guzmán powder magazine. Rendering and scale models show geometrical clarity and building rationality. It is also clear how well the XVI century military architecture matched functional and practical aspects to the beauty of forms, starting from the design requisites. The storage of explosive gunpowder was provided with three layers of protection. The first one is provided by a bastion with cavaliers (3): it protected the flank the gunpowder magazine from a higher position, it was well equipped with embrasures, barbets (4) and supplementary artillery. Thus, the gunpowder magazine was partially protected (passive defense) and partially covered by friendly artillery firing (active defense). As a matter of fact, the second protection layer was provided by a pitched covering, well paved above the concrete cast on the vault extrados, has an adequate inclination so that it can absorb bullet impact or deflect cannon balls. Walls are robust and solid, openings to air ventilation are minimal. The third and last layer of protection is provided by four obelisks that served as lightning conductors. Two big barrel vaults, with fanlights above the windows, characterize the two overlapping floors of the building. The entrance ramps were accessible for people and pack animals, intended for carrying mascoli and affusti (5).

Fig. 3 Porta Nuova (New Gate)

It is worth considering also the wall cementitious materials. We may infer that the walls were made of a casting of hydraulic concrete integrated with external and internal coating made of stone and bricks. It is a subtle blend of building work and well-arranged layers of concrete used as vault reinforcement or filling. The coats of arms are stripped out,
but the use of four obelisks as lightning conductors is really significant. The reinforcements, in the corners and in the middle of the building – necessary to protect the building from artillery shots – have a formal value and are emphasized by tiny pitches that intersect the main covering.

The preservation of the adornments and structures shortly described above implies the study of the causes of degradation that affect them. From a biological point of view, vegetal organisms tend to colonize surfaces and structures. Surfaces and walls of the bastions are subjected to the growth of plants, bushes, and grass (as from the above-mentioned barbet to the colonies of microorganisms, namely musk and lichens), to ordinary physical and chemical phenomena (respectively, ice and acid rain), and to sea and lagoon elements (that is, salinity and rising damp). In addition, the situation is got worse by pollution, persistent sun exposure and strong wind. An effective solution to what listed before might be a constant maintenance of the gardens located on the fortress and at its base. The walls should be exploited by fostering and enhancing the museum installation of the Spanish fortress, already built in part.

Notes:

(1) With the term battering ram housing we refer to the devices used to lift drawbridges. These devices lift the drawbridge thanks to chains and a system of pulleys and counterweights.

(2) Slender pilaster strips, that are so solid to be defined pilasters; thus they are bearing under a robust entablature.

(3) The term ‘cavalier’ refers to a higher platform, within a bastion where an extra battery of cannons was set.
(4) Barbet is the grass that usually grows on the top of a bastion. Generally provided with wheels, where a piece of ordnance is normally set.

(5) Mascolo is a term referring to a piece of ordnance, affusto is the wood support,

References