

# Early Architecture on the Mediterranean Island of Pantelleria

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## Abstract

On the Mediterranean island of Pantelleria, there are the remains of a Neolithic settlement that built a fortress city and monumental tombs on volcanic lava flow. Their mining of obsidian (volcanic glass) and its trade with Malta and Sicily endowed them with prestige and wealth visible in the majestic megalithic type tombs called sesi, constructed with rational planning and similar to those found on many Mediterranean islands (Malta, Crete, Sardinia, Corsica, Balearic Islands). The settlement subsisted on agriculture, livestock and obsidian mining. Work tools were mainly stone (knives, blades, scrapers, chisels, and axes), large millstones and obsidian sickles have been found along with many ceramic items of various sizes and shapes in large quantities as bowls, plates, cups, vases, jugs, jars in various shades of red. They possessed no ligands nor metal utensils. The sesi tombs situated outside the citadel numbered 58 in 1894 but only 27 remained in 2010. They are shaped as overturned boats on a shore, recalling the expert navigation of this 5,000 year old settlement and the other tombs found in the Balearics (navetas). On Pantelleria man seems to pass from the trilithic or dolmens system to dry arrangements of stone blocks. It is likely that Pantelleria was the starting point or one of the first stages of megalithic civilization, which led to other examples with the same characteristics in Sardinia, Mycenae, Crete, Malta, and the Balearics. More archaeological research is needed to bring to light this civilization's accomplishments and we urge the authorities to support this further research and to preserve the remains..

**Keywords:** mediterranean island, early architecture.

## 1. Introduction

Pantelleria is a Mediterranean island (Figure 1) with very interesting testimony of a vibrant prehistoric settlement, located on its north-western coast and known for its majestic tombs called Sesi, a word that could date back to the Arab rule on the island.

Here we find the remains of one of the first cities designed and built by man, that attests to the social evolution of prehistoric man from the Mesolithic to the Neolithic and even further with the formation of increasingly larger groups evolving from inhabitants of the savannah and cave to the hut. Eventually creating a community of shared experiences that allow them to break away from the primitive state and form a city of great cultural value that was able to control its territory, improve living conditions in the arid climate, exploit the island's resources, navigate the seas surrounding it, and begin the drive towards civilization.

In the Neolithic, Pantelleria dating back probably 5,000 years, became the obligatory point of passage between Europe and Africa, with the extraction and trade of obsidian the "black gold of prehistory" increasing its prestige and importance. The city was a long cry from camps of primitive groups, but rather the social gathering of various households, whose work activities established an economy that supported the life of the whole community.

Thus Urbanism was born, a rather archaic form, but with a still visible precise city planning that enriched the social and economic life of the entire settlement. We can only guess what the precise factors were that produced this kind of urbanization. The Neolithic inhabitants certainly came from other areas, as navigators which then allowed them to trade obsidian (volcanic glass) with Malta and Sicily (Dixon J.E, Cann J.R, Reufrew C., 1968).

The Man of Pantelleria had already stopped obtaining his food at random which calls for great space and freedom of movement. He procured his food within a limited area through hunting or agriculture, with subsequent storage and then distribution in leaner times. With a regular food supply man feels the need to join in increasingly larger communities, where more and more subjects are involved in labor distribution.

Thus, the single individual with his family, builds his hut and the sum of the huts become a city. There is no longer the collective relationship of a group with no specified individual roles where eating, working, loving and food gathering thrived promiscuously. Law and order become the standards underpinning this newly created city. It can be said that a form of self-discipline of man sets the conditions for the birth of the city.

An opulence of food was an incentive to increase reproduction, which increased the importance of women. She was already important for the cultivation and use of herbal essences, and as the inventor of the receptacle, first braided with vegetable filaments then molded out of earth mixed with water, her prestige had already increased.

The container enabled man to move and organize large displacements, thus permitting commerce and the conquest of new territories often rich in raw materials as obsidian that was useful for tools necessary for life of that time. The very same container permitted permanent settlements to increase their agricultural production

and to collect water for later use. Giving birth to the first capitalization, which would lead to wars between villages and cities of the Neolithic no longer for the conquest of new territories to influence but for more products and resources that could be stored for later use or to be traded.

The container (vessel) was also used to irrigate the fields, initiating the agricultural revolution that was taking its first steps in the Neolithic and would be the prerequisite to the city that replaces the archaic village where social life was lived at random and without programming.

We are not dealing with a primitive village, but a well laid out and protected urban agglomerate with a precise economy able to sustain its social life. The capitalization of agricultural and mining products accelerated those cultural processes whose dynamic rationality leads to the artistic study and elaboration behind the spiral pyramid tombs of extraordinary beauty as the (great sese), that show the power that these people exerted on the island and throughout the Mediterranean area, and the great riches they possessed.

The monumental art of the people of Pantelleria shows a remarkable artistic maturity that binds architectural expression with a high sense of practicality, sublimating artistic thought into volumetric and three-dimensional substance. This gave physical depth to their work without subjugating its artistic expression to figurative signs too reminiscent of the primitive caves they had just left behind them.

"The City, which could mobilize labor on a large-scale, organize transportation including long distances, intensify communications in space and time, favored a flowering of inventions and combined development ... of civil engineering, and finally, an element that is certainly not the least important, provoked a new impressive increase in agricultural production "(Mumford L., 1981).

With these words Lewis Mumford describes the appearance of the city, and it is all well applicable to the settlement of Pantelleria. Here there is clear evidence of how man with precise motivation constructs a city to dwell in, and revolutionizes the way of living and managing the environment and the surrounding territory thus producing one of the illuminating moments in human history.

## **2. The Location Of The Settlement And Its Surrounding Territory**

The man of Pantelleria, who used obsidian and moved with rudimentary boats, had a remarkable culture, which along with his sense of environmental adaptation and endurance of hardships, enabled him to create on this arid island a settlement well delineated within its surroundings and monumental tombs of exquisite workmanship that, for their beauty, should be mentioned among the great architectural works by man.

The area that hosted this culture is restricted to a kilometer square area on the northwest coast of Pantelleria, in the neighboring districts of Mursia and Cimillia (the area of the sesi).

On first sight this arid land presents various obstacles to a visual perusal: boundary walls, brushwood, crops of grapes and capers wrestled from volcanic rock by man's fatiguing and ancient labors, along with the environment's chromatic uniformity. During the summer the base color of the environment is anthracite black but in the cold weather it takes on a gray-green coloration, produced by the moss growing on the rocks.

This arid and inhospitable landscape, on which the city-fortress and the graves were built was produced by lava flow from the volcano Ghelfikamar (289 meters), already extinct in prehistoric times. Lying at the edge of this desert of black stone, is the fertile plain of Sciuvacchi to the south, and to the north the equally fertile valley formed by the hills of Mursia. The settlement was literally surrounded by these agricultural areas which were surely used by these people, who however, chose to build the city on the slopes of the volcano, where defense was better, the land was of little agricultural value and where they could have easier access to the large quantities of obsidian, which was all along the lava flow.

The discovered lithic workshop and the evidence of the widespread use of obsidian seen in the city, indicate the mining of volcanic glass was an important activity. Perhaps it was not only the presence of drinking water only 300 meters from the huts, in the Cala of Modica, one of the few natural springs of Pantelleria, but also the obsidian, that encouraged the settlement on Pantelleria. It seems nearby there was also a clay deposit, as some geologists have ascertained

Returning to the site on which the citadel was built, it must be said that the rugged terrain and the dominant position over the two plains to the north and south and over the sea made this elevated position a natural defense against those who had belligerent intentions whether coming from the sea or the island itself as seen in the high wall, which closed the citadel off from the east. The walled city was defended on the slope towards the sea by high cliffs that offered great risk to a siege by sea or an eventual landing which due to the shape of the coastline, was unfeasible. The only landing possible was far from the city which could only be reached after a long march through inhospitable territory with various obstacles, not the least of which, the high defense walls.

Outside the city, further to the south, is the cemetery area with the beautiful and majestic megalithic type tombs built with great skill and rationality, and unfortunately very little known and appreciated.

Two excavations have shed much light on the original settlement of Pantelleria. In 1894 The archaeologist Paolo Orsi published a thorough scientific study of his excavations, and in 1967 excavations were

done by Prof. Radmilli, from the University of Pisa and his assistant Dr. Claudio Tozzi, who supervised the subsequent publication. They were contradictory only on the dating of the archaeological site.

Paolo Orsi dated it in the Neolithic era for the lack of finds in metal and the similarity of the pottery with others of that period found in other areas. While Claudio Tozzi, dated the settlement in the Late Bronze Age because two tiny metal fragments were found in the city. The correct dating came from the discovery in a 5000 year old village on the island of Malta of little tools made of obsidian extracted from Pantelleria. This precise dating was possible due to the very rich content of zirconium present in Pantelleria obsidian, that distinguishes it from that found in other Mediterranean areas. At first these tools were thought to originate from the Island of Milos, but after chemical analysis through a particular spectrographic test of the obsidian, it was discovered that they came from Pantelleria.

Pantelleria traded via sea not only with Malta, located south-west 240 km., but evidence of its commerce of obsidian comes from other finds in Sicily and on the Aeolian Islands. More precisely on Lipari where some tools of obsidian were found. It was probably transported in the form of glass blocks that the last purchaser transmuted by hand into tools. The obsidian trade undoubtedly encouraged their navigation expertise.

Continuing in the cemetery area outside the walls of the citadel, I retraced the route used by Paolo Orsi in the late eighteen hundreds to catalogue 58 sesi tombs. My survey, conducted in 2010, accounted more than half of these missing, along with parts of the city as Infranca G. C. stated in his Survey carried out in 1980. (Infranca G.C., 1981). Of the sesi remaining, which further on we will examine, very few are still in good condition, and most are in precarious condition.

The most common ills affecting the graves on Pantelleria are invasion by brushwood, (in some cases completely covering the entire monument), weeds and prickly pears, the collapse of the dromos and the cells, and the caving in of the stones that covered the sesi, often taken by locals to mark the boundaries of their small farm plots in the vicinity.

Even greater problems are illegal building and the issuance of building permits in the area that almost never meet the current very limited restrictions imposed by the Sicilian Region's assessorial decrees, that limits building no closer than thirty meters of the archaeological area, which in fact has never been respected. The present day stone quarry active in the area has destroyed the docking port of the ancient settlement, some of the sesi, the extremity of the western part of the citadel and the obsidian workshop, radically and relentlessly changing the entire area. Some sesi, have been transformed into hunting posts and the cells have become storehouses for work tools of the small farms nearby. (Infranca G.C., 1984)

All this has changed and distorted the environment whose rugged beauty is day after day flattened and compromised by actual vandalism. This damage to such an important cultural patrimony must be stopped immediately by keeping a check on what gets destroyed on a daily basis and restoring the proper environment where the area can be appreciated and used correctly and further studied, as well as undergo valid restoration to the finds handed down to us from an ancient people. All this would benefit the development and status of the entire island as well. An appreciation of one's cultural heritage is important for everyone, and can promote the economic development of an island like Pantelleria, as a valid tourism program could make the sesi an attractive lure.

An already approved but not totally enacted proposal to this effect is present in the official general development plan of Pantelleria, which includes among other solutions making the entire area into an archaeological park. This project, which I helped draft as member of the General Urban Planners, also made provisions for equipment for the maintenance, use, supervision, and protection of the area and for its expropriation to allow the Public community to finally acquire this inestimably valuable area, which today is privately owned and not subject to protection, except in very limited areas where there are strict building codes which are almost never respected in their entirety.

There is a lot to learn from these monuments which represent an essential step on the long road man has traveled through time. It is exactly in the sesi, so transformed today, that we can see the undoubtable construction ability of the ancient inhabitants of the island, who elevated themselves with a majestic dignity and elegance above the lava rocks to demonstrate their greatness and their political and economic power. The construction features of the sesi reproduce the patterns of western type megalithic civilizations, formed on many Mediterranean islands (Malta, Crete, Sardinia, Corsica and Balearic Islands).

Some researchers think the megalithic originates from mythical Atlantis, the island in the middle of the ocean that Plato describes in *Timaeus* (Timeo) and *Critias* (Crizia) thus: "There was indeed an island situated in front of the strait which in your language you called the Pillars of Hercules. This island was greater than Libya and Asia together; navigators passed by to the other islands and on to the mainland that borders this sea really worthy of its name. In fact, all that is on this side of the Strait of which we spoke, resembles a veritable sea, in the same way that the land is a true continen...Now in this Atlantis Island, some kings had great and wonderful power and ruled over the entire island, over many other islands and even over several parts of the continent. Also, in our territory, on this side of the Strait, they ruled over Libya to Egypt and Europe up to Tirrenia ..."

(Plato, 1971)

This passage of Plato shows that Atlantis extended its zone of influence to this side of the Strait of Gibraltar and expanded into the areas where there are all those grandiose constructions that are part of megalithic architecture. There are some similarities between the positions held by Atlantis and Pantelleria: they were both in the middle of an “ocean” and were difficult to reach in antiquity.

The majestic monuments of Pantelleria represented the pride of these people who had contacts with other peoples of the Mediterranean with whom they exchanged obsidian, so copious on the island. On Pantelleria, one must acknowledge that obsidian had a very rudimentary production process.

It is also possible that there have been a series of overlapping settlements on the island from various eras, as recorded in the fortress city of Mursia, with the first settlement dating back to the Neolithic or Copper Age as cited by Orsi (Orsi P., 1899) and the later one belonging to the Bronze Age (Tozzi C., 1968).

### 3. The Urban Structure

Going along the perimeter road, after about four kilometers from the center of Pantelleria, one reaches the Neolithic fortified city of Mursia, which stands on a hill, thirty meters above sea level, and spreads over three large terraced plots of land. The complex runs from west to east, that is, from the sea to the volcano, and on the east the people of Mursia built, in the weakest spot, the defense walls of the city, today called the high wall. It is of considerable dimensions (210 meters in length), is shaped like a fish hook and defended the entire promontory where the still mostly unknown activities of the people of Mursia took place.

From the research done so far in the area we can get a picture, albeit not complete, of how the city was, and I'll begin right from the (high wall), as described by Orsi:

“...more than an actual wall, the fortified city is an embankment of unworked rustic blocks, where small pebbles fill in the gaps, the inner and outer façade of alternately horizontally and longitudinally positioned stones is still evident, its height is between 7-8 meters, the width at the top, in the points that seem intact, is 5 meters, and its base measures about 10 meters. The blocks are not all uniform, nor of equal dimensions throughout, from some landslides or lacerations of the facade, we can recognize the internal structure of the work.

On the front, the horizontal pattern of the wall is not straight, forming two bastions that meet convexly, in the middle of which there seems to be an entrance opening, which was later closed; traces of this curving tendency can also be seen in some of the southern front section, and this as well as other circumstances denote that the retaining wall was not erected at one time, following a precise design, but underwent additions, modifications, and reinforcement at a later time. (Orsi P., 1899)

The description of Orsi is very detailed and accurate, and photographs the current situation of the wall, with the exception of some removal of the stones at the top of the wall. This wall emphasizes how important defense was for the inhabitants of the settlement.

One oddity noted is the ease with which one can climb it, as mentioned also by Orsi : the outside though steep, with agility men and beasts could easily reach the top of the wall (Orsi P., 1899). It is possible that this facility was implicit in the strategy of the defense, as the walls of the courtyards of the Nuraghi of Sardinia that have the same defensive method with outer walls of easy accessibility, while the inside wall is full of protrusions, thus the ascent became deadly for the enemy who ventured up inside the Nuraghe of S. Antine. Thus the retaining wall not only hindered entrance into the city but also the exit of any enemies who had managed to penetrate inside.

Surely the walls of Pantelleria were built with the same technique, where men without metal tools built rudimentary structures that made their village impenetrable to attack. Unlike those of Sardinia the defenses of Pantelleria were built in an earlier period where elaborate constructions were less sought after. I would also like to suggest that the form of the walls of Mursia were also designed to protect the city from the lava of the nearby volcano Ghelfikamar, which the walls face, and which at that time was perhaps still active.

The precise location of the city can be found today from the fragments of bones, pottery and obsidian which cover the area of the ancient settlement. The dimensions of the houses are approximately 7 meters (length) by 3 meters (width). The housing area covers about 12,000 square meters. From the size of the houses and from the surface area of the complex we can guess that the city had about 1,000 inhabitants with about 200 homes, whose form was predominantly helical or oval.

The excavations conducted in 1966 and 1967 gave us the best view of how the urban area was: three zones were discovered and they interestingly showed that the settlement had various construction phases, with various eras of building overlapping each other.

The most significant example is the excavation carried out in 1967 in zone A, (Figure 2) situated on the west side overlooking the sea, where we can recognize at least two distinct phases of settlement. The first phase is represented by the huts numbered 1, 2, 4, and 5, the second by hut number 3 built above parts of the huts numbered 2, and 5 after they were abandoned. Moreover, the demolished parts of huts numbered 4, 5 and 3 overlap hut number 2 indicating that the first phase was a continuous settlement of presently undetermined

duration, which could even have extended over quite a long time.

From the work done by Tozzi on the excavated area we can say the settlement was built following precise architectural models that favored the helical shape and of excellent consistency as regards construction technique. These constructions were very spacious, especially the homes that at their widest axis measured 7 meters and at the lesser axis 3 meters and were often divided into two separate environments by a partition wall.

The perimeter walls were built with stones carefully chosen and tightly placed with dry wall technique, often cemented with well pressed reddish clay. The height of the walls found are no more than a meter and a half. The foundations rest directly on the rock, using special techniques of great scientific value to form a level base. As in the case of the elliptical hut in area B where the foundations are based directly on the rock formed by spiked, distorted and cracked lava blocks, so the builders of the hut were forced to fill the irregularities of the bottom with stones of various sizes in order to obtain a flat surface on which to extend the first layer of dirt. This constructive solution presents us with a people familiar with construction, whose technique, although rudimentary, is very rational and practical.

The people of Mursia paved their houses (Figure 3) with dirt, that in some huts consisted of various layers or with slabs of stones that were used to level the surface of the steep and almost always irregular ground level. Under the dirt pavements there were usually a level of fill-in formed by small stones or sea pebbles carefully arranged that served not only to level the pavement of the hut but to drain rainwater and keep the bottom of the huts dry.

The excavations of 1967 found examples of this people's interesting construction methods, as the creation of rudimentary steps or stairways that connected different levels of the same hut, as seen in the entrance of hut number 5 in Area A of the excavation that has steps to overcome the different floor levels of the same house, which were 50 cm. apart.

The roof of the house was made of a series of spiked stones as Claudio Tozzi says in his report of the excavations referring to the huts in area B where at the top of the wall the beginning of a false vault can be seen. The entrances to the huts were almost always on the shorter side of the hut and were about 80 to 90 centimeters wide. The door jambs were made with alternating stones of different lengths to join, on one side, with the rest of the wall and to form on the other side, an almost vertical edge. It is unknown what the height of the door lintel was nor how they were built, but from the existing forms of *sesi* we can understand that they had to be similar in construction scheme, with a maximum height of 1.90 meters and with a single block on top.

Inside the hut were found some "cysts" (Figure 4) formed by four vertical stones inserted in the floor slabs, which must have served as cookers for domestic fires, in fact traces of coal were found.

In Area A inside hut number 3 there is a strange arrangement of stones along the perimeter wall that forms a seat or bench. Since there were no traces of openings found that could serve as windows, it was concluded that the interior of the hut had to be rather dark or it could be assumed that light penetrated from the roof so that the top opening served also for the release of smoke produced in the cyst.

The building phases of a hut had to be the following: on the ground, which was mostly rocky and steep, was spread a fill in of small stones or sea pebbles on which rested the dry walls made from choice stones that were carefully put in place. On the stone pavement was put a series of dirt levels that served to make the surface more level, which was then paved over with flat trapezoidal stones that finished the floor.

The wall, after reaching a height of about 1.50 m. took on the pointed stone stage with the formation of an arch which was not always closed with stones but with a different very light material, such as wood or straw or reeds. However the *sesi* builders were certainly capable of closing arches and light openings of the dimensions of 7 x 4 meters as seen in the bearing walls of the dwellings in Mursia where the arches were closed and supported the weight of the stone roof. Of course these huts had to be of undeniable architectural value for the period in which they were made and the rudimentary tools used by the builders. It must be remembered that this people did not use cut materials, but uneven stones that weren't always compact, and which could crumble under the weight of the construction.

They did not have binding materials or metal utensils; they did not know about inclined levels and carried everything on their strong shoulders. All this gives us the magnitude of what they left and the skill with which they made these constructions. Unknowingly and very naturally they designed their territory with the skill of great urban planners: as seen in their site selection, urban layout, and urban distribution of the surrounding area.

The city was clearly designed heavily for defense and of course for economic need, it was definitely not divided by social classes, as in the Hippodamian type cities, as can be seen by the findings of only one type of hut containing the same common items.

The urban layout inside the maze of narrow streets and huts ends with the artificial defense structure on one side and with the natural ones on the other sides of the city. The surface area spread over three terraced plots of lands was ingeniously used by the people to build their city. A fortified city, well defined in all its more intrinsic aspects, where the social group thrived and worked, and defended itself on its high position, while governing and

programming the surrounding area below.

Close to the inhabited area, the people of Pantelleria created, the burial area, the port at Cala of Modica, the lithic workshop of Capo Fram as its industrial area and the plains of Mursia and Sciuvacchi as its agriculture zone.

Public buildings are missing in the urbanization of the people of Mursia (or they haven't been found yet). However, this does not prove that there wasn't associative, political or religious life in the community, because social gatherings in these civilizations did not pass through these structures. Aggregation was mainly created through work, which was the basis of community life. All sociality took place in the name of work productivity in full communal participation, as can be seen by finding the same tools in all the houses, symbolizing work as an activity of the group and not of the individual.

The public buildings of the Aegean-Hellenic period were the meeting place of the community; in the megalithic civilization this structure is superfluous because the community itself is already quite compact. The *sesi* were not public buildings, because they were not collective tombs but presumably destined for the leaders and family members, however, surely the entire community gathered around them during the funeral functions, which repeated the sociality of their daily work activities, an aggregating factor in a society well united in the trials of life.

We have to recognize the people of Mursia as masters of the fundamentals of urban planning: with a well-designed city protected by high walls, outside of which thrived the services and the resources necessary for their livelihood. The choice of the central and raised position of the walled citadel overlooking its territory has a sacred meaning: the whole surrounding area revolves around the urban center that becomes a symbol of the deification of man differentiated from the materialism of the things around him. The city walls mark the boundaries of an intimate world where man feels protected and safe and where he manages and dominates the arid territory that hosts him.

This atmosphere brings this navigating people to repeat on land the same relationship that was established on their boats. Here the urban community undergoes the same conditioning, the same behaviors and the same authoritarian society that they created on the sea in an analogous closed structure. A more specific excavation could verify or broaden these reflections, but the fact remains that this people planned a city with wise rationality, in a difficult environment using only primitive tools.

### **Social Life**

The economy of the walled city of Pantelleria was principally agriculture, livestock, and the working of obsidian, as seen by the many unworked fragments of volcanic glass" found within the city, hinting that obsidian fragments were used as trading currency.

"The lithic industry of the primitive *cosyresi* was very simple, monotonous and ordinary", as Orsi describes the obsidian artifacts he found. This was confirmed also by the expedition of 1967, and gives us a sense of how this people were little advanced technically (Orsi P., 1899). Working techniques were undeveloped despite the availability of large amounts of raw material. The presence of pottery and flint demonstrates the continuous trade with other seaworthy populations, as seen in the metal alloy objects found in 1967.

The society of Pantelleria was not influenced or dependent on a single economic activity, but the entire community participated in various activities that differed throughout the year, and supported a diversified food supply. Fishing for example was certainly undertaken during the summer, and hunting was determined by the emigration flow of birds. Large quantities of sheep, cattle and domestic animal bones were found during excavations, along with evidence of fish, marine shellfish and birds in food leftovers.

Work tools were mainly made of stone. Large millstones (Figure 5) are in plain view inside the settlement as well as obsidian sickles, probably used in agriculture. Also found were stone knives, blades, scrapers, chisels, hatchets and vases.

There are also other items of flint, bone and shells that were used in daily activities. A veritable industry of bone grinding was present on Pantelleria; pointed ox bones were probably their most dangerous weapons. Other utensils were made of bone: chisels, plates, perforators and spatulas or cylinders that were for domestic use.

The metal found in very small amounts (the biggest piece being a rod of 4.5 cm. in length), indicates that this material was not in widespread use in the community of Mursia as tools; also supporting the hypothesis that it was imported from outside the island, probably dating back to the second period of the settlement. In any case, the little amount of metal found and its shape (which in its current state can not to be considered as an actual tool) forces us to give it a very minor role in the totality of human evidence brought to light.

From the ceramics found we can obtain more precise answers as to the age of the settlement. Tozzi in his report after the excavations of the 1966 and 1967 says: "... it is not easy, on the basis of the collected data, to place the village in Mursia in the proper sequence of prehistoric cultures in Sicily. Most of the pottery shapes are almost identical in different cultures, geographically and chronologically distinct." (Tozzi C., 1968)

In any case, the shapes and the features, very similar to vessels discovered in Sardinia from the Ozieri culture, dates the settlement to the Neolithic period. Ceramic items of various sizes and shapes were found in large quantities by Orsi as well as during the excavations of 1966 and 1967. Bowls, cups, vases, jugs, jars, in various shades of red are the most common pieces found. The ceramic is of two categories: dough with various inclusions, and dough without inclusions; with a thickness ranging from 3mm. to 25mm.

The ceramics were manufactured in Pantelleria with clay containing gypsum imported from other areas outside the island; In fact, the island lacks deposits of gypsum which had to be added to the local clay. Orsi points out that he did not notice any clay quarries during his excavations on Pantelleria, but as prof. Enrico Atzeni rightly notes, because of heavy exploitation in ancient times, many places that had deposits of minerals or clay quarries or clay no longer have any traces of such deposits (Atzeni E., 1981). The find of glazed vessels indicates that the people of Pantelleria used ovens that could reach high temperatures.

Signs and decorations were found on some vessels and pottery fragments that are considered to be very similar to the culture of Capo Graziano (on Mount Graziano in the south east portion of the Filicudi Islands – Eolie). The most frequent decorations are engraved lines, dots and almost illegible signs, but in any case these are very rare finds and not comparable to the abundant pottery on which there are no signs.

Utensils and pottery found within the city are a definite sign of the great work that took place in that industrious community. Orsi found other strangely formed objects whose use is not very clear. As a set of weights with conical holes that could have been used as counterweights for the fishing nets the people of Mursia lowered into the sea or as looms that presumably were already in use on Pantelleria.

From this overview of the remains found during the two archaeological excavations on Pantelleria we have a clearer picture of how this primitive society lived and which tools they used to make their labor easier. In the finds we have not found signs of religious devotion, but respect for the dead had to be very high to erect such majestic monuments as the *sesi* outside the walls.

War, hunting, farming, fishing, agriculture along with other activities as the lithic industry or pottery making engaged this whole community that though they lacked writing, were able to communicate to us their wisdom through the works they left, which show their profound rationality and knowledge of form.

Even if the work done inside the city was collectively done by the entire community, there must have been a leader who organized and regulated all the various activities, as is very evident in their architecture, therefore there was probably a subdivision of tasks and skills. Such a subdivision could have created a social classification that led to one or more charismatic figures such as tribal chief or king. Since the *sesi* tombs often housed only one individual, it is reasonable to think there was a social hierarchy which administered the people of Pantelleria.

### **The Sesi, Megalithic Tombs**

Outside the walls of the citadel, scattered among the craggy rocks are the 5,000 year old tombs, the *Sesi*, a word which has lost its meaning over time. This arid plateau, formed by the lava of the volcano Ghelfikamar, has been literally assaulted by a series of events that have contaminated and destroyed the environment along with the *sesi*. From the 58 *sesi*, expertly cataloged by Paolo Orsi, there remain just 27. Of these 27, many have just traces remaining.

To prevent further destruction of this type, urgent and decisive interventions are necessary, most importantly allowing the public administration to acquire the archaeological area of Cimillia (the area of the *sesi*). It is inconceivable that the *sesi* lie within plots of land belonging to private individuals, which often do not even know what treasures they possess. The policies to protect the area have been inefficient and restrictions applied to the archaeological area have been ridiculous.

Too much "liberty" has been allowed in the area, as the opening of a quarry, that day after day dramatically changes the territory, and the construction of illegal buildings (in a style certainly not conducive to the presence of the *sesi*). I would like to recall the urgent work of prof. Vincenzo Tusa who, as Superintendent of antiquities in western Sicily tried to stop this scandalous "massacre" of the most important cultural heritage of Pantelleria.

The most important evil to defeat is the community's ignorance of what a valuable cultural heritage they have right on Pantelleria. In fact, most of the islanders ignore where the *sesi* are and what these (pile of stones) represent. Just as there has been little scientific studies of these remains that day after day lose, due to human ignorance and indifference, important data for in-depth analysis.

The accumulation of knowledge must be followed by protection and cleaning of the prehistoric settlement, transforming it into a protected archaeological park that includes guided tours, so that what is preserved can be enjoyed. When in 2010, I retraced the route taken by Orsi applying the same research methodology, I was able to catalog 31 less graves, confirming what Prof. Infranca had registered. (Infranca GC., 1981)

The route begins near the "great sese" (Figure 6) to the north of which is the first sese, whose upper part

is now completely destroyed by recent construction of a hunting station, which, given its prominent position, certainly affords excellent prey.

In the immediate vicinity, lie the ruins of sesi number 2 and number 3, that have also been compromised by man who used the sesi's stone blocks perhaps to erect the pool that lies a short distance away, inevitably changing the original layout of the tomb. Instead sese number 5 in the same area has been preserved in excellent condition. Sese number 8, partly destroyed, still has the characteristic shape of an overturned long boat, and has a large cell and a long dromos.

Sese number 11 (Figure 7), is one of the few that remains untouched since it was described by Orsi. Not far from this one, there is sese number 13 containing farming tools of the present day landowner. The sesi numbered 18, 19 and 20, located to the east of the "great sese" are scattered among other sesi of a more interesting architectural form, and are partly destroyed and overrun with brushwood and weeds.

In sese number 22 (Figure 8) we can notice the building stages and how the tombs were achieved, while sesi number 23 and 29 have been changed completely. Sese number 27, in the area east of the great sese, is intact and will definitely be a fertile field of study. In this sese as in number 44 (Figure 9), the disposition of the blocks within the cell are visible.

Sesi number 30 and 31 that were removed and replaced by Orsi to study them better, are not far from the sea, and in close contact with the quarry; the description done by Orsi of the finds and their location is useful to study the traditions of the people who built the sesi and their funeral rites. In his publication, the relics found in sesi number 33 and 34 are drawn faithfully, though today only the bases of these two sesi are left and the remains scattered over the countryside.

In the area to the south of the "great sese", a short distance from the perimeter road, we find a half-dozen sesi that for their conservation status and their size have been the subject of research and have allowed me to understand the construction methods and the tradition linked to the monument. A striking example is sese number 44, in excellent condition except for the upper part: it was the first sese that allowed me to study the way the cell and Dromos were constructed. There is an immediate visual reminiscence of the Sardinian Nuraghi and Tholos and the palace of Mycenae, as for the way they were built and for the arrangement and the overlapping of the blocks and their modularity.

The overlap was carried out by jutting the different blocks out a few centimeters, to make a curve which was sustained by the wedged-in blocks and the weight overhead. All the static thrust is directed towards the base, though the burden on the corridors and on the cells was certainly not insignificant.

Thus it can be said that the people of sesi did not adopt the simple trilithic system, but confronted a more elaborate system of bricklaying, which could lead to the invention of the arch which would completely change the way of building. Also interesting is the way the blocks are arranged and their placement which consisted in placing smaller stones on the inside of the structure and securing them with stone blocks of considerable size on the outside.

Completing Orsi's numbering we have sesi number 45, 46, 47, 48, 49 and 50 placed around sese number 44, and they remain in the same condition in which Orsi described them. The "great sese", numbered by Orsi with the number 58 (Figure 6), is the most illuminating example of the architecture of the Pantelleria civilization.

The arrangement and the stepped helical shape of these monuments, with a key starting point, are the best signs of the construction inventiveness and the great experience of their builders. Something extraordinary is evident in the details of their arrangement without bonding material: it seems that the ancient inhabitants of Mursia were aware of the most complex laws of physics and building science.

The construction methods are not the only interesting feature of this people, their traditions and the way of life are also very significant, and Orsi captures it in the description of the various sesi upon his excavations, and the remains of the man who was housed in the tomb. I want to recall some passages of this description: "... the small tholos (diameter 1.90 x 1.65 x 1.70) had the deposit intact; one skeleton lying inside, retracted limbs, the skull towards the east and the feet to the west toward the mouth of the tunnel was reduced in poor condition from the humidity and being crushed against a sea snail, a probable ornament, and on the right and the left of the chest there is pottery, which, for the dough and baking, is similar to those in the village.(Orsi P., 1899)

Analyzing the position of the skeleton and the shape of the cell and the center of the dromos, spontaneously one thinks of its similarity with the womb and the fetal position. I think that the position of the skeleton and the shape of the dromos and the cell have indeed this single explanation.

The orientation of the skull of the skeleton has specific references to other discoveries that occurred in the Dordogne, in Belgium, in Poland and along the banks of the Loire. The face turned to the west suggests the belief, that the land of the dead was in the direction of the setting sun; or it could indicate the place of origin of the civilization of Pantelleria, which through the Pillars of Hercules reached the island from northern Europe.

Not only the orientation of the skull, but also the position of the skeleton coincides with other finds dating back to 3,000 years BC in northern Europe, China and Egypt. Instead the strangely "ship like" form of the



sesi leads us to make a practical consideration; given these people needed to be connected via the sea with other Mediterranean populations with whom they traded and exchanged obsidian, the boat represented a true and proper source of exchange, of life and of contacts; so much so as to take the overturned boat on the beach as the primordial dwelling or as a scheme for the grave that would host them forever. This boat shaped form of the sesi is reminiscent of the tombs found in the Balearics, the navetas. Among other things, in the "great sese" the (hull) placed on the short side, could be the space in which the helm was on ancient boats.

The findings of obsidian in Malta are the proof that the people of Pantelleria undertook trade and that they used the sea as the main way of communicating with the other people of the Mediterranean. The Sesi builders, expert in the art of sailing, knowledgeable of winds and ocean currents, managed to travel with their not very robust boats and apply to architecture the same design concepts as their boats that sailed the stormy Strait of Sicily.

Returning to the sepulchral monuments we can highlight another characteristic: the differing construction technology seen in the "great sese" and in some other sesi of lesser elaboration, indicates the sesi were built at different times and with different ways of processing and planning.

#### Architecture

These tombs called sesi were left on Pantelleria as an artistic trace of the passage of the unique and extraordinary Megalithic people, probably navigating from the North Seas, who settled this Island as others in the Mediterranean. One of the other cities which was built like Pantelleria is Tartesso, that was founded as a trade center along the Iberian coast. Tartesso, like Atlantis, is remembered as a city of large burial buildings of extraordinary beauty. For the majesty and magnificence of size of their constructions, some scholars have wanted to see the origins of the Megalithic in the mythical Atlantis.

With western megalithic civilization, man begins to build his buildings through accurate design and following logical reasoning of a complex type. It is the planning inherent in the works that is considered the birth of architecture. The shapes, the modulating placing of the masses and the construction technique are the highlights of the architecture of the megalithic civilizations, raising architecture from simple formal construct to a science.

A great religious sense of burial for the dead, led the people to invent monuments of great aesthetic beauty using remarkable construction techniques. The people of Pantelleria left their mark and culture through the architecture of their monuments and not through writing which still had not been discovered and practiced. The task remains for us to read and reflect on this cultural heritage cataloged as prehistoric, and viewed as culturally undemanding, ignoring it as an architectural event. Actually, these events are man using art and technology to give birth to architecture.

It's a pity that the history of architecture rigidly refuses to consider these constructions, which in any case are the fruit of human civilization that in subsequent steps leads to ever more planned and intense cultural production reaching great heights of production and refinement. The architecture of Pantelleria, though uncodified, has its own language with precise chronological references merged into a single schematic model in accord with megalithic architecture.

The majesty of the forms is the expression of that people who, with rudimentary tools were able to develop a complex project of undeniable artistic value. These tombs are visible examples of the human process and its evolution from the trilithic system and the structures of the dolmens to the modular project, premise for more elaborate architectural schemes like the arch.

There are two sesi that allow us, more than the others to admire the great constructive work and the models applied by man in the prehistoric period on Pantelleria: the great sese and sese number 44, are illuminating examples of megalithic architecture.

On Pantelleria, unlike Malta or the Balearic Islands, there is a natural technical progress of shapes and forms that constantly refer to organic patterns (the snail) or to everyday objects as (the boat), that are processed into precise technical works of incomparable beauty. It is likely that Pantelleria was the starting point or one of the first stages of megalithic civilization, which led to other examples with the same characteristics in Sardinia, at Mycenae, Crete, Malta, and the Balearics. It can be said that the widespread urbanization and the dominance of matter, are the fundamental tenets of the Mediterranean civilization as seen in Pantelleria.

Sese number 44, is in excellent condition and its easy access makes it possible to study construction and compositional techniques. This sese, which is all built with dry stone from the surrounding clearing, is located to the south of the settlement and is now the most distant from the discovered and restricted archaeological area. This sese is composed of two cells and two dromos (corridors). The overlapping of the stones was carried out by a few centimeter protrusion of blocks, that then form a curved structure which was sustained with tightly wedged blocks and the overhead weight. All the static thrust loading onto the base.

## 5. Conclusion

It can thus be said, it was on Pantelleria that man passes from the trilithic system or dolmens to the jutting blocks.

Also interesting is their choice of placing small stones on the inside and large blocks on the outside or along the corridors and the cells.

The “great sese” is the maximum expression, elaboration and refinement of the stepped helical shape around a key starting point. It strangely resembles the Aztec pyramids and connects to the subsequent helical elaborations, passing from the Barrumini spiral in Sardinia (Figure 10), to the organic forms.

The minor details of the dry wall arrangement of the blocks show something quite extraordinary, that the inhabitants of Pantelleria were somehow aware of the most modern and complex laws of physics and statics as applied to construction. The use of stone blocks of different shapes and sizes and their subsequent perfect placement for the final realization of the work, suggest the presence of a construction manager who prepared and organized the work.

The arrangement of the empty spaces within the compact structures is of incredible mastery. The entrance way of black stone invites the visitor to penetrate a fantastic and wonderful world, where the sense of the unknown prevails. The cell, the corridors (which can reach a length of 7 meters) and the tomb in all its complexity were realized with the simplicity of a child, but with the strength of a giant. The cell built as a dome with the jutting blocks is a singularity that approaches the perfection of the modular schemes of elliptical or concentric forms.

In megalithic civilizations human rationality had many architectural applications in the multiple cultures of the Mediterranean geographical context. The simplicity of the technique and the patterns are common to all these civilizations. The majesty of the tombs was a symbolic gesture: it served to impress the people with whom they had relations.

The inhabitants of Pantelleria built these tombs not only to prove their greatness and their power but also to honor the dead.

The relationship between the megalithic architecture of Pantelleria and to other civilizations of the Mediterranean, as the underground sanctuaries of Malta, the navetas and the talayotos of the Balearic Islands, or the nuraghi of Sardinia, is in the dry arrangement of the stone blocks, in the protruding domes (which later in Crete and Mycenae will be called Tholos) and in the choice of stone blocks of considerable size. The differentiation is in the more accurate constructive elaboration in Greece due essentially to an analysis of previous experiences.

On Pantelleria we can find crude and less refined achievements than in the Sardinian Nuraghi, where the architectural details are well designed. But regarding the internal construction, a continuous evolutionary process begins with the primitive cell and corridors of Pantelleria and through the Talayotos of the Balearic Islands, reaches at first the dolmen-aisle Nuraghi and then the more complex projection of the Nuraghi of S. Antine, by Losa and Barrumini, elaborate examples of megalithic architecture superior in complexity to the Tholos of Mycenae.

Two assumptions support a single origin to all the megalithic architecture developed in different places and at different times, it is the result of an independent and rational effort by various men in different places, having similar tools and materials available, that realize the same modular architecture; or instead it is the result of the same matrix which in different places at different times evolves differently.

I personally favor this second hypothesis; given the evidence of an architectural evolution that exists mainly in Sardinia, where the corridor type Nuraghi become more and more complex and evolve enough to become the Nuraghe of S. Antine or of Barrumini, of incisive and precise evolutionary development.

The intended use of these colossal megalithic works underwent change in the various locations from tombs into temples, from fortified castles into village-towns. Through this modification of type and usage, the shape also underwent a mutation: from elliptical as in the sesi to rectangular as in the Navetas then becoming circular as in the Nuraghe. Even in the citadel of Mursia on Pantelleria and in the village of Barrumini in Sardinia the plane of some huts changes in size and shape, going roughly towards the same modular transformation of the great monuments.

On Pantelleria, this step can be seen more in the discovery made during the excavations of 1967 in which the rectangular or elliptical huts are situated beneath the circular huts of the upper layer, thus showing the village had various stages of construction.

For all the above reasons we cannot lose a cultural heritage of such immense value. The architectural aspects treated here, need a more precise and decisive archaeological study that can give us a more accurate picture of the culture produced by the civilization of Pantelleria.

In conclusion I would like to urge the relevant authorities to not abandon it and to be vigilant about this cultural heritage from which we can draw so much to better understand man's development.

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