Interdisciplinary approaches to the Bronze Age cemetery of Cimillia–Mursia (Pantelleria): from 3D survey to public dissemination

Maurizio Cattani

(corresponding author)
maurizio.cattani@unibo.it - University of Bologna

Lorenzo Bonazzi

lorenzo.bonazzi5@unibo.it - University of Bologna

Andrea Fiorini

andrea.fiorini6@unibo.it - University of Bologna

Roberto Meschini

roberto.meschini@tryeco.com - TryeCo 2.0 Srl

Abstract
The University of Bologna's project on the Bronze Age cemetery of Cimillia–Mursia (Pantelleria) integrates 3D surveying, architectural analysis, and heritage valorization strategies to investigate the monumental tombs known locally as "*sesi*". The research documents distinctive construction techniques and features of collective burial through modern survey methods and digital reproductions.

Together with scale models and scientific information, the project aims to disseminate the results and make Pantelleria's archaeological heritage more accessible to scholars and visitors alike.

Keywords
Pantelleria, Bronze Age, burials, 3D survey and modelling, site enhancement

Introduction

The University of Bologna has been involved in archaeological research on the island of Pantelleria for many years, beginning with the Archaeological Map project and later focusing on the study of Bronze Age sites, particularly the Mursia settlement and the monumental Sesi cemetery[1]. The project aims to carry out a territorial analysis to understand patterns of occupation on the island, providing a unique opportunity to examine the role of the village, resource management, and the rituals associated with funerary practices (Cattani, Tusa 2012).

[1] The dialect word 'sese', probably of Arabic origin, has been documented since the 1800s only in Pantelleria (Dalla Rosa 1871) and refers to a pile of stones. It was used by Paolo Orsi to describe the most monumental ones in the Cimillia area, which correspond to Bronze Age burial mounds (Orsi 1899).

Settlement excavations have revealed an exceptional state of preservation and a complex layout of residential and productive spaces, delimited by a monumental fortification wall (Cattani 2015). The necropolis, consisting of more than sixty stone burial mounds, also appears to be relatively well preserved, offering considerable potential for in-depth study and for a better understanding of a crucial period in the history of the Mediterranean.

This article provides an overview of the research, documentation, interpretation, and public presentation of the monumental necropolis, considered here as an archaeological context of exceptional scientific significance, unparalleled in the 2nd millennium BCE (Tusa 1997). It summarizes the significant innovative methodological approaches recently described in analytical detail (Cattani, Bonazzi, Fiorini 2026) and presents technical analyses employed in the study of these monuments, which had not previously been addressed in this context. Finally, the study outlines strategies for disseminating the results and communicating their importance to a wider audience. The most effective application consists of scale models produced from 3D modelling of the monuments, currently on display at the Geo-Naturalistic Museum of Pantelleria, which allow visitors to observe the monuments, not only directly on site, but also through illustrated representations of their design and construction.

The project devoted to the investigation of monumental funerary evidence has undergone several stages since the first catalogue, compiled in 1996 under the coordination of the late Sebastiano Tusa. It continued with the enhancement of two groups of tombs selected for the establishment of an archaeological park including partial restoration of the monuments to allow tourist access. At the same time, excavations were carried out first at Sese Di Fresco I (Nicoletti, Tusa 2012) and then at Sese Rosso (Da Vinci *et al.* 2012; Nicoletti 2020). Since 2022, activities aimed at completing the documentation and enhancement of the entire necropolis have resumed, through the detailed verification of each structure starting from three-dimensional surveying, with the broader objective of reconstructing the funerary rituals of the Mursia community, active on the island of Pantelleria between 1800 and 1450 BCE (Fig. 1). The ongoing project aims to document the present state of the monuments while also proposing forms of heritage interpretation addressed both to the scientific community and to the improvement of visitor access.

The burial mounds of Pantelleria differ from any other funerary structures known in Sicily or the Mediterranean. Indeed, mounds are well known throughout Europe and were particularly widespread during the Bronze Age (Harding 2012), but those of Cimillia and Mursia display distinctive characteristics, both in their construction and in the funerary rituals associated with them.

Each stone mound has an oval, and in some cases circular, plan and rises in the form of a truncated cone. Built of dry stones, the monuments contain between three and twelve corridors that open onto the outer perimeter and lead to small circular chambers. These are therefore collective tombs in which the intention to build monumental structures is clear, with particular care devoted to the external facing, clad with large stone blocks. Their high visibility presumably reflects a deliberate intention to express the prestige of the families who built and used the tombs for the burial of their members (Fig. 2).



Figure 1. Aerial view of the settlement and part of the Bronze Age cemetery of Mursia-Cimillia (Pantelleria).

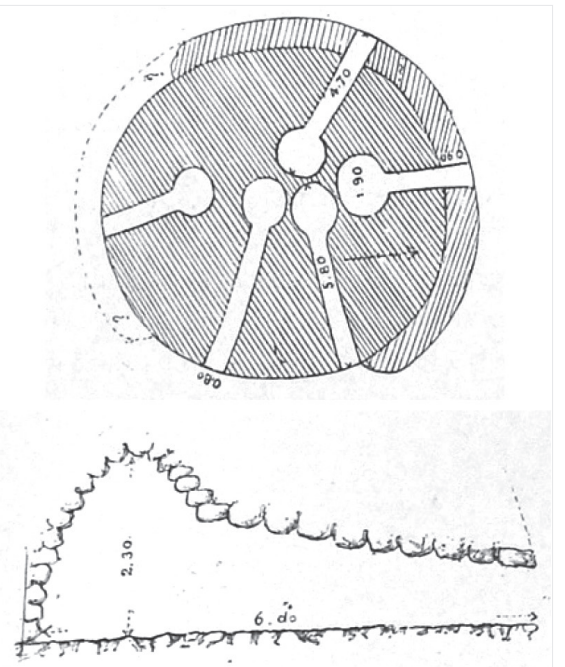


Figure 2. Sese n. 44 (after Orsi 1899, figs. 32 and 34).

Survey methods and technical analysis

The sesi of Pantelleria have been known as archaeological monuments since the mid-nineteenth century. They were initially interpreted as prehistoric dwellings (Dalla Rosa 1872), based on the erroneous comparison with the nuraghi of Sardinia, but Paolo Orsi's research soon revealed that they were funerary monuments. The first catalogue, extremely detailed in plans and accurate descriptions, was produced during the brief research activity conducted in Pantelleria by the archaeologist from Rovereto, then Director of the Museum of Syracuse (Orsi 1899). The exceptional documentation of the necropolis led, on Orsi's advice, to a brief research project in 1932 by Luigi Ugolini (Pessina, Vella, Bugeja 2021), mostly unpublished and, with a few sporadic exceptions (Trump 1963; Infranca 1984), largely ignored for almost a century. It was only with Sebastiano Tusa's cataloguing project, launched in the early 1990s, first with Lega Ambiente and then with the University of Bologna, that research activity resumed (Cattani, Tosi, Tusa 2004).

Tusa's project aimed to relocate the sesi listed by Orsi and to assess the state of conservation of the monuments, which had inevitably suffered the transformations of time, mainly due to military installations and some urban development projects. A proper technical analysis of the tumuli had not yet been carried out, and this task was entrusted to the Architecture Department of the University of Palermo (De Giovanni, Sposito 1998). Only a few excavations carried out in two sesi neither visited nor surveyed by Orsi have contributed to understanding the construction characteristics of the monuments (Nicoletti, Tusa 2012; Nicoletti 2020).

Although they have been known since the nineteenth century, the construction sequence and the origin of the funerary model remain unclear and it could be identified as a unique practice adopted by the Bronze Age community of Pantelleria. The architectural drawings of the plan and the complex layout of the corridors and their respective burial chambers also date back to the first surveys conducted in the late nineteenth century (Fig. 3). The creation of the 3D models therefore served as the starting point for a technical analysis of the monuments and for the development of a narrative framework to be presented in the island's museums, in texts recounting the island's history, and in tools to enhance visitors' understanding of the monuments.

The current project aims to document each structure with an accurate survey of its present condition and, above all, to produce three-dimensional surveys of its volume, including the interior spaces of corridors and burial chambers. Many of the monuments have remained exposed, with the corridors and chambers often used as shelters or storage areas. This condition prevents stratigraphic investigations from being carried out, but at the same time, it allows the construction characteristics and exact dimensions of the interior parts to be documented, despite the evident difficulties of access.

For the ongoing project supervised by the University of Bologna, a mixed surveying system has been developed based on the combined use of different instruments: a drone, a mobile phone or tablet with LiDAR sensor, a digital camera and differential GPS for geolocation. The survey protocol is briefly summarised below, while a detailed description with technical notes on the specific aspects of the survey is available in other publications (Fiorini 2022; Cattani, Bonazzi, Fiorini 2026).



Figure 3. View of the tombs surrounded by vegetation. Anchor point near the "Sese Grande". In the background, Mount S. Elmo on the left and Mount Gelkhamar on the right.



Figure 4. Drone footage of the "Sese Grande" from the north-west.

The survey of the Sese Grande in Pantelleria employed an integrated approach combining aerial photogrammetry and terrestrial LiDAR scanning. For the exterior of the monument (diameter over 20 m, height over 6 m; Fig. 4), a DJI Mavic Air drone was flown primarily in manual flight mode to capture 75 images of the structure at distances of 2-4 m, maintaining an overlap of 70-80% (Fig. 5). Seven ground control points georeferenced using an electronic total station created a closed polygon for precision control.

The corridors and burial chambers of the Sese Grande are extremely small, making it difficult to move around inside them. Some corridors are relatively long, reaching up to 7.9 m but very narrow, requiring operators to crawl on all fours. These confined spaces required the use of compact and manoeuvrable equipment (iPhone with LiDAR mounted on an ergonomic structure with additional LED lighting) instead of more cumbersome professional instruments.

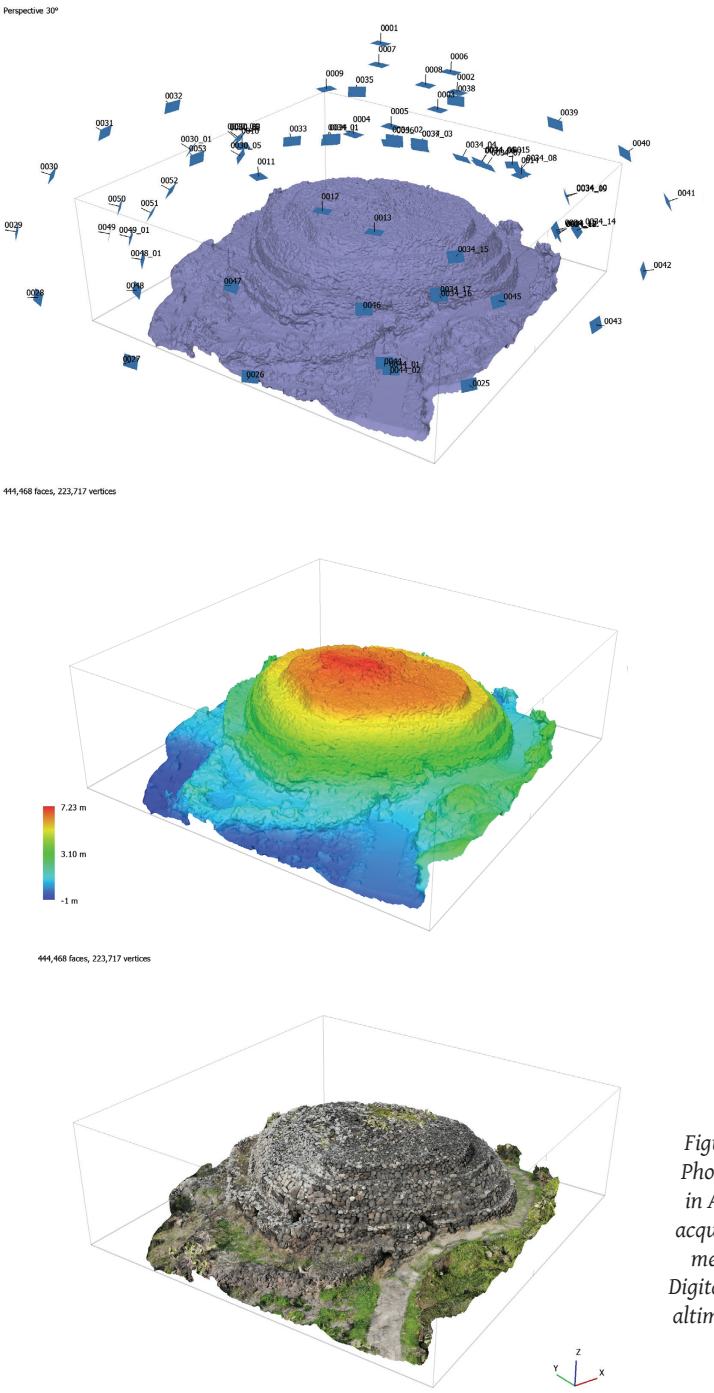


Figure 5. Sese Grande, Pantelleria. Photogrammetric model processed in Agisoft Metashape from drone-acquired images: three-dimensional mesh with camera positions and Digital Elevation Model (DEM) for the altimetric analysis of the monument and final texture.

This solution allowed effective operation in the limited space typical of underground environments. Scanning was carried out at a maximum distance of 1 m from the surfaces, with acquisition sessions lasting less than 3 minutes to prevent the device from overheating. Controlled lighting reduced shadow areas.

The collected data were processed using CloudCompare software to align the meshes and create the complete 3D model, and AutoCAD to produce the floor plan. The final result enabled a detailed archaeological analysis, revealing the stepped structure of the monument, the radial layout of the twelve corridors, and some construction phases, including the evidence of restoration work carried out in the 1960s. To assess the quality of the alignment between the two datasets, the LiDAR meshes of the corridors were checked against the general photogrammetric model of the outer surface at homologous points located at the corridor entrances; the discrepancies are on the centimetre scale and do not exceed 2 cm.

To date, the largest monument, known as Sese Grande, and four of the smaller sesi have been surveyed. The main difficulty lies in cleaning the structures, especially removing the thick vegetation that covers and sometimes engulfs the exterior. The future plan is to expose the structures systematically and survey their external dimensions, corridors and chambers, where accessible. This documentation will then make it possible to observe the construction sequence and the specific building features of the monuments. Since not all the structures identified locally as sesi are Bronze Age tombs, accurate survey data are essential for attributing their origin. The key diagnostic element is the presence of a carefully constructed external facing made of large blocks of lava stone, which is absent in the other stone mounds on the island; the latter are in fact heaps of stones, mainly small.

Interpretation of the burial mound based on available data

Thanks to Paolo Orsi's detailed description, recent surveys of the sesi and the limited excavation data available, it is now possible to propose a model for the construction of the funerary structure used by the Mursia community in the early centuries of the 2nd millennium BCE.

The main objective of the burial ritual must have been to create a monumental collective tomb that was clearly visible to those who frequented the necropolis area or, in most cases, recognisable from the village. The monumentality may reflect the prestige of the families involved in the construction of the mound (Furholt, Hinz, Mischka 2012), an undertaking that required the participation of several individuals, presumably adult males.

In the past, two possible sequences for the construction of the mound were proposed (De Giovanni, Sposito 1998), both based on a progressive enlargement of the monument (Fig. 6). Although this was motivated by certain construction details, particularly the steps, and cannot be entirely ruled out, considering recent findings, we support a different hypothesis. After a suitable location had been identified, presumably according to the ritual paths that governed the organisation of the necropolis, the dimensions and number of chambers were determined. The construction began with the placement of large stones along the perimeter, continuing along each corridor towards the interior until the shape of the burial chambers was achieved. The intermediate spaces were filled with small stones to form a ballast that incorporated the voids of the corridors. The elevated structure was then built using the same

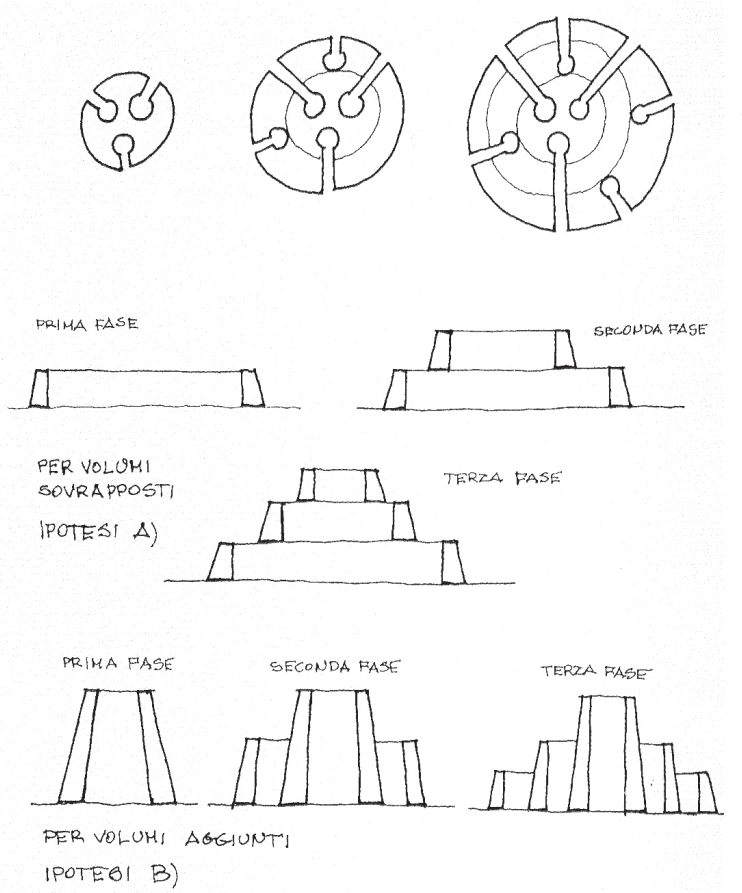


Figure 6. Reconstructive hypotheses of the construction of the sesi (from De Giovanni, Sposito 1998: 12).

technique, exploiting the solid parts for the movement of large blocks, used mainly for the external facing (Fig. 7). Smaller stones, though larger than the filling material, were used for the walls of the corridors and chambers. Once the corridors had reached a height sufficient for a person to pass through, they were covered with flat stones resting on the side walls.

The burial chamber, which was usually higher than the corridor, was built using the false vault system, with stones laid so as to converge gradually towards the centre and locked in place by the subsequent overlapping of other stones, while the intermediate spaces continued to be filled. Once the desired height had been reached, usually much greater than necessary to cover the false vaults of the chambers, the irregular mass of stones forming the core of the mound was clad with selected blocks with flat faces, giving the monument a proper external facing.

Once the mound had been built, the deceased was placed inside after being dragged along the narrow corridor to the chamber and laid on the floor without any covering, presumably in a crouched position, according to the only evidence of a complete skeleton observed by Paolo Orsi. The grave goods were then placed inside, and the entrance was closed by building

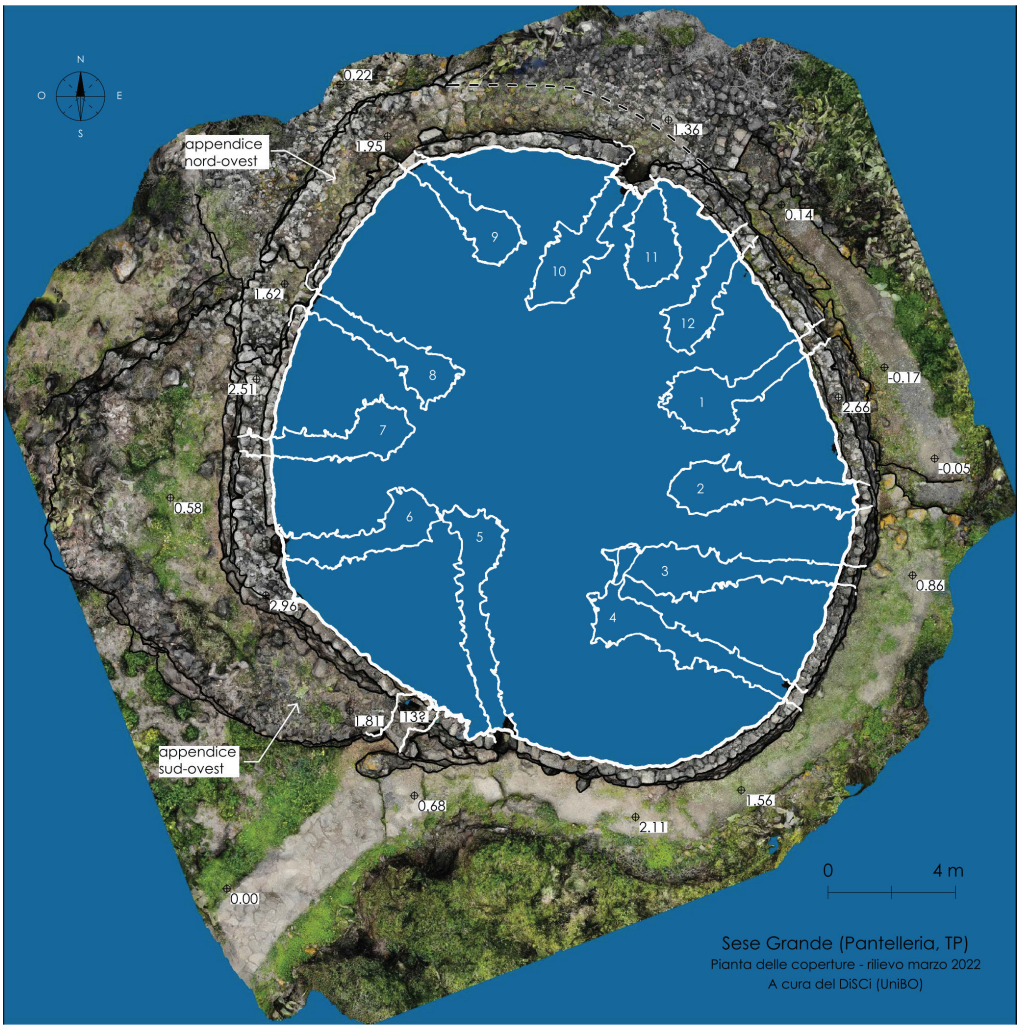


Figure 7. Plan of the "Sese Grande" with corridor and chambers (modified from Cattani, Bonazzi, Fiorini 2026).

a small wall at the end of the corridor. When a new burial was required, the closing wall was demolished to reopen the corridor and subsequently sealed again.

If this sequence were confirmed, it would suggest that the tombs were planned as collective monuments by one or more families wishing to express identity or alliance bonds, distinct from those embodied in neighbouring mounds.

The reasons for the construction of mounds of different sizes remain to be clarified and require further analysis. The largest monument, which reaches a considerable diameter of 20 m and a height of more than 6 m and traditionally called "sese del Re" (King's mound), might suggest the burial of the most prestigious figures in the village or the existence of a hierarchical social

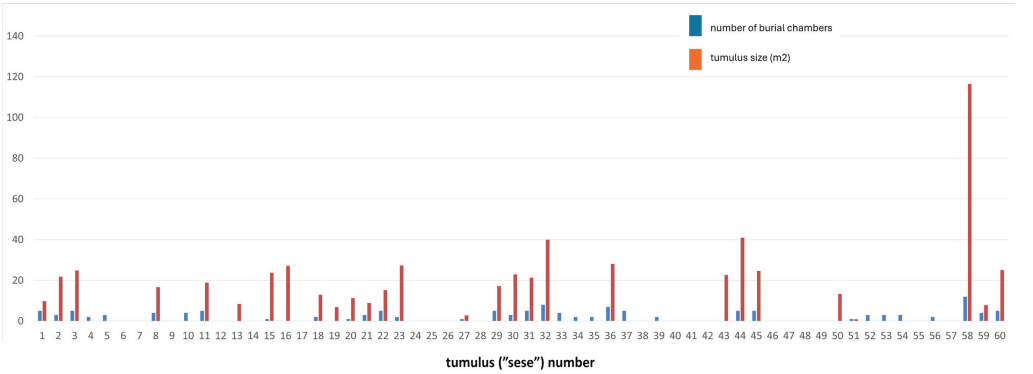


Figure 8. Bar chart comparing the size of the surveyed sesi (plan size in square metres) and the corresponding number of burial chambers per monument. Missing data indicate unavailable information.

structure. This hypothesis is supported by the differences in size among the known burial mounds, with the smaller sesi having a diameter of about half that of the larger ones (about 11 m). The number of chambers in the various sesi, however, does not increase proportionally (Fig. 8) and presumably depends on the size of each monument[2]. An alternative interpretation emphasises that the burial chambers are all small, even in the larger monuments, and that the limited data on grave goods show no differences in wealth, suggesting instead the absence of marked hierarchy. The few sesi that have yielded burial remains contained scarce and poorly preserved human bones, ceramic vessels, often miniaturistic, ornaments, obsidian tools, worked bone and animal or mollusc remains (Orsi 1899; Nicoletti 2020).

The "Sese Grande" model in 1:20 scale

When observed directly, the characteristics of the monument prevent a comprehensive and direct understanding of how the funerary structures were built and used. In particular, the parts of the corridors and chambers included in the volume are difficult to access and are not immediately perceptible to visitors. Even when venturing inside the corridors, it is not possible to assess properly the relationship among the different chambers and related corridors of the monument, nor to appreciate the morphology and construction details, in particular the slopes and the relative positioning of the chambers.

In order to allow a better understanding of the entire volume in relation to the internal voids, it was decided to produce a scale reproduction that was not only virtual but also physically observable with a model (Fig. 9). The product is therefore designed to serve a dual purpose: as an exhibition tool to be placed in the museum dedicated to the island's prehistory[3], together with the finds and description of the archaeological complex of the settlement, and as an object whose construction could help address questions concerning the interpretation of the monument. This latter function, which can also be achieved with the digital model obtained

[2] The preliminary count of chambers is based on Orsi's observations.

[3] Despite the wealth of archaeological heritage, there is a lack of space dedicated to exhibiting the finds from over twenty years of excavations. The Geonaturalistic Museum of the Pantelleria Island National Park has reserved a room for prehistory, exhibiting a selection of finds ranging from ancient Neolithic obsidian deposits to the Bronze Age archaeological complex.



Figure 9. "Sese Grande" model scale 1:20.

from photomodelling, represents a "tangible" moment of reflection on the hypothetical construction phases, from the choice of location to the construction sequence.

The first parameter established for the creation of the model was a reproduction scale of 1:20. This ratio allows for excellent detail definition while also adapting to the exhibition space, which, due to its size and content, did not allow for a larger scale. The monument, which, as previously indicated, has a diameter of approximately 20 m, was therefore reproduced in a model measuring 1 m per side.

In order to increase the comprehensibility of the internal parts, it was decided to reproduce the volumetric body faithfully while leaving approximately one quarter in section so that the position and size of four corridors with their corresponding chambers could be seen. Two of these were designed with a section that leaves one wall and approximately half of the corresponding chamber visible. The cross-section also allows the massive construction of the monument to be appreciated, and above all the relationship between full and empty volumes.

For the creation of the model, SLA stereolithographic 3D printing technology[4] was selected. Thanks to recent advances in hardware, this technology now allows high-quality products and facilitates the use of photomodelling data derived from the survey. Tryeco srl was selected for the project due to its proven professionalism and experience in the reproduction of cultural heritage. The process involved continuous interaction between archaeologists and 3D printing professionals, who worked together to identify the most suitable solutions[5].

[4] SLA 3D printers use light to cure thermosetting, light-reactive materials called 'resins.' When SLA resins are exposed to light at a specific wavelength, short molecular chains bond together, curing monomers and oligomers into rigid or flexible geometries.

[5] It may seem trivial and obvious to mention a necessary practice, but we would like to emphasize that the result of this experience is due precisely to the continuous dialogue between all the authors of this contribution during the construction of the model.

The first phase of the model-making process was the completion of the digital model. Although the quality of the survey and photomodelling work was high, it was necessary, as required by 3D printing, to close all the polygons that remained open in the model. Given the complexity of the model, its dimensions of approximately 1 m by 1 m and a height of approximately 40 cm, and the decision to create a sectional view, it was recommended to produce it in separate parts with different levels of detail. The process of closing the polygons was more accurate and it involved the use of high-precision printers for the parts with exposed corridor and chamber sections, where the morphology and dimensions of each individual stone forming the walls can be visualised.

The same attention and care were devoted to the entire external surface and the entrances to the other corridors, although medium-high precision printers were used for the final product. Detail was removed from the hidden volume and the other corridors with their chambers, which would not have been visible, were not reproduced[6].

A total of seven prints were produced using different technologies, according to the precision required and the size of each part identified in the initial design. The individually printed parts were then assembled using specific adhesives, ensuring overall stability through joints placed along morphological lines in order to make them less visible. To ensure the integrity and uniformity of the printed elements, they were treated with fillers and resins, with particular care not to reduce the detail. The final stage involved finishing the model and, above all, achieving a colour rendering based on the current state of the monument. The completion of the digital model also involved characterising the outdoor space adjacent to the monument, which in turn required a neutral landscape finish (stones and vegetation).

During the decoration phase, the finished elements were toned and decorated according to the chromatic and formal guidelines provided by specialists and calibrated photographs. Model-making paints were applied with a brush or airbrush, with particular attention to detail and to the elements of greatest interpretative importance within the model.

To better understand the scale of the model, which is also indicated in a caption, four 1:20 scale human figures were placed to simulate tourists visiting the monument.

The "Sese Grande" 1:100 scale model

With the three-dimensional digital model available and given the relative simplicity of 3D printing, we decided to use the same system to create a second 1:100 scale model. The purpose of this smaller, lower-resolution model was to make the results of the fieldwork available for a multi-level enhancement. The model, which is considerably smaller (20 cm per side), is easily transportable and can be used for events promoting the archaeological sites of Pantelleria or for educational activities in schools. The advantage of a model rather than conventional illustrations is that it attracts more public attention and, given the peculiarity of the monument, stimulates curiosity.

[6] Initially, it was planned to create the corridors and chambers in a 'vacuum', but after verifying the poor visibility, even with improved internal lighting, in relation to the greater difficulty of executing the model, it was decided to avoid this detail.



Figure 10. Zenithal view of a cluster of tombs currently included in the visitor route of the archaeological park.

The 1:500 scale model representing a group of sesi

In order to contextualise the large Sese Grande mound and relate it to the entire necropolis, it was deemed necessary to carry out a drone survey of the group of sesi located approximately 200 m east of the large tumulus. This group is included in a short visitor route with a concrete path, now almost in a state of abandonment (Fig. 10). The model allows us to appreciate the arrangement of the burial mounds in groups, which may reflect the intention to signal links between families that made up the village community.

The 1:500 scale model does not allow for an appreciation of the construction details but is intended to provide information about a complex that can be visited today but is not adequately signposted. The model has been left without a realistic finish, with a white base, in order to project the zenithal image and to highlight the seven sesi included in the cluster. There are also plans to produce a video in which the current view can be alternated with a reconstruction of the use of the necropolis during the Bronze Age.

The Bronze Age narrative and the enhancement of the monuments

The public presentation of the Bronze Age community of Pantelleria, together with the cultural and tourism-oriented enhancement of the archaeological complex, represents a key objective completing the archaeological research and interpretation. The aim is to illustrate the interpretative path followed by the scholars in order to understand the peculiarities and motivations that led the Bronze Age community to adopt this construction model as an expression of its funerary and social ideology.

The widespread distribution of monumental tombs in the area surrounding the village and their frequent concentration in groups (Cattani, Tusa 2012) highlights the presumed relationship with the social segments of the village community, who sought to demonstrate their prestige and identity through monumentality.

From the perspective of funerary ritual, collective burial is shared with other areas in Sicily, traditionally attributed to the Castelluccio culture. At Mursia, however, it is adopted with an architectural solution that is unique in the central Mediterranean. It has no counterpart in Tunisia, where the megalithic tradition of dolmens or corridor tombs (*allée couverte*) seems to have continued until the early Bronze Age, nor in Sicily, where artificial rock-cut chambers prevail, sometimes monumentalised externally with pillars and a planimetric layout intended for ritual activities. The situation in the Aeolian Islands is even more different, where a cremation necropolis has been documented and the use of natural gorges for secondary burials is also presumed (Bernabò Brea 1985), while in Malta a cremation cemetery overlying the Tarxien temple has been documented in the same period (Cilia 2004).

The picture is further complicated by finds of manipulated human remains in crevices or in places with sanctuary-like ritual characteristics, sometimes associated with Castelluccian painted pottery, as in the Ticchiara cave, and elsewhere with the material culture traditionally attributed to the RTV facies, as in Ciavolaro and Valle Oscura (Castellana 2002).

Funerary rituals also appear to have evolved over time, as indicated by the adoption of the new *enchytrismos* burial rite in the middle of the millennium in Messina (in various locations), Milazzo (Predio Caravello and San Papino) and Naxos, a ritual that continued in Thapsos phase in the second half of the millennium (Veca 2014).

The comparison between Sesi and the Castelluccian rock-cut tombs, suggested in the past by S. Tusa (Tusa 1994, 139), finds correspondence only in the practice of collective burial and in the desire to monumentalise external visibility. In Pantelleria, it is useful to define the monumental choice as parallel to the construction of the fortification; however, from the point of view of the funerary ritual, the deliberate construction of long corridors leading to

the burial chamber forces a separation of spaces and a clear distinction from the more easily accessible and externally monumentalised chambers of the Castelluccio rock-cut tombs.

No close Mediterranean parallels can be identified for the construction choices and related ritual. To find conceptually comparable principles (monumental burial mounds with multiple corridors and circular chambers), one must look to the Atlantic coasts of Brittany and Normandy (Tusa 1994,

141). This distant comparison may appear risky, but it becomes particularly interesting when considered in relation to the Atlantic coastal regions rich in tin, and the role of navigation in connecting distant places.

A network of places

Visitor attraction is supported by general information included in tourist promotion, and the Sese Grande is, to date, one of the few monuments on the island that is clearly indicated by road signs and references in available guidebooks. Tourists visiting Pantelleria are therefore easily encouraged to visit the monument. In most cases, however, visitors (even those with a high level of cultural awareness) are unaware, unless accompanied by guides, of the nature and significance of what they are going to visit. This is due to the uniqueness of the monument and to the confusion that persists in many of the guidebooks available on the island, where the monument is still sometimes attributed to the Neolithic period[7]. In response to this issue, within the project an information panel has been installed along the path leading to the "Sese Grande". In addition to providing essential information, the panel refers to the village of Mursia, where the individuals buried in the necropolis lived, and, above all, to the prehistory section at the Geo-naturalistic Museum, indicating that further information and a model, illustrated by a photo on the panel, can be found there.

The model on display at the Museum is accompanied by two information panels describing the "Sese Grande" and the whole necropolis. The panels provide directions as well for visiting the monument.

Other actions undertaken in parallel with the creation of the survey and models have included updating the Park guides, presenting the results and key themes at conferences open to the public and, above all, educational activities in schools for both students and teachers.

This integrated system represents a communication network capable of transforming knowledge and awareness of historical heritage, promoting the cultural identity of those who live on the island within the broader context of the Mediterranean and ultimately contributing to tourism promotion and economic benefits.

Conclusions

This article has described the work undertaken by specialists involved in the investigation of an archaeological complex and has reiterated one of the fundamental tasks of the research:

[7] The erroneous attribution to the Neolithic found in some modern guidebooks dates back to the preliminary subdivision of Sicilian prehistory proposed by Paolo Orsi, which is often reported uncritically.

the promotion and dissemination of the results at different levels. The case study of the sesi of Pantelleria is particularly effective in demonstrating how historical and archaeological understanding, the appreciation of an exceptional and unique heritage, and effective communication at multiple levels all depend on the quality of research, documentation methods, and a unified project in which the choice of investigative methods already anticipates the moment of dissemination. An archaeological complex known since the nineteenth century, but today still little known even among specialists, can become an opportunity for ongoing research, for experimentation with new techniques and interdisciplinary methods and, at the same time, a symbol and point of reference for those wishing to learn about the past.

References

Bernabò Brea, L. 1985. *Gli Eoli e l'inizio dell'età del Bronzo nelle isole Eolie e nell'Italia meridionale*, Napoli.

Castellana, G. 2002. *La Sicilia nel II millennio a.C.*, Caltanissetta.

Cattani, M. 2015. "Gli scavi nel settore B dell'abitato dell'età del Bronzo di Mursia (Pantelleria)." *Ipotesi di Preistoria*, 7: 1-16. - ISSN:1974-7985 DOI:10.6092.

Cattani, M., Tosi, M. and S. Tusa. 2004. "La carta archeologica di Pantelleria. Sperimentazione di metodo e nuove prospettive sull'evoluzione della complessità sociale e politica nelle isole del Mediterraneo centrale." In *Atti del 1° Convegno sulla Preistoria e Protostoria Siciliana*, Corleone, luglio 1997, Corleone 2004, 121-133.

Cattani, M. and S. Tusa. 2012. "Paesaggio agro-pastorale e spazio rituale nell'età del Bronzo a Pantelleria." In *Atti XLI Riunione Scientifica dell'Istituto Italiano di Preistoria e Protostoria, Dai Ciclopi agli Ecisti. Società e territorio nella Sicilia preistorica e protostorica*, San Cipirello 16-19 novembre 2006, Firenze: 803-816.

Cattani, M., Bonazzi, L. and A. Fiorini. 2026. "La necropoli dei "Sesi" dell'età del Bronzo a Pantelleria: tecniche di rilievo tridimensionale delle strutture monumentali." *Archeologia e Calcolatori* Suppl. 14: 131-149.

Cilia, D. 2004. *Malta before History. The world's oldest free-standing stone architecture.* Malta, Miranda Publisher.

Dalla Rosa, G. 1871. *Abitazioni dell'epoca della pietra nell'Isola di Pantelleria*. Parma.

Dalla Rosa, G. 1872. "Una gita all'Isola di Pantelleria." *Archivio della Società Italiana di Antropologia e Etnologia* 2: 138-150.

Da Vinci, M., De Simone, L., Pecoraro, G., Comegna, C., Rebbecchi, D. and L. Solimeno. 2012. "Pantelleria: l'insediamento protostorico di Mursia e il Sese Rosso." *Annali* 2011-2012, Napoli: 25-49.

De Giovanni, G. and A. Sposito.1998. *Concorso Facoltà di Architettura di Palermo.* Palermo.

Infranca G. C. 1984. *La città delle origini.* Trapani.

Fiorini, A. 2022. "Scansioni dinamiche in archeologia dell'architettura: test e valutazioni metriche del sensore LiDAR di Apple." In *Sistemi e tecniche di documentazione, gestione e valorizzazione dell'architettura storica. Alcune recenti esperienze* edited by A. Arrighetti, R. Pansini. *Archeologia e Calcolatori* 33.1, 2022: 35-54 https://doi.org/10.19282/ac.33.1.2022.03.

Furholt, M., Hinz, M. and D. Mischka eds. 2012. "As time goes by?" Monumentality, Landscapes and the Temporal Perspective, Proceedings of the International Workshop "Socio-Environmental Dynamics over the Last 12,000 Years: The Creation of Landscapes II (14th –18th March 2011)" in Kiel. vol. 2, Bonn, Verlag Dr. Rudolf Habelt GmbH: 13-20.

Harding, A. 2012. "The Tumulus in European Prehistory: Covering the Body, Housing the Soul". In *Ancestral Landscape. Burial mounds in the Copper and Bronze Ages (Central and Eastern Europe – Balkans – Adriatic – Aegean, 4th-2ndmillennium B.C.). Proceedings of the International Conference held in Udine, May 15th-18th 2008.* Lyon: Maison de l'Orient et de la Méditerranée Jean Pouilloux: 21-30.

Nicoletti, F. 2020. "La prima campagna di scavi nel Sese Rosso e il rituale funerario nella necropoli megalitica dell'Isola di Pantelleria" in *Thesaurus Amicorum. Studi in onore di Giuseppe Guzzetta*. edited by C. Crimi, M. Frasca, R. Gentile Messina, D. Palermo: 183-196.

Nicoletti, F. and S. Tusa. 2012. "Pantelleria. Scavo di un sese in proprietà Di Fresco e materiali da altri sesi scomparsi in contrada Mursia." In *Atti XLI Riunione Scientifica dell'Istituto Italiano di Preistoria e Protostoria, Dai Ciclopi agli Ecisti. Società e territorio nella Sicilia preistorica e protostorica*, San Cipirello 16-19 novembre 2006, Firenze: 827-838.

Orsi, P. 1899. "Relazione in merito alla missione archeologica nell'isola di Pantelleria, anno 1894-95." In *Monumenti Antichi dei Lincei* IX: 450-540.

Pessina, A. Vella, N. and A. Bugeja."Luigi Ugolini's Malta antica." Malta.

Trump, D. H. 1963. "Pantelleria revisited." *Antiquity* 37: 203-206.

Tusa, S. 1994. *Sicilia preistorica*. Palermo.

Tusa, S. ed. 1997. *Prima Sicilia. Alle origini della società siciliana* (Albergo dei Poveri - Palermo, 18 ottobre-22 dicembre 1997), vol. I e II. Palermo.

Veca, C. 2014. "Per una tipo-tecnologia dei pithoi della metà del II millennio a.C. nella Sicilia orientale." *IpoTESI di Preistoria*, 6, 2013-2014: 195-208.