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PRE-HISTORIC ROCK PAINTINGS IN NORTH-WESTERN SICILY (ITALY): THE GROTTA DEI CAVALLI

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Abstract. The cave paintings of the Grotta dei Cavalli have been known since the 1980s thanks to the study of Sebastiano Tusa, who attributed the images to the Eneolithic period. In 2019, under the direction of the Superintendency of Trapani and with the participation of the CeSMAP of Pinerolo, as well as of local volunteer archaeologists together with students from the Technical Institute 'G. Caruso' of Alcamo, a project was started investigating this archaeological site scientifically and with educational outcomes in mind. The report focuses on the main results of this enquiry in the hope that investigations at that site will be resumed after the COVID pandemic. A 3D survey of Grotta dei Cavalli was carried out with a laser scanner. The photographic recording and reworking with D-Stretch software to highlight complex overlapping pictorial layers of figures have been studied. Today these results allow us to give a new reading of the cave's graphic repertoire.

Preamble: pre-Historic rock art in Sicily

In Sicily, the study of pre-Historic rock art commenced in 1950 with the discovery by Paolo Graziosi of paintings and engravings in the Grotta dei Genovesi located on the island of Levanzo (Graziosi 1962). In the following two decades, Giovanni Mannino made a considerable number of finds, his research leading to over 50 sites with pre-Historic rock art spread throughout the region, but especially concentrated in the north-western sector of the island (Mannino 2017). In recent years, the reconnaissance work has continued, thus increasing the number of known sites (Buccellato et al. 2012a; Filippi et al. 2021; Orlando et al. 2021). In 2017, as part of the European Project 'Manos del Pasado/Handpas' (Collado Girardo 2018), an international team formed by the Archaeological Superintendency of Palermo, by the Directorate for Archaeology of Extremadura (Spain) and by the CeSMAP of Pinerolo (Italy). It carried out the 3D survey of the Grotta Perciata (Monte Gallo, Palermo), inscribing the cave in the European Heritage list.

The Grotta dei Cavalli: objectives and applied methodologies

In north-western Sicily, on the western side of the promontory of Capo San Vito, the Grotta dei Cavalli is the largest of the many caves that open up along an ancient coastline at about 25 m above sea level (Fig. 1). The cave's depth is c. 60 m; the entrance is about 20 m wide and over 10 m in height (Fig. 2). The cave is funnel-shaped due to the erosive action of the sea on the coastline rock face. In a room after the bottleneck

at the cave's rear, paintings have been executed. Some figures, mostly schematically anthropomorphous, are painted on the rock ridge that gives access to the room. Inside the room, on the right-hand side wall, are two groups of paintings: one more external (illuminated by sunlight), with various superimposed signs, which for now we will define as geometric and abstract signs;



Figure 1. The area of Sicily in which the Grotta dei Cavalli is located is marked by the circle and the red arrow.



Figure 2. The Grotta dei Cavalli as seen from the north-west.

an internal one (not illuminated and visible only with artificial light), with anthropomorphous figures (also zoomorphic according to S. Tusa) (Tusa 1992: 469). Finally, further geometric signs are on the room's left wall and not illuminated by sunlight.

The first archaeological investigations in the cave were carried out in 1925 by the French scholar Raymond Vaufray, who conducted an archaeological dig with a negative result (Vaufray 1928: 150). The scholar, however, did not notice, or at least did not report, the



Figure 3. Grotta dei Cavalli. Photo of the internal panel of the anthropomorphs, modified with D-Stretch (photo C. Iemmola; reworked by AF).

paintings in the cave, nor did E. Borzatti and G. Mannino, who explored the area in the following decades. The paintings were only reported in 1984 by F. Torre and subsequently published by S. Tusa (Tusa 1992). Later, in 2004, further archaeological tests were carried out inside the cave, during which Mesolithic levels of occupation were brought to light, with dating confirmed by two radiometric measurements of 9605 ± 40 and 8248 ± 38 BP (Ayala et al. 2012: 488). Only a few fragments of trichrome Neolithic pottery were collected from the subsequent period

of the cave's frequentation — it must be considered that over time the upper layers of the anthropogenic deposit had been removed in various ways.

In 2019, starting from these assumptions, a project with educational and scientific purposes was proposed to the Superintendency for Cultural Heritage of Trapani to detect the rock paintings of the Grotta dei Cavalli. The work plan foresaw the possibility of bringing together partners with different training experiences (archaeologists, speleologists, teachers, students and volunteers) to carry out a project to enhance cultural heritage, which could also be extended to other archaeological sites in the area. The data presented here are the result of the first phase of the study — the project being interrupted by the Covid-19 pandemic. The continuation of the work is planned with the involvement of researchers from the STEBICEF Department of the University of Palermo to carry out some non-invasive investigations using multispectral analyses and spectroscopic techniques.

The main activities developed by the team during the research were twofold:

1. Didactic activity focused on the survey of the cave with the use of a high-definition laser scanner.
2. Photographic survey of the paintings, the frames of which were subsequently analysed with the D-Stretch software.

The results of the second activity will be described below, for which the main objective was to identify the possible superimpositions of the pictorial layers, already intuited by S. Tusa but not detected (Tusa 1992: 469), to give a new reading of the figurative complex present in the cave.

To achieve the goal, we started by reworking the frames taken on the innermost panel, with the anthropomorphs, with

D-Stretch. This work did not result in significant changes compared to the previous survey of 1992, though it did highlight the greater state of decay of some painted figures (Fig. 3). Painted on the wall are ten anthropomorphous representations and a series of linear brushstrokes representing highly schematised human figures. Given the limits of this contribution, we will not provide a detailed list of the different subjects (there are the ithyphallic type, the one in the position of the 'praying person' with raised arms, the cross-type and the 'archer'), contenting ourselves with the description of the attached figures.

As already pointed out by S. Tusa, the figures of Grotta dei Cavalli differ considerably from other human figures known in rock painting in Sicily, such as those of Grotta Mirabella and Grotta del Genovese (Mannino 2017: Figs 26.1, 26.2, 66.12, 66.13). The human body is not represented on these sites in a filiform way, as in the Grotta dei Cavalli, but with full and voluminous figures (Tusa 1992: 473). In their highly schematic nature, the anthropomorphs of the Grotta dei Cavalli find instead numerous comparisons in the painted representations of the Iberian Peninsula, especially in the schematic art of the interior regions of Spain (Garcia Arranz 1997: Figs 5–6), and in the Italian Peninsula: in the Grotta dei Cervi in Porto Badisco; in the Grotta Paziienza (Gravina 2017: Fig. 13.1); in the Riparo B of Valle del Sorbo (Gravina 2017: Fig. 8); in the Riparo di Rava Tagliata (Mattioli 2011: Fig. 2), to name just a few among many possible parallels. In all these cases, contexts have been used to date the rock art to chronological periods extending from the late Neolithic to the Copper Age and beyond, consistent with the dating proposed so far for the paintings in the Grotta dei Cavalli.

For the outermost panel, that of the so-called abstract figures, the analysis of the frames with the D-Stretch software led to new and significant results compared to the previous work conducted by S. Tusa in which the paintings were reproduced as on an only level (Fig. 4). It has been found that the overlapping of pictorial layers consists of at least three levels (Fig. 5). The lower level (phase 1) is identified starting from the middle and in the upper part of the panel and consists of two large geometric figures made with eight concentric circles (Fig. 6). The two figures are of the same size, with an average diameter for the outermost circle of about 35 cm. The precision of the circles seems to demonstrate the use of a rudimentary form of compass. We believe that the figure is composed of two concentric circles with a series of 21 short lines arranged in a radial pattern that also belongs to the same phase 1; this composition makes the figure appear as a kind of solar representation; however, we remain cautious about this iconographic attribution. The three figures have the same brush stroke and the same shade of red.

The second pictorial layer (phase 2) is characterised using a large amount of red colour that creates a large stain in the middle of the painted rock surface (Fig. 7). Some vertical bands painted red belong



Figure 4. Grotta dei Cavalli (drawing by S. Tusa 1992).



Figure 5. Grotta dei Cavalli. Photo of the external panel, modified with D-Stretch (photo C. Iemmola; reworked by AF).

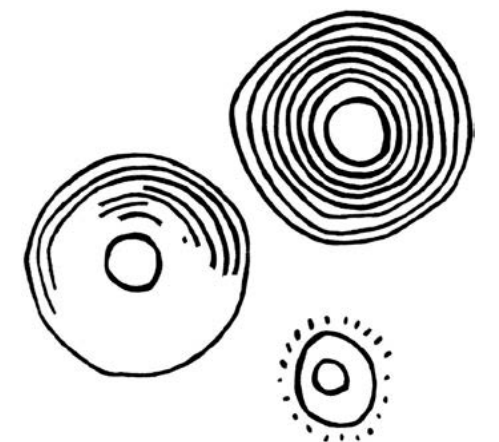


Figure 6. Grotta dei Cavalli. Recording of the figures of phase 1, 'geometric', external panel (drawing by AF).



Figure 7. Grotta dei Cavalli. Recording of the figures of phase 2, anthropomorphs, external panel (drawing by AF).



Figure 8. Grotta dei Cavalli. Recording of the figures of phase 3, 'abstract', external panel (drawing by AF).



Figure 9. Grotta dei Cavalli. Photo of the left sector of the external panel, modified with D-Stretch (photo C. Iemmola; reworked by AF).

to the same phase, sometimes of considerable thickness and up to 50 cm long. Other painted lines have a similar brush stroke and colour tone, with the single lines observed in the internal panel, and could be considered a schematisation of the human body. This observation has led us to believe that phase 2 of the outer panel may be coeval with the anthropomorph panel already described.

The third pictorial layer (phase 3) is characterised by the thinnest and most nuanced of the brushstrokes as well as by the use of a purple hue (Fig. 8). Generally, the figures are composed of two or three parallel lines with a curvilinear or serpentine course. These lines are sometimes joined together by short strokes, which led S. Tusa to compare them with the vascular

decoration in use during the early Sicilian Eneolithic, in relation to the facies of San Cono-Piano Notaro (late 4th to early 3rd millennium BCE) (Tusa 1992: 474). The external panel shows further representations in the left upper part (Fig. 9). These are figures belonging to two overlapping pictorial layers but distinguishable, thanks to the analysis of the frames with D-Stretch. The two painted layers show figures made up of continuous linear bands, but which differ in subject, brushstroke and colour. The pictograms of the lower layer (layer 1) consist of a large figure, made up of four parallel bands, which describe a very irregular ellipsoid open at the bottom (Fig. 10). This figure, which we define as ribbon-like, is entirely analogous to the only figure found on the room's left wall (Fig. 11). By similarity in the pictorial stroke and colour, both figures resemble those in concentric circles, and therefore we believe that they belong to the most ancient phase of the pictorial complex (phase 1).

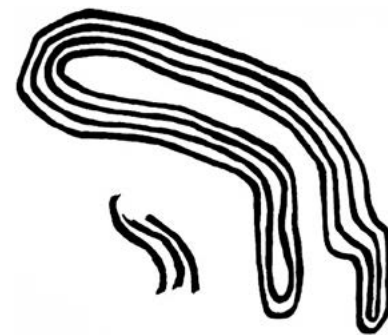


Figure 10. Grotta dei Cavalli. Recording of the figures belonging to layer 1 of the left sector of the external panel (drawing by AF).



Figure 11. Grotta dei Cavalli. Photo modified with D-Stretch and recording of the figure on the left wall of the room of paintings, belonging to phase 1, 'geometric' (drawing by AF).

On the other hand, the upper pictorial layer (layer 2), with thin bands and purple shaded edges, shows significant similarities with the figures belonging to phase 3. In the latter case, the figures compose a series of spirals, serpentine and semi-spirals where inside the concavity occur parallel notches, arranged both horizontally and vertically (Fig. 12).

To the figures in red and purple are added, on the outer panel, a few strokes and some points arranged in a circle made with black pigment, elements that escape any framing with respect to the phases observed so far. Finally, we note the presence, again on the external panel, of numerous thin linear incisions, among which a large ramiform can be recognised, belonging to a final phase of the use of the wall as a graphics support, and certainly postdating the paintings (Fig. 13).

Results

The photographic survey and the subsequent reworking with the D-Stretch plugin of the paintings of the Grotta dei Cavalli made it possible to distinguish the sequence of the different pictorial layers that overlap in at least three different phases. In phase 1, which we have defined as the 'geometric phase', the prominent figures are concentric circles, circles with rays, ribbon-like figures. These are motifs in which the use of red or red/orange colour is exclusive, with wide and well-defined lines, made with certain care for geometric shapes. If, for the concentric circles, the comparison with the Porto Badisco Cave seems feasible (Graziosi 1980: Table XV), also in consideration of the perfect geometry of the figures in the Grotta dei Cavalli, the comparison between the ribbon figures and the serpentine figures seems unlikely with the figures known in the Apulian Cave (Graziosi 1980: Tables XVII-XVIII).

In phase 2, which we call the 'anthropomorphous phase', we observe the presence of the human figure, previously absent, which now dominates the scene. This phase is manifested in the internal panel, with the series of schematised



Figure 12. Grotta dei Cavalli. Recording of the figures belonging to layer 2 of the left sector of the external panel (drawing by AF).

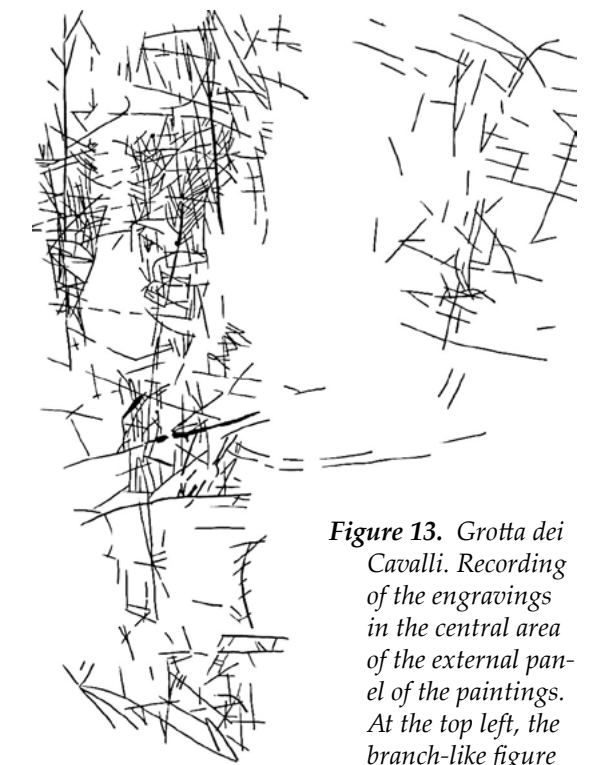


Figure 13. Grotta dei Cavalli. Recording of the engravings in the central area of the external panel of the paintings. At the top left, the branch-like figure is clearly visible (drawing by AF).

human figures, and in the external panel with the linear elements. It is also evident with the anthropomorphous schematics painted on the rock ridge that precedes the entrance to the room. Some of the pictorial methods already used in phase 1 are observed in all cases, such as the clean stroke of the lines and the exclusive use of red or red/orange colour. This suggests no considerable diachronic gap between phases 1 and 2.

Phase 3, which we call the 'abstract phase', is present only in the outer panel, both in the middle and upper left (level II). It is characterised by thin brushstrokes, with one irregular margin and purple colour. The lines are sinuous, serpentine, with notches that sometimes fill the spaces between the curves; they also join pairs of parallel lines. Among the possible comparisons, this figurative syntax is very reminiscent

of the serpentine figures of the Porto Badisco Cave or those also known in some sites of the Iberian Peninsula (Graziosi 1980: Pl. XVIII; Martinez Valle and Guillem Calatayud 2005: Figs 6c, 8, 9b).

In conclusion, the Grotta dei Cavalli cave paintings represent a key site for the knowledge of post-Palaeolithic rock art in Sicily. However, they are not without parallels elsewhere in the Italian context, especially in the representations of the Porto Badisco Cave, albeit with some differences, as already reported by Sebastiano Tusa (Tusa 1992: 474). For phase 1, the figures with concentric circles, the oldest in the whole context, are also found in the Grotta dei Cervi, even if in that case Paolo Graziosi doubted that they were true concentric circles, for it seemed to him they could instead be spiral figures (Graziosi 1980: 78, Pl. XV). To our mind, however, there is no doubt that they are concentric circles and not spirals. As for phase 2, we have already highlighted how the modality of schematisation of the human figure finds clear comparisons with the rock art of central-southern Italy (Puglia and central-Apennine area) and the Iberian Peninsula. Finally, phase 3, the one least represented in the cave, can again be compared with similar figures present in the Porto Badisco Cave, but also with the decoration of some Sicilian Eneolithic vases of the so-called Calafarina style and in that of the facies of San Cono-Piano Notaro.

The resumption of studies on the cave paintings of the Cavalli Cave thus confirmed their chronological and cultural framework proposed in the past, that is, the ancient Sicilian Eneolithic, certainly for phase 3, the most recent among the rock paintings in the cave. Indeed, in the light of the new data, we can now insert this framework within a more articulated development by phases and styles, for which the continuation of the research, especially through the sampling and analysis of pigments, can lead to innovative and significant results.

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