

The “Castelvechio” of Matera. Documentation and analysis of a urban fortress in the apulian-lucanian context

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Abstract

The aim of this study is to investigate the medieval genesis of the town of Matera, by examining a specific area, now known as *Castelvechio*, meaning old castle, site of the original fortified urban nucleus, by presenting a reconstruction of the main evolutionary phases, from the Lombard castrum to the Angevin walls, up to the transformation for civil use in the modern and contemporary age.

This area is identified today as the top part of the famous *Sassi*, the historic districts of Matera (UNESCO Heritage), where there are still visible traces of these primitive fortifications absorbed in the complex urban fabric.

The site was an ideal observation point for monitoring the surrounding area, while the harsh morphology of the rocky terrain presented optimal conditions to meet defensive needs.

The research has led to hypothesize a complex in very close relationship with the geological substrate to be understood as an anthropic transformation of a pre-existing "natural fortification".

The military function survived until the late medieval era, when urban development and modern revolutions in the field of defensive architecture led to the need to build other structures in the city and the consequent sale of the area under consideration for civilian use. Particular attention was paid to the relationship of the object in question with the context around, since a castle is not an element in itself, but the node of a network designed to control the territory, in very close relationship with the neighbouring lands and historical road network.

Keywords: Medieval fortress, digital survey, 3D modelling, digital reconstruction

1. Introduction

Understanding the City of Matera, means understanding its essence as a city of borders.

Today Matera is on the border between Basilicata and Puglia. For centuries it has been at the meeting of those regions of the Kingdom of Naples which were the Provincia di Basilicata, the Terra di Bari and the Terra d' Otranto, even before that it was disputed, conquered, sold and won among the countless peoples who passed through the Southern Italy.

Therefore, a reading of the territory that takes the current regional administrative limits as a

reference should be avoided. Matera is a border also from a geographical and geological point of view.

The city rises at the point of contact between the limestone plateau of the Murge and the clays of the Fossa Bradanica. Therefore, a first fundamental step is to start from geological-morphological considerations that explain what are the materials of which the city is composed and the reasons that led men to settle in this specific place.



Fig. 1- Aerial view of the *Castelvechio* district in Matera (Enrico Lamacchia, 2021)

The surface layer of limestone rock has always been, until recently, the ideal substrate for human settlement. Easily workable material even with rudimentary tools, its versatility lies in having concurrently allowed the development for underground architecture and offered the material for the one built. A few kilometers away there was a wide availability of clay useful for construction and other common uses.

The traces of human presence in Matera date back to prehistoric times, but we must not fall into the deception of thinking that the city we see today dates back to such remote periods. On the territory there was a constellation of small villages inhabited by a limited number of individuals, stable, but certainly not attributable to a form of organized and centralized settlement. As far as the ancient age is concerned, there is scarce evidence, which in any case does not reveal anything other than a crossing point along the Appian Way in Roman times.

The situation changed with the Middle Ages. The tumultuous centuries preceding the year 1000 saw

the development of well-defined centers of power, in which the civilian settlement is articulated around the military headquarters. Matera is one of these, long disputed between Lombards, Byzantines and Saracens. The first of these peoples was responsible for the definition of a first castrum, the embryonic state of the object of this study. The arrival of the Normans will lead to a further stabilization of Matera as a node in the network of fortifications in the panorama of Southern Italy, a role further reaffirmed until the Angevin era.

The urban history of Matera is therefore the history of a city of medieval origin, in constant evolution whose shape finds a definitive aspect in the late modern age.

2.The medieval fortified works in the apulian-lucanian area

The Southern Italy, with its central position in the Mediterranean Sea, has always been configured as a crossroads of peoples and cultures that have stratified a rich legacy of material testimonies. Of

these, the defensive structures are perhaps the most significant. Thus, a significant panorama of defensive systems from every era opens up within a radius of a few kilometers from Matera.

We can identify two macro areas corresponding to internal Basilicata and the Murge plateau. In the first we see castles built on solid outcrops in the clayey hills. Here we see a wider range of materials used for the masonry: stone blocks of various types, squared or not, river pebbles and brick bricks. On the other side, there is an almost exclusive use of limestone in squared blocks for the walls, while brick is adopted only for roofing and cladding.

They all generally have in common the fact that they are placed in a high place such as to have an unobstructed view and in turn be visible.

3. The current state of the *Castelvecchio*

The Castelvecchio district occupies the south-western area of the Civita di Matera (the rocky

hill at the centre of the town) where, at a maximum altitude of about 400 meters above sea level, is the highest point around the historic settlement. The area is characterized as a small limestone plateau surrounded by very high slopes that reach the vertical in the south-eastern side.

This area, in fact, is today totally covered with buildings, including some of the main noble mansions and important religious buildings such as the Cathedral.

The current appearance was achieved in the nineteenth century, a period in which the total saturation of the spaces was completed, except for some gardens belonging to the buildings. This can be deduced from late nineteenth-century cartography¹. Subsequently only minor modifications and additions were made that did not significantly alter the volume of the building. Nowadays only a few traces of fortified works are still visible. (Fig. 2)

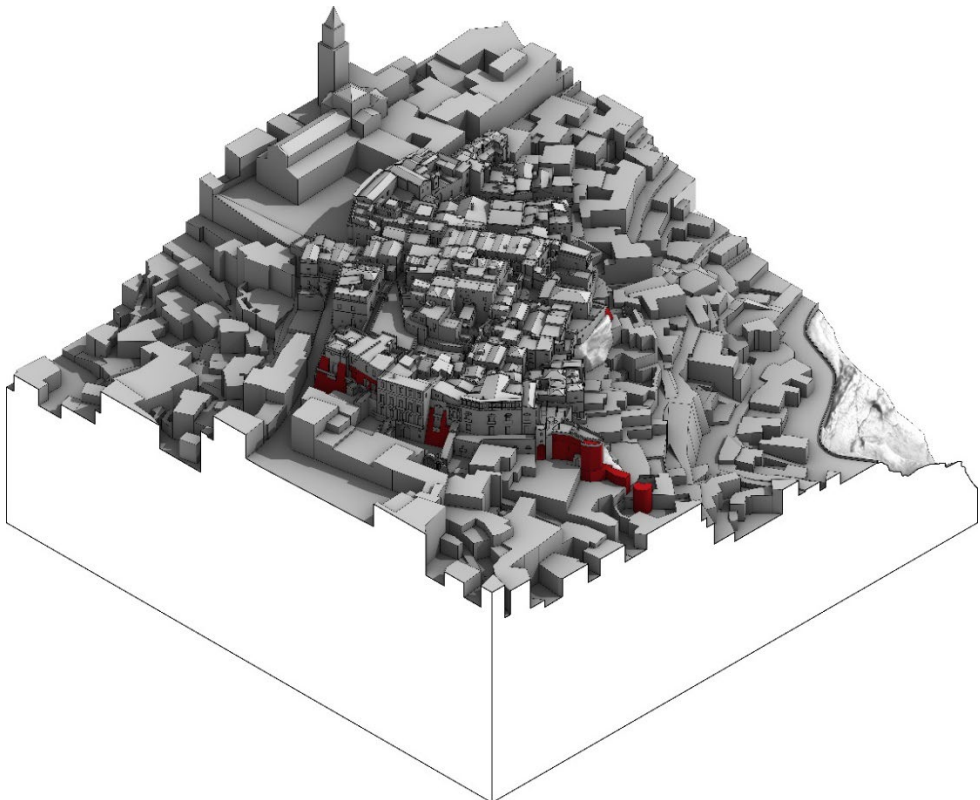


Fig. 2- 3D model of the Castelvecchio district, south-west axonometric view, current state, in red we can see the visible traces of medieval fortifications (Enrico Lamacchia, 2021)

4. Methodological approach

The methodological approach was based on framing the theme from different points of view, starting from the analysis and digital survey of the existing (terrestrial and aerial photogrammetry), then combining the research of historical sources and the comparison with similar cases in the surrounding area.

In the end, the results of the research are graphically illustrated in the form of original drawings and digital models.

The size and articulation of the area in question, as well as the impossibility of accessing many of its parts, immediately raised the problem of acquiring information and at the same time representing it.

The most important operation performed, for the quantity and quality of information obtained, was the aerial photogrammetric survey with a drone, integrated with terrestrial ones and direct measurements from the ground (Fig.3), and the subsequent creation of three-dimensional digital models on which to make further measurements and observations.



Fig. 3- Detail of the point cloud made with structure from motion techniques (Enrico Lamacchia, 2021)

Having already underlined the essential link that exists in Matera, and in the more general case of fortified architecture, between soil and buildings, the need to fully understand the geological substrate of the area in question is evident, so the research firstly focused on identifying the contact layer between natural and artificial material. This was possible by combining the observations collected with site inspections with the analysis of the cadastral plans of the buildings. Since architectures built in masonry and underground

environments have different shapes it is possible to identify the point of contact between natural and artificial material (Fig. 4).

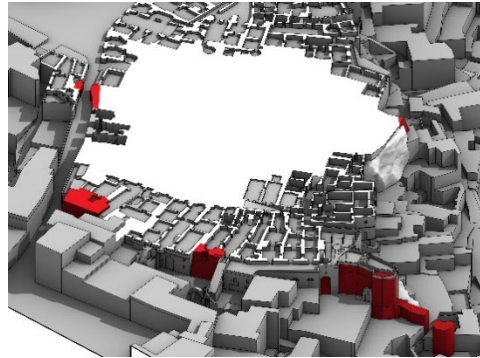


Fig. 4- Detail of the 3D model showing the inner parts of the buildings. In red the traces of medieval fortifications. The white solid part in the center is section of the rocky hill (Enrico Lamacchia, 2021)

For what about historical documentation the main challenge encountered was the almost total absence of contemporary sources with the object in question. If some fragmentary elements come to us from the Middle Ages, it is with the Modern Age that historiographical production sees a significant increase, with the activity of numerous chroniclers active in the city and passing descriptors. From the sixteenth century onwards, there are also graphic sources that illustrate the city and the surrounding localities in detail. The most important sources of this kind are the followings:

- The *Carte Rocca* dating back to the 16th century, and stored in the *Archivio Generale Agostiniano* in Rome, they are a collection of views and maps of different locations in Italy and two of these represent Matera still surrounded by walls and towers.- The fresco of *Salone degli Stemma* located in the Archbishop's Palace in Matera, made in 1709, shows Matera and other surrounding towns at the age of the painting.

- The views engraved in 1690 by *Francisco Cassiano de Silva* also shows different places and in the Kingdom of Naples and one of these represents Matera.

- The different *Platee* of the convents stored in the *Archivio di Stato* in Matera. Dating back to different ages they are catalogs of ecclesiastical

properties which contain descriptions and images of many buildings and estates.

All these testimonies show us an urban environment that has already been transformed with respect to the medieval situation but has not yet evolved into its present appearance. It is thus possible to form an idea of the medieval city a “moment before” its modern transformation, with due prudence and critical sense, even in the absence of sources directly related to it, especially if a comparison is made with similar neighbouring cities.

5. Reconstruction of historical phases

5.1. The Paleosol

In the light of the analyzes illustrated in the previous paragraph, it was possible to reconstruct the site's paleosol, that is to say to recompose its appearance before any anthropic intervention (Fig.5). The study of the shape of the land is a guide in understanding the settlement mechanics and in choosing the site to fortify.

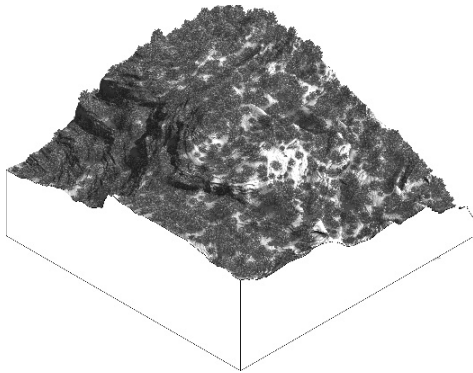


Fig. 5- 3D model of the Castelvecchio district, south-west axonometric view, reconstruction of the paleosol (Enrico Lamacchia, 2021)

If the common image of the Murgia Materana is that of a rather arid place, this is the product of the hand of the man who cleared a place that was once rich in vegetation. The intact wooded areas around the town, remind us of the appearance of the primitive oak forest that once covered the entire territory. It is therefore appropriate to take this into account in the reconstruction. This forest was mostly composed of Fragno oak (*Quercus trojana*) combined with other species of oak and shrub vegetation typical of the Mediterranean bush.

5.2. The early Middle Age

If the archaeological traces show the human presence on the site since ancient times, the early Middle Ages saw the definition of the military castrum and the settlement of civilians in its surroundings. Due to the confused knowledge of the period, one can only proceed by hypothesis.

It should be noted that the Castelvecchio area constitutes a relief in its own right also within the hill of the Civita, as it is separated by a moat from the area where the Cathedral currently stands. Here, in fact, the steep slopes and differences in height alone guaranteed a certain level of protection. The study of the visual field that focuses on the summit then sheds light on the reason for the constructive choices. From the summit, the view is completely unobstructed to the north and south-east, allowing you to control for miles. To the east, the presence of the Gravina canyon was the best guarantee against any attack, preventing any movement of armies, although the field of vision is limited by the greater height of the eastern side. To the west, however, visibility is limited to a few hundred meters from the hills present there, while the intermediate plateau was certainly the preferential access route to Castelvecchio. Therefore, the greater presence of fortifications on this side does not seem a coincidence. The castrum can be imagined as a free from area, probably surrounded by a palisade made with the wood that abounded in the place. If this area was reserved for the military, civilians found accommodation outside it. Anyway, this is just an arbitrary hypothesis (Fig.6).

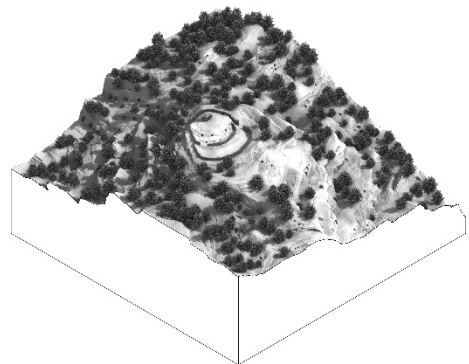


Fig. 6- 3D model of the Castelvecchio district, south-west axonometric view, reconstruction of the early Middle Age (Enrico Lamacchia, 2021)

5.3. The central Middle Age

The first masonry works should date back to the arrival of the Normans.

Since the construction culture of this people is known, it is possible to hypothesize the presence of a square based tower at the highest point, as is present in almost all the fortified sites present nearby (Fig.7). This tower, however, is not reported in any document and any material traces, if any, would be totally hidden by the buildings built above. It is therefore proposed as a pure hypothesis that only a targeted archaeological investigation could corroborate or refute. This is then the time of some important civil constructions for the city, one of all the Benedictine monastery of Sant'Eustachio, on whose remains stands the Cathedral completed in 1270. What remains of the monastery is the Crypt of Sant'Eustachio, unique sure testimony of masonry dating back to the period.

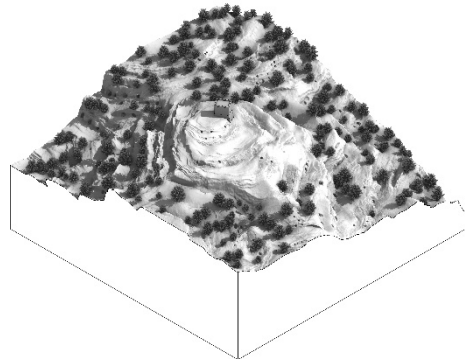


Fig. 7 - 3D model of the Castelvecchio district, south-west axonometric view, reconstruction of the central Middle age (Enrico Lamacchia, 2021)

5.4. The late Middle Age

It is due to the Angevin domination that the most significant works must be traced, those in part still visible today, as well as the last ones built

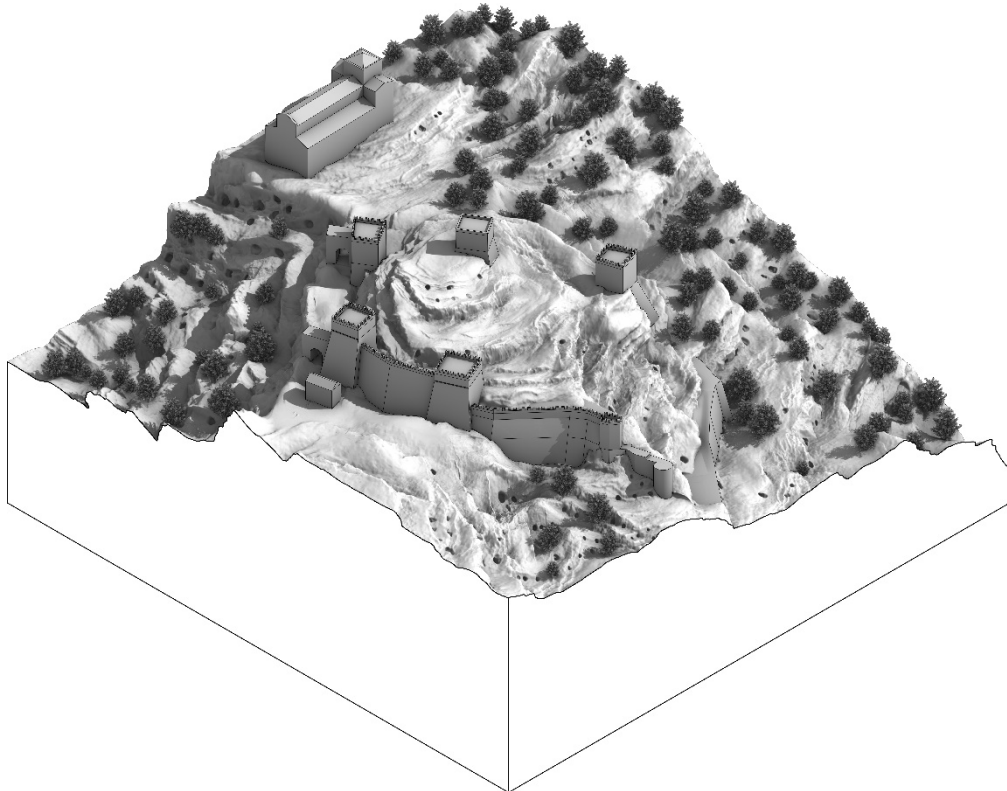


Fig. 8- 3D model of the Castelvecchio district, south-west axonometric view, reconstruction of the late Middle Age (Enrico Lamacchia, 2021)

before the area was sold to civil construction. Imagining a ring belt that completely encircles the Castelvecchio is a stretch not supported by any material or documentary trace. Also in this case it is a question of artificial additions to the natural fortification only where it was necessary. It has already been said that the western side was the most vulnerable and it is therefore only here that real fortified works can be found. Also in the Map of Matera present in the Carte Rocca (16th century) it is evident how the walls constitute only a partial wall complementary to the Gravina Canyon.

We see, therefore, the south-western side equipped with three towers joined by two walls leaning against the rock. The outer towers push out of the rock massif to increase the field of view (Fig.8).

5.5. The Modern Age

The concession of military structures for the construction of civil buildings starts the process of transforming the area into what it is today. A very significant date is that of 1663 when Matera was elected as the capital of the Provincia di Basilicata. One of the many effects following this novelty is an intense building activity that led to the definitive consolidation of the image of the city in the 18th century.

6. Conclusions

This study must be understood as an attempt, from an architect's point of view, to standardize

knowledge on the subject and provide a key to understanding the urban phenomena in Matera.

In recent decades, most of the studies conducted on this topic have been carried out by historians and archaeologists, while architects have generally focused more on the restoration of the Sassi in their current form than on evolutionary investigation.

Furthermore, the most in-depth studies and some archaeological excavations have been conducted only in specific areas.

Hence the need to investigate the material and construction aspects that guided the evolution of this settlement and to do so with an overall vision in the urban scale, using the tools of representation and drawing typical of the architect.

The study also aims to be a starting point for the development of further research involving multi-disciplinary aspects. Other scholars with their own specific skills working together will be able to give different interpretations to this complex topic which, in the almost total absence of sources directly contemporary with the object in question, risks falling into myth rather than being addressed with due scientific approach.

Notes

(1) Available at:
<https://rsdi.regione.basilicata.it/servizi-in-linea/>
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