

RESTORATION, RECONSTRUCTION AND SIMULACRA

Comparative evaluation between Matera and Santorini

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Abstract

According to tourist development, the boundary between authentic architectural heritage, restoration, reconstruction and many in-between notions becomes fuzzy. This general statement is investigated comparing two places of the Mediterranean sea: Matera in Italy and Santorini in Greece. In both places, the particularity of the easily excavated ground gave birth to a subterranean habitation pattern with vault-like spaces, receiving light from small openings on a built façade.

Even though these places were inhabited from the prehistoric period, they developed the current systematic and formal subterranean organisation during the 6th and 7th century A.D. By the middle of the last century, both places suffered misfortunes. Their regeneration commenced at the second half of the 20th century due to tourism development, resulting in a diverse architectural morphology. Last century's tourism-led revival applied different attitudes toward these structures: preservation, adaptation, restoration and reconstruction. These attitudes constitute the phenomenological framework for the comparison of these two places.

The impact of tourism on the structures of Matera and Santorini could be simplified to: 'Museum' preservation in Matera versus 'Neo-vernacular' reconstruction in Santorini. However, it is difficult in many cases to distinguish the implemented technique.

Key words: restoration, reconstruction, simulacra, subterranean architecture, place making.

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Terminology

Restoration: In article 9 of the Charter of Venice (1964) it is determined that the aim of restoration is to "preserve and reveal the aesthetic and historic value of a monument and is based on the respect for the original material and the authentic documents. It must stop at the point where conjecture begins, and in this case moreover any extra work which is indispensable must be distinct from the architectural composition and must bear a contemporary stamp".

Preservation: According to article 4, "preservation is the permanent care, maintenance and monitoring of a structure as it has survived to the present moment. Because almost all old structures have been altered over the years, preservation includes the retention of alterations which portray the evolution of a building throughout its history".

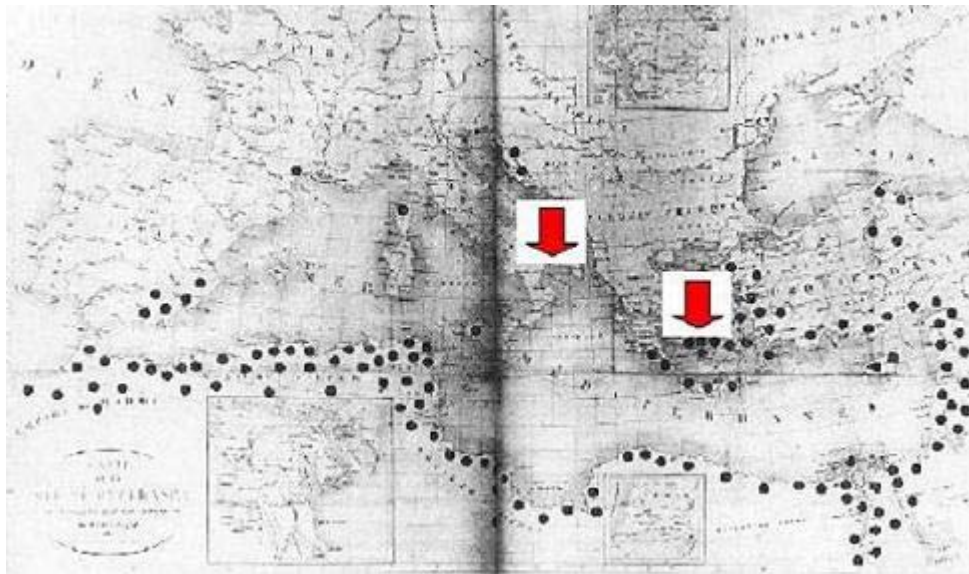
Reconstruction: Reconstruction is the rebuilding of a destroyed building form that it is not possible to preserve or restore in order to capture the original structure. Because this practice involves much speculation, it is most valid when a great deal of evidence about the lost building has survived. Historical evidence may contribute to determine this information.

Simulacra: Simulacra is giving the form of a traditional building to a new construction, in order to simulate a traditional environment. While traditional forms are the result of a specific use in the past, today, there are selected to shelter contemporary functions in the prospect to create (or to fill) a unique character and atmosphere that attracts tourism.

Introduction

The particular subterranean phenomenon of Matera's and Santorini's settlements (map 1) represents the final result of a process which took place simultaneously along many centuries due to geographical, geological and historical conditions generated in times of a great lack in means. Wherever geological conditions furnish a ground that can easily be worked into caves there are generally found ruins of buildings¹, since carving space out of the soft soil was more efficient than building. In some cases the historical evolution of means and human perception resulted in the extension of this negative architecture, adding architectural elements² that expressed the following historical periods styles

It is assumed that both subterranean habitation patterns (Matera and Santorini) were developed in a systematic form after the 6th century by the Byzantines, who fighting against the Arabs and losing parts of the empire, had to settle refugees from Asia Minor and North Africa.



Map 1. Matera and Santorini: Subterranean vaulted roof pattern among plain roof pattern around Mediterranean Sea.

source: Chateaubriand, F.-R "Itineraire de Paris a Jerousalem", 1835.

Present times found both places in devastation, gradual poverty and ageing, caused by war and earthquakes. The beginning of the 21st century exposed a different evolution (Gould, 2002) between these two places that originated by similar conditions. Development plans during the last 50 years, searching for the endogenous dynamic of each place and for creating potential ways out from their miseries, implemented rehabilitation programs based on tourism attraction and promoted their particular architectural heritage. Under tourism development, their traditional architectural heritage was focused implementing different techniques like restoration or reconstruction and exhibiting a double-edged character (Cloke & Johnston, 2005). The constraints of the historical pathways existed, but the dynamic of tourism and glocalisation (Virilio, 1997) dictated a preservation and restoration for the underground dwellings of the Sassi in Matera in contrast to the regeneration of a neo-vernacular environment for the underground dwellings of the settlements of Ia, Imerovigli and Fira of Santorini.

Evolution of the Sassi in Matera

Matera town with a population of 59.265 inhabitants (2005) is the capital of the Matera province and belongs to the Basilicata region of Italy. A part of the old town climbs vertically up the steep sides of the Gravina river gorge, blending perfectly into its natural setting. Two natural amphitheatres formed by two gullies known as grabiglioni ("small crevasses") were subjected to intensive excavation creating an underground settlement with dwellings determined by the rocky layers of the gorge.

The area of Matera was dominated from the 6th century by the Byzantines who moved to South Italy. Later on, during the iconoclasm in the 7th century and in relation to the loss of Syria, Palestine, and Egypt, refugees fled to southern Italy (especially Calabria). The caves of the Sassi in Matera were occupied by orthodox monks who enlarged the natural caves and constructed numerous churches³. By the year 733 A.D, as many as 50,000 monks and ecclesiastics arrived in the area of Bari (Lambrou, 1885) persecuted by the iconoclastic controversy and two hundred monastic communities⁴ were created. In the Sassi of Matera, the ancient cave-dwellings were an ideal refuge. Monasteries and rock-hewn churches were built enriched with frescoes, pulpits and sanctuaries. Excavated stones were used for the construction of additional rooms in front of the caves, sometimes reproducing the patterns that existed in the monasteries they abandoned, in their eastern places of origin. Later on, the monks moved elsewhere and the locals settled into the caves. Traditional sophisticated techniques were used to capture the water (Laureano, 2002) in underground tanks (fig. 1) and to cultivate the terraced distribution of the underground dwellings for farming. Caves, enclosures, paths, water-collecting basins, and underground architecture evolved in a stone superstructure.



Figure 1. Representation of the underground habitation system of Matera.
source: Laureano, P., *Giardini di Petra*, 2002.

Above this stone superstructure and on the crown of the gorge, the fortified Citadel -which consisted of a city wall with defensive towers and palaces- was constructed around the 8th century. Between the 10th and the 14th century, under the Logobards, the Normans and the Aragonese domination, the Orthodox churches turned into Catholic and their external facades

were integrated according to the architectural style of the successive historical periods -medieval, classical or baroque. The 15th century found Matera prosper with its own humanistic school, while the population of the Sassi dwellings increased by Albanians and Slavs refugees, due to the Ottoman expansion in the Balcans (Ridola, 1906).

By the 15th century the population of Matera town was count to 3.530 inhabitants and by the 16th it was increased to 12.475. By the 17th century, the population reached to 18.000 inhabitants and the present form of the cathedral at the top and the two underground neighbourhoods of Sassi beyond the walls of the Citadel - Sasso Caveoso in the southern slope of the gorge and Sasso Barisano in the northern- was completed (fig. 2). During this period, many public and religious buildings were constructed in late baroque and rococo architectural styles. By the 18th century, a number of convents were created for the Dominicans and later on for the Benedictines in a neo-classical style.



Figure 2. The Citadel above and beyond the Sasso Barisano, 2008.
source: Archives of the authors.



Figure 3. Original form in Sasso Caveoso (2008).
source: Archives of the authors.

During the 19th century, Matera lost the previous glory and the beginning of the 20th century found an over crowded population⁵ inhabiting the underground dwellings of Sassi, with high poverty and unhealthy conditions, that was entitled as “the shame of Italy”. After the end of the B’ World War the implementation of a development plan for Matera, ordered the evacuation of Sassi, where about 20.000 people lived in miserable conditions.

In the last fifty years, (the issue is continuing to question) the decision whether Sassi had to be demolished or saved⁶ (Colluci, 2006) is questioned, while thirty years ago it was declared by UNESCO as World Heritage. Today, restoration techniques are applied to the south neighbourhood of the Sassi (Caveoso) as it sustains the original form of cave dwellings, churches, cisterns, cellars and narrow paths (fig. 3).

The north neighbourhood (Barisano) that is distributed among clusters (vicinato) which are interrupted by 18th and 19th century palaces, represents an effort to adapt to the current era with the integration between traditional places of invented activities (Mitchell, 2002). The Barisano and the Caveoso zones of Sassi, with their different morphological character are the result of a slow evolutionary process, which originated from the same matrix many centuries ago.

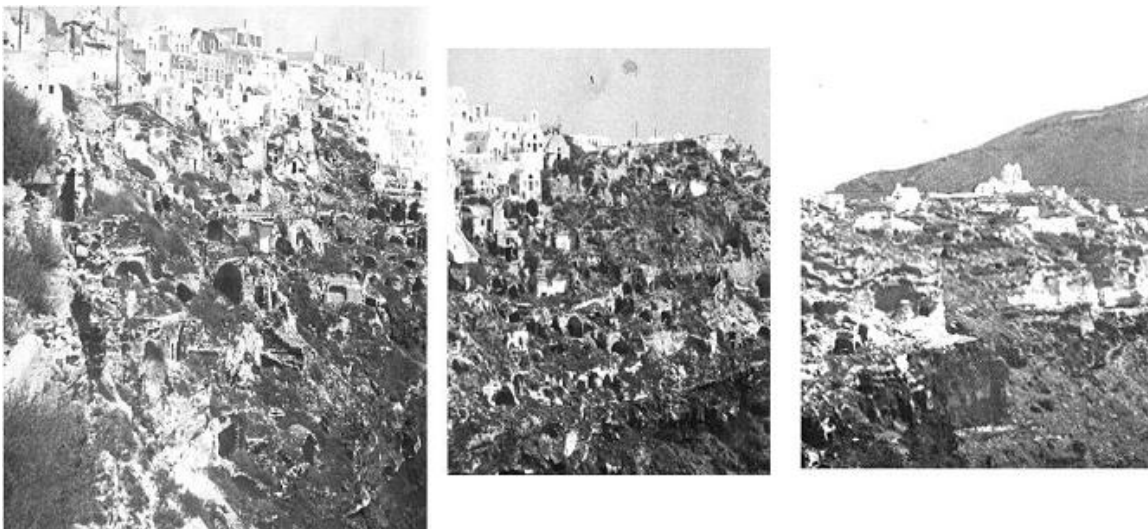
Evolution of Santorini (Thera)

Santorini is the southern island of the Cyclades, inhabited by 10.402 people (2005) spread into 30 settlements, with a total surface of 75sq.km. It is part of a volcanic basin composed by three islands (Thera, Aspronisi and Therassia) forming a spectacular caldera around a giant central lagoon. It is the result of the submersion, after an explosion of the ancient island Strogili and it is composed by successive layers of fragments and lava. Its upper layer consists of pumice stone and a sub-white ash called "theraic earth" which in is fact a very good quality of cement.

It is possible that after the explosion of the volcano in 726 A.D.⁷ -during the iconoclasm issue raised by the emperor Leo the Isaurian⁸ and when the former orthodox religion buildings of Santorini had collapsed⁹ - that a resettlement occurred, favouring the protected slopes of the caldera. This might be the period that the systematic development of the subterranean habitation pattern was developed for equivalent reasons as in Matera¹⁰. During the 10th century Crusades, the Frank Knights settled the island, while in the 13th century AD, the Venetians annexed the isle to the Duchy of Naxos. For several years, Santorini changed hands among the Frank families of Sanoudo, Barochi, Crispi and Pisani. Dated in the 13th century, 19 houses have been excavated¹¹ in the east side of the island. The architectural form of these houses is equivalent and with the same analogies to the typical negative form of the subterranean dwellings, with a vaulted support of the roof¹². The fortifications and the construction of six castles (castellia) and towers were the results of the Venetian duchy occupation and were still in good shape until the beginning of the 20th century.

The 16th century Santorini was passed on to the Turks, after it had been ravaged by the notorious pirate Hairedin Barbarosa. The Turks gave many privileges to the people, who managed to prosper and to form one of the most powerful fleets in the Aegean Sea. Santorini continued thriving after the Turks withdrawal in the 19th century, by developing shipping and by exporting the "theraic earth" (cement).

Strong earthquakes struck the island in 1956, when half of the buildings were completely destroyed and a large number suffered repairable damage. The evacuation of the underground dwellings along the ridge overlooking the caldera -where the instability of the soil was responsible for the great extent of the damage- was imposed (fig. 4). Most of the population of Santorini had to emigrate to Piraeus and Athens that at the time were offering a way out to employment and recovery.



*Figure 4. Damaged Santorini after the earthquake of 1956.
Source: Photographic archive of C. Theodorakis.*

In Santorini, a considerably extensive reconstruction program was implemented applying repairs, restoration and construction of new houses. Today, the building construction is expanded all over the island introducing a neo-vernacular environment (fig. 5).

The peculiarity of the easily excavated earth in the caldera slopes and the bents of torrents facilitated the underground habitation pattern. The basic underground architectural form (canava) is a vault-like space¹³ with small openings on a projected façade (fig. 6). The vaulted spaces project 2-3 meters and form a flat roof that serves as an outside terrace to the higher level inhabitants and is used as a courtyard. Depending on the underground geology, a cistern was created used for storing rainwater. Extended stairways give access to dwellings and guide animals and people and are used to channel the water to cisterns. Underground habitations nowadays dominate 5 settlements¹⁴.

In all types of dwellings (fully subterranean, partially or above ground houses) the internal space remains the same while a narrow second vault may be added alongside as storage. A description of Vothon settlement (Bent,1885) records that “ *the bed of torrent forms the street, on either side are lovely gardens, for in this sheltered spot everything flourishes; luxuriant prickly pears and geranium flower all the year round, and vines hang in festoons from the trellises*”.



Figure 5. Current reconstructed neo-vernacular environment in Santorini, 2009.
source: Archives of the authors.

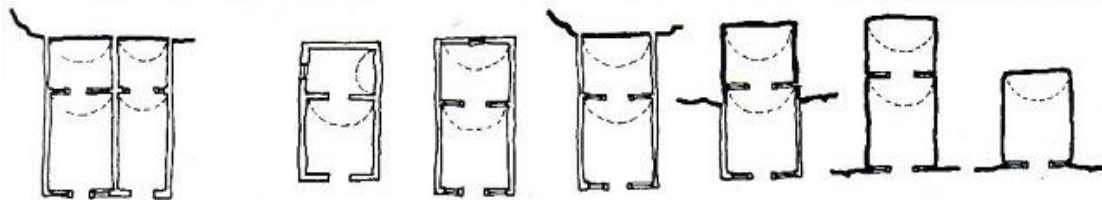


Figure 6. Typology of underground houses.
source: A. Radford , G. Clark, *Cyclades. Studies of a building vernacular*, 1974.

During the prosperity of the 19th century, a number of mansions were built in the upper crown of the caldera’s settlements following the neo-classical architectural style.

Phenomenological comparison

Places showing extraordinary physical characteristics are of special interest in the study of settlement patterns (Norberg-Schulz, 1980). Environmental factors influencing socio-economic evolution of communities become more explicit in such areas. The Sassi of Matera (Italy) and the settlements of Santorini island (Greece) are two cases in comparison. Both settings share unusual climatic and geological characteristics, which are largely responsible for the unique underground settlements and cave dwellings. In the first case (Matera), the requirements imposed by the religious practices are claimed to be the major factor in the choice of the location as well as in forming the built environment. In the second case (Santorini), there is not written or archaeological evidence to confirm the religious underground practices, but there are obvious building similarities (fig.7). The resulting settlement patterns show a perfect adaptation of the local people to the natural settings in terms of the efficient use of natural conditions.

Santorini



Matera



Figure 7.. Similarities of Santorini and Matera.

source: Archives of the authors

Both places survived intact until the last century and were capable to manage the deficit environmental resources with wisdom. For different reasons both sites suffered complete deterioration around the '50s and for a period the cave dwelling remained empty until tourism discovered their unique character and atmosphere.

The organisation of life in both sites was determined by the interplay between soil and water. Rain water runs over cliffs, creating ponds and marshes. On the upper slopes, which are covered with fertile soil agriculture is performed. The dwellings with their subterranean organisation were built lower down blending in with the cliff face. The basic element is a single barrel-vaulted room. A terrace outside can be used as a courtyard, and beneath it is a cistern used for storing water. Stairways serving as vertical axes of communication follow the course of diagonal landscape. The horizontal drainage system, used to channel water into the terraces and to fill cisterns deep inside the caves, provides a framework for paths leading to each dwelling.

Santorini was advantaged by the surrounding sea and in a short period became a tourist attraction with all the benefits and disadvantages of such a quick development for the built environment. Matera is isolated and came after in inviting tourism, a fact that gives the time for a less explosive process. In both cases, conservation of their originality is the purpose and that includes *all the processes of looking after a place so as to retain its cultural significance. It may, according to circumstances, include the processes of retention or reintroduction of use, retention of associations and meanings, maintenance, preservation, restoration, reconstruction, adaptation and interpretation and will commonly include a combination of more than one of these, according to ICOMOS ethical statement.*

The reconstruction of Santorini covered various sectors of architectural activity. Besides repairs, restoration and construction of houses in the old settlements and the cases of extension in new housing, there are renovations of churches, schools and public buildings such as museums and community centres. The building use is expanding all over the island creating a neo-vernacular environment (Theodoraki, 2004) exaggerated in some cases as in the introduction of perceptible vaults in every hotel room. In Matera, the underground cave pattern area in the south part (Sasso Caveoso) already is protected as it is. The questions remains for the north part (Sasso Barisano) and the reintroduction of uses in order to be adapted in the current era. What must be the degree of intervention?

In both cases, a combination of techniques has been applied and lessons have been learned. The diverse outcome is the final composition of the particularities of the two places, that originated from a common pattern, but in the long run, different conditions and authorities produced a different upper strata. The common subterranean foundations persist, but the future forms will have to be translated by the evolutionary theory. In a forthcoming period, evolutionary process (Oliver, 1998) will manifest the today architectural perception, adding concepts and architectural elements that for the moment are not digested.

The border between architectural cultural heritage and manufactured architectural era becomes evident. The constraints of historical pathways exist but the dynamic (external guidance) of tourism and glocalisation develops a neo-vernacular environment, inviting tourists looking for the utopia of leisure (Sorkin, 1992).

Conclusion

In Matera and Santorini, according to the ICOMOS ethical statement, all the processes of looking after their cultural significance have been introduced. In Matera, mostly by means of restoration, maintenance and adaptation of the existing structures, while in Santorini -where most structures collapsed from the last earthquake- a reconstruction and rebuilding program was implemented.

In Matera the evolution of the previous era is still intact while in Santorini a neo-vernacular built environment arose.

In the first case, tourism invitation includes itineraries for appreciation of the subterranean architecture and art while in the second case, subterranean architecture has been transformed (simulacra) for current tourism use experiencing the modalities of living in these caves that have been rebuilt adapting contemporary accommodation and architectural elements.

The principles¹⁵(Jolilehto, 1999) of the concept for the conservative intervention is summarised in the statement *“It is better to consolidate than to repair, better to restore than to rebuilt, better to rebuild than to embellish”* of Adolphe Napoleon Ditrion (1806-67). Considering the fact that the purpose of any conservation is to create sustainable conditions, we conclude that both cases manage (*fortuna et virtu*) their cultural heritage, under different conditions, in order to adapt in all the capable and essentials means for the conservation of the memory of the past, even by simulating it.

NOTES AND REFERENCES

1 Starting with China a belt of cave-dwellings extends across India to Asia Minor and Arabia following both shores of Mediterranean, continuing into the Canary Islands, the West Indies, Mexico, north and south America reminds J.-W. Fewkes, *The Cave Dwellings of the Old and New Worlds*, *American Anthropologist*, New Series, vol.12, No 3, Blackwell Publishing, 1910, p. 393.

2 Cave dwellings and rock shelters were in use widely in Europe since the early part of the 20th century, recall P. Oliver (ed), *Enc. of Vernacular of Architecture of the World*, Cambridge Un. Press, vol. I, p. 245.

3 These carved-out church interiors abound throughout the province of Cappadocia, Turkey, where decorated examples alone, number over seventy. Early Christians took to the underground to escape the severe climate and hostile neighbours. Other rock-cut churches occur throughout Ethiopia, India, and other areas of the Near and Far East. Further details for these carved churches and monasteries will be found in, P. Oliver, *Shelter, Sign and Symbol*, Barrie & Jenkins, 1974.

4 S. Lambrou, *History of Greece*, Eleftheroudakis, Athens Vol. 4-5, p. 96.

5 "In the late nineteenth century in a courtyard (vicinato) and its attached dwellings were home to over one hundred inhabitants. The families were large, mothers often having a dozen or more children to counter the odds of childhood death due to disease and malnourishment" reminds A. Toxey, *On Preservation: Reinventing the cave: competing images, interpretations and representations of Matera, Italy*, *Traditional Dwellings and Settlements Review*, University of Berkeley, vol. 15.2, 2004,

6 N. Colucci, *Matera Siti, Centrostamba, Matera*, 2006

7 M. Efstathiou, *Ancient Ia and the recent excavations in Camari region*, in I. Danezis, (ed) *Santorini*, Adam, Athens, 2001, p. 237.

8 The oldest settlement in Santorini dates from the 2nd Millennium B.C, when a city (Acrotiri) and a port was in prosperity in the east gentle coast of the island. The ruins are excavated and are exposing the existence of two floor houses with plain roof pattern used as terrace. The houses are built with volcanic and light pumice stone and are reinforced with wooden chainages. They are decorated with impressive frescos.

9 S. Lambrou, *History of Greece*, Eleftheroudakis, Athens Vol. 4-5, p. 96 and Theophanes *Chronographia* (ed.) Carolus book, 2 volumes, 1883, 1885 reprint Hildesheim, 1963.

10 E. Geroussi, *Thera in the early Christian period*, in I. Danezis, (ed) *Santorini*, Adam, Athens, 2001, p.260, "a settlement was abandoned in the middle of 7th century in Perissa".

11 The subterranean structures were originated in Santorini during the Bronze age as have been proven by archeological findings in Ftellos reveals M. Marthari, *Thera during Bronze age*, in I. Danezis, (ed) *Santorini*, Adam, Athens, 2001, p. 107.

12 We assume that this was the period of the systematic development of the subterranean habitation pattern for equivalent reasons as in Matera.

13 This particular excavation and the resulting underground vaulted dwelling form was later used as a roof pattern for ground floor small cribs, storage rooms and boat husks, mostly in the ladder ports of the caldera and along the steep pathways (scala) that give access to the villages.

14 J. Theodoraki-Patsi, *The particularities of the domestic architecture of Santorini*, *Annals of the Scientific Reunion "Earth, uterus of life and creation"*, Greek Museum of Popular Arts, Athens, 2004, p.83-88.

15 J. Jolilehto, *History of Architectural Conservation*, p. 138.

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