

# Geometry of power: ideal geometrical shapes in Military Renaissance Architecture of Ducato di Urbino and Venice Republic 1478-1593

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## Abstract

In the second half of the XV century and throughout the XVI century Europe went through the revival of the Arts and a renewed interest in human activities that will be known as Humanism in its initial stage, Renaissance as the middle phase and Mannerism in its final stage. “The Renaissance civilization” spread throughout the Italian peninsula, especially in central and northern cities, both big and small.

During the same period, the armies saw the introduction of new equipment, such as the use of gun powder which in turn caused the functional and formal reassessment of defensive architecture. Outposts, fortresses and cities are redesigned to adapt to the presence of cannons and culverins that influenced the physical layout of defensive architecture.

In central Italy and in the Po plain, we meet the military works of the great architects of the time, among them, Francesco di Giorgio Martini and Michele Sanmicheli, but also the theoretical writings and drawings by Antonio Averlino, Cesare Cesariano, Pietro Cataneo, Daniele Barbaro.

The architects mentioned above, who were at the service of the city-states, the lords and the Republics of the time, plan and design the defense of the city but also the ideal city with its perfect geometric lines, leaving us with many testimonies of the rich and prolific era of

experimentation and invention. In 1593, Giulio Savorgnan will be the first Star shaped Fortress City, based in the Friuli Plain, Palma Nova, bringing to fruition the dream of ideal harmony through the use of perfect geometrical shapes which will be reused through the century. This city will have great influence over all Europe.

The description of some military constructions made according to the new geometrical shapes, will allow us to understand the origins, development and architectural features of these buildings, that incorporate technical defense, offensive force and the harmonic proportions of the reborn Vitruvian architecture also intended as a symbolic representation of the strength of political power.

**Keywords:** Military Architecture, Renaissance Geometry, Science of Fortification, Territory and Landscape.