



# THE ABSTRACT MIND

## VALCAMONICA COMPLEX GEOMETRIC COMPOSITIONS

### IN THE LIGHT OF NEW DISCOVERIES

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ABSTRACT - Beside the classical figurative themes (human beings, animals, artefacts, symbols, etc.) rock-art of Valcamonica and Valtellina offers a substantial – and perhaps unique – set of geometric-abstract representations, in some cases of very complex structure (e.g. Bedolina), which since the beginning of research has been interpreted in topographical terms, i.e. as representations – realistic or merely symbolic according to different scholars – of the ancient landscape as transformed by human activity (crops, trails, etc.). However recent researches, especially from the western side of the Central Valcamonica, pose interesting questions against the traditional topographic interpretation of the subject and highlight some aspects: the marked increase of rocks with “maps” surveyed over the past years, their peculiar geographical distribution, the widening in variety of types and structures, the need to study the phenomenon in a systematic way considering micro- (rock surface) and macro-topography (spatial context of the rocks with “maps”). This paper discusses some important unpublished cases of engraved “maps”, with the aim of provoking a debate about the state of research.

ABSTRACT - Accanto al filone figurativo classico (antropomorfi, animali, manufatti, simboli, ecc.) l'arte rupestre camuno-tellina offre un consistente – e forse unico – insieme di raffigurazioni geometrico- astratte, in alcuni casi di struttura molto complessa (es. Bedolina), interpretate fin dagli albori della ricerca in termini topografici, cioè come raffigurazioni – per alcuni realistiche, per altri simboliche – dell'antico territorio antropizzato (colture, sentieri, ecc.). Recenti ricerche, in special modo dal versante occidentale della Media Valcamonica, pongono invece interessanti quesiti nei confronti della tradizionale lettura topografica del soggetto, evidenziando in particolare alcuni aspetti: il marcato aumento di rocce con “mappe” censite negli ultimi anni, la loro peculiare distribuzione territoriale, l'ampliarsi della varietà tipologica e strutturale, la necessità di studiare il fenomeno in maniera “sistemica” considerando micro- (superficie rocciosa) e macro-topografia (contesto territoriale delle rocce con “mappe”). Il presente contributo discute alcuni importanti casi inediti di “mappe” incise, con l'obiettivo di suscitare un dibattito sullo stato della ricerca in materia.

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#### 1. INTRODUCTION

Rock-art can provide basically two layer of information: the first and most direct is concerned with ethnographic insights about the apparent way of life of its creators and it is somehow self evident, like the use of specific weapons, tools or clothing, the practice of hunting, the ploughing techniques, the evolution of transport devices etc.; the second – and far more tricky – layer conceals the “meaning” of the art, why it is there, whom is aimed to, which kind of story it was intended to tell. While the first information can be deduced, though with many caveats, through formal methods of analysis (Chippindale 1998), can we do the same for the second one? Can we develop a framework for “reading” rock-art (Anati 2007; Anati, Fradkin 2008), especially when informers are long-dead and decoding their ancient messages seems a desperate task?

The present research has no pretension to answer these fundamental questions of the whole rock-art research field, but instead aim to address briefly some of the problem faced during the analysis of the evermore frequent geometric compositions – considered of “topographic” type<sup>1</sup> – appearing in Valcamonica throughout many rock-art sites. Among the several issues aroused by this tricky subject, like the growing evidence of contradictory “maps” or the yet ambiguous relationship with the underlying 3D surface of the rock, one emerges with particular emphasis: the persistent lack of terms to properly define what we see in rock-art. When the imagery is recognizable the task is relatively easy, although in Valcamonica scholars still struggle with words as “naturalistic”/ “schematic”, “elegant/decadent” or “dynamic”/“static” to describe also the most discernible figures, like humans and animals (Anati 1982; Fossati 1991). But what about the famous “rosa camuna”, with

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<sup>1</sup> The subject has a well established scientific literature. For an overview of past researches see Arcà 2009. In 2012 a conference devoted entirely to discuss this kind of images was organized by the author with Craig Alexander and Angelo Martinotti: *Stone maps: archaeology, rock-art and landscape knowledge / Mappe di pietra: archeologia, arte rupestre e concezione del paesaggio*, Capo di Ponte 14th-16th June 2012. The proceedings are in press.



its purely graphic structure? What about a rectangle or two geometric shapes connected by a line? Can we move them from the realm of the unexplained to our present framework of analysis starting from the choice of the defining term: “geometric”, “abstract”, “non-figurative” art?

Another issue aroused by this topic regards the fact that the very possibility of facing signs not necessarily representing real things/objects is in general heavily underestimated by scholars. The tendency to see a replica, more or less reliable, of actually existing entities seems in fact irresistible<sup>2</sup>, and as a result a circle appears to be “a sun symbol”, a simple rectangle is a house seen from above, a line connecting two rectangle is surely a path, and so on.

The purpose of this paper is to discuss recent research about a series of recently uncovered geometric compositions, one of the most complex type of figures carved in Valcamonica, and focuses on the problems that arise when trying to interpret images from a strict representational point of view. It also offers new evidences against the traditional topographic interpretation and advances some proposals to address the analysis of this subject for future research.

## 2. VALCAMONICA ROCK-ART: A BRIEF OVERVIEW

Valcamonica is one of the main valleys of the central Alps. It is situated to the north of the cities of Brescia and Bergamo and lies between Lake Iseo and the glaciers of Adamello. The river Oglio, which rises at Ponte di Legno on the slopes of the Passo del Tonale, runs throughout the valley, a distance of more than 70 km. The landscape switches between broad sweeps of flat valley floor and sudden natural bottlenecks where the valley narrows, as at Breno, Capo di Ponte, Cedegolo and Edolo. Easy passes connect Valcamonica to the Trentino and Tyrol region (Tonale), to Valtellina and western Alps (Aprica), to Valtrompia, Valsabbia and the Giudicarie Valleys (Crocedomini), while to south-west Val Cavallina leads naturally to the western portion of the Po Plain.

Research conducted in Valcamonica until the present day has identified a large number – in the hundreds of thousands – of images carved into the rocks (Anati 2004b; Poggiani Keller *et al.* 2007). They represent one of the biggest collection of post-Palaeolithic rock-art in the world and form one of the highest density of rock carvings in Europe. Other remarkable and similar groups can be found in Bohuslän (Sweden), Mont Bego (France), Galicia (Spain) and in the Côa valley (Portugal). A commonly accepted framework (Anati 2004a; De Marinis, Fossati 2012; Fossati 2000) considers Valcamonica rock-art to begin sparsely in late Palaeolithic (7<sup>th</sup>–5<sup>th</sup> millennia BC) and to diffuse massively through the successive phases of prehistory (late IV-I millennia BC), with carving episodes testified also in historic times (13<sup>th</sup>–16<sup>th</sup> centuries AD). The main period of activity took place during the Iron Age and developed in parallel with the well-known Italic cultures of the 1<sup>st</sup> millennium BC (Etruscans, Celts, Raeti, Veneti). With this peoples the valley had close contacts and reciprocal ideological influences which lasted up until the late 1<sup>st</sup> century BC, when the Romans added the Alpine tribes to their vast empire.

Most of the images were made using either a stone or metal tool to peck the surface of bedrock outcrops, preferably grey or violet-blue sandstones smoothed by the Quaternary glaciers’ slow movement. Normally the engraved rocks are grouped together, forming concentrations of rock-art. These are found in various parts of Valcamonica, but mostly in the middle portion of the valley, between Ceto to the south and Sellero to the north, with modern-day Capo di Ponte in the centre. Outside this area there are other rock-art notable groups: Luine (Darfo Boario Terme) is the largest in the southern valley, while on a smaller scale we find engravings also at Plemo, Piancogno, Berzo Demo, Malonno and Sonico.

Two particular factors were behind Valcamonica becoming, in 1979, the first Italian site on UNESCO’s World Heritage List. One is the deep time-depth of the phenomenon, the other is the expressive richness of the images, which could provide information about the life and thought of people living in the heart of Europe at a time before written documents (Poggiani Keller *et al.* 2007).

## 3. GEOMETRIC COMPOSITION IN VALCAMONICA ROCK-ART: STATE OF RESEARCH

In Valcamonica a bulk of complex images exist that are quite different from the figurative and/or narrative trend visible on many rocks. It consists of figures composed by agglomerations of quadrangles sometimes filled with precise rows of dots and linked together by lines so that they form wide geometric compositions. Such engravings were carved in simpler types as early as the Ancient Copper Age or even during the Late Neolithic (Arcà 2004; Sansoni, Gavaldo 1995) and were used again in much intricate form during the Iron Age. They are commonly interpreted as topographic representations and are usually compared with similar images spread in the Alpine region, especially the Mount Bego and the Haute Maurienne (Arcà 2009). The single motif components may show parts of a structured landscape (dwelling areas, farms, fences, paths and other manmade structures), while the shape of the rock to be engraved, which sometimes, according to some

2 The ‘rosa camuna’, just to mention a notable example of this kind, has been often imagined in the past as the reproduction of a real object, like a musical instrument. See Süß 1958.

authors like Gavaldo (1995) and Priuli (1988), vaguely resemble actual portions of the surrounding mountain slopes, and the association of ploughing scenes with single rectangular figures, which was widespread during Copper Age on Mount Bego and Valcamonica (Arcà 2004; Fossati 2002; Lumley 1995), may point in favour of the topographic interpretation.

After around one millennium of lacking evidence<sup>3</sup>, the cases known to belong to the Iron Age shows suddenly a spectacular revival of the subjects. The most famous and elaborate “maps” from Bedolina (Capo di Ponte) belong to this period (Turconi 1997) and are contemporary of the narrative warrior art spread all over the rocks in Central Valcamonica (fig. 1). While the topographic interpretation is practically the only one explanation advanced for this range of images, it has developed through time according to the growing data. From the idea of representation of *actual* territories proposed somehow naively in the past (Anati 1960; Battaglia 1934b)<sup>4</sup> and culminated with the yet unconvincing but detailed effort put on by Gavaldo (1995), Priuli (1988; 2010) and Brunod (Brunod *et al.* 2004), the most pragmatic and presently accepted proposal is that this kind of images symbolize *imaginary* landscapes for ritual/sacred purposes connected to the taming of the earth fertility (Neolithic-Copper Age) and later on to the spectacular demonstration of land ownership (Iron Age)<sup>5</sup>.

#### 4. SOME RECENT DISCOVERIES (OR RE-DISCOVERIES)

The following documentation and analysis is the result of ongoing research projects, especially on the western side of Central Valcamonica and inside the Archaeological Park of Seradina-Bedolina, conducted by the author and started in 2010<sup>6</sup>. Some of the most important and unpublished instances of the geometric compositions, as Bedolina R. 7 (with nearby Bedolina R. 4), Coren di Redondo R. 12 and other cases from Redondo, Seradina I R. 57 and Piè are here presented for the first time<sup>7</sup> (fig. 2).

##### 4.1 Bedolina

The Bedolina area is today identified mostly with one rock-art panel, the fascinating and well celebrated geometric composition on R. 1 called the “Bedolina Map” (Alexander 2008; Anati 1960; Battaglia 1934a; Beltràn Lloris 1972; Blumer 1964; Turconi 1997). Whilst the site has never been methodically inspected, it is now manifest that the “map” and the other similar panels surrounding it – the “magic four” R. 1, 4, 7, 9 – constitute a remarkable opportunity for a systematic approach to the analysis of the whole rock-art site and of the geometric trend so well represented here. The new panels found in Bedolina add crucial data to the geometric subject, along with the new “maps” uncovered in the last few years in Paspardo (Arcà 2007a) and Pià d’Ort (Sansoni, Gavaldo 1995), these latter belonging mostly to the early phases of Valcamonica rock-art (final Neolithic/Copper Age). Moreover the uncommon density of engraved rocks and the proximity of potential archaeological remains (shelters) make Bedolina one of the most interesting places for studying the relationship between rock-art and its archaeological context, a point that still calls for scientific investigation (Fedele 2007).

The finding of a big new geometric image in Bedolina on R. 7 took place during the archaeological survey of decorated rock surfaces of the area undertaken by the author in concomitance with the creation of the Archaeological Park of Seradina-Bedolina in mid 2005<sup>8</sup>. Operations to fix the pathway around R. 1 involved the removal of stones from a big heap present in the area<sup>9</sup>. The heap was located some 15 metres west of R. 1, on a spot where the underlying rock surface, already numbered as R. 7 for the few and unremarkable figures on it, sloped down a few metres until it reached a small flat grass ending onto the vertical wall of a large rock shelter to the west. The underneath rock inspection brought to light an extremely rich ensemble consisting mainly in a broad geometric composition similar to the Bedolina Map, but here carved in conjunctions with hundreds of human figures as well. According to local memory the surface and its geometric images has never been in open light during the xx century and thus has never previously recorded (Marretta 2006).

In the following paragraph I will produce a limited account of the observable motifs, in view of the fact that the rock is under investigation by Soprintendenza per i Beni Archeologici della Lombardia<sup>10</sup> and since

3 See Martinotti 2009 for the possible Bronze Age dating of some geometric composition. The paper has a particular emphasis on the Valtellina cases.

4 Emmanuel Anati called R. 1 of Bedolina the “Rock of the Fields”, proposing that it showed the Bronze Age agricultural landscape of the valley floor as seen from the rock itself. See Anati 1960.

5 For the most recent and complete argumentation in support of this position see Arcà 2004; Arcà 2007a; Martinotti 2006.

6 Rock-art recording is still a matter of photographing and tracing by hand what is recognizable on the rock surface. For considerations on documentation methodology in Valcamonica see Anati 1974; Arcà *et al.* 2008 and more recently Chippindale, Baker 2012.

7 I would like to warmly thank all the people that helped me during the documentation fieldworks: Sara Rinetti (the true pillar of these projects), Nicole Forchini, Pamela Rocca, Tatiana Vielmi, Ingrid Belafatti, Antonella Ghidini, Silvia Zonta. A special thank to Sergio Musati for his invaluable and relentless contribution.

8 The project has been directed by Soprintendenza per i Beni Archeologici della Lombardia and promoted by the Municipality of Capo di Ponte.

9 It was constituted by boulders, rocks and pebbles taken off the surrounding grass by local residents for farming purposes.

10 For an extremely succinct account of what is happening in term of research see Zefinetti, Peverelli 2009.



the discovery it has not been accessible to scholars for research purpose. Moreover the very intricacy of the geometric image and the unusual high frequency of superimpositions force to caution in assessing a definitive chronology or interpretation without a complete and precise tracing.

The rock (fig. 3) extends over 25 metres in length x 10 metres in width and gently slopes to the west from a natural concavity in the upper part where rainwater regularly gathers. The internal surface of the concavity itself is fully carved, so that in wet periods most of the figures remain hidden under stagnating rainwater. Noticeably a man-made waterway was grooved into the rock from this natural draining point, seemingly to aid the outflow. In the northern section the surface shows signs of weathering and the engravings (again geometric patterns) can be seen only in conditions of grazing light.

The main geometric composition is a thick assemblage of several quadrangular frames filled with aligned rows of dots<sup>11</sup> (fig. 4). The square/rectangles are sometimes connected by long, wavy lines. From among the geometric figure we can roughly single out the following elements: square or rectangles completely filled with rows of dots, with some of the frames containing a cup mark from which a line departs to reach another square/rectangle of the same kind; rare quadrangles with a ringed dot as in Bedolina R. 1; rectangular shapes partly filled with dots, e.g. just one line of them arranged along the internal perimeter (fig. 5); sub-oval or circular shapes with inner dots, which sometimes are placed according to the three-dimensional rock surface, e.g. lines or other elements running along the surfacing edges; one big rectangular grid with single dots in some of the squares resulting from the internal subdivision; two symmetrical motifs with circles/concentric rings positioned in the centre of the geometric composition; several wavy lines joining the various above-defined geometric shapes; big and deep cup marks, each one circled by a ring, clustered mostly in the central zone of the surface.

The overall abstract design, apparently conceived as a whole – even though the different pecking tools used to produce some motifs may suggest several authors or a time-long utilization of the site – and obviously related to the figures in the close-by Bedolina Map, extends itself over many square metres on the entire surface, sometimes following intentionally the underlying three-dimensional morphology (fig. 6). This geometric composition is to date the biggest and most complex design of this kind known in Valcamonica. Considering both the analogy with the similar figure on R. 1, which was recently attributed to the middle Iron Age (Turconi 1997), and the preliminary stage of the analysis related to the several superimposition, the creation of this panel should be placed between the late Bronze and the middle Iron Age (roughly 1000/500 BC).

The thick crowding of human figures – a unique characteristic of this rock in the broader context of Bedolina rock-art – seem also of particular interest not only for chronological consideration but also in terms of interpretation of such images, as it add elements that were poorly represented on R. 1. The humans exhibit markedly different pecking textures and are shaped in almost every style variations known from Valcamonica Iron Age (Sansoni, Gavaldo 1995), thus testifying a long and perspicuous use of the rock for at least a whole millennia.

As said, besides this new outstanding case Bedolina has other geometric composition already known but still unpublished. One example is R. 4<sup>12</sup>, which is located nearby the private house of the area along famous R. 5 (Battaglia 1934b). The surface, 18 mt long X 9,8 mt width, is composed by three sectors separated by dry walls and soil. Sector A is dominated by an extensive geometric representation composed by quadrilateral elements filled with dots and connected by lines, in a way that simply rearrange in different order the basic motifs of R. 1 and R. 7 (fig. 7). The main panel is tilted towards the west so that crouching on the rock to carve it would result in a very occluded view shed, as seen in R. 7. The composition extends vertically following the natural slope of the surface and results in connecting lines between the squares that sometimes stretches very long. Peculiar is the presence, in the upper portion, of rectangular elements with internal divisions occupied by a single dot/cup mark or by an horizontal line of four dots. The surface progressively deteriorates in the lower part, so that the carvings become hard to discern. The resulting tracing is therefore – and predictably – less accurate in this portion.

#### 4.2 *Coren di Redondo and neighbouring sites*

The Coren di Redondo site extends north of Bedolina, in a hard-to-reach and exposed position<sup>13</sup> to the east and below a high cliff that borders the terraces of the above Redondo rock-art site<sup>14</sup>. It has been identified by the author in the course of exploration carried out in 2006 following the reopening of an old path the previous year (Marretta 2009). The trail, located to the north and at the same altitude of Bedolina, had disappeared in the vegetation grew back after the disastrous fire that devastated much of the western slope of the Middle Valley in

11 The term “dot” is to be preferred to the much used “cup mark”, as in this case the bottom of the round motifs are flat and do not produce any deep concavity.

12 A detail of the upper portion of the geometric composition visible on this rock was photographed by Anati and published during the ‘60s. See Anati 1960.

13 The name in local dialect “coren” means “horn”, i.e. a rocky jutting promontory.

14 For an exceptional example of a vertical rock-art panel with Iron Age images in this area see Marchi 1997.

1996. Although the path was open and accessible before this date no rock seems to have been reported in this area in the past, as confirmed by a through survey inside the archives.

The R. 12 is located on a small glacial terrace in the northern portion of the site. The surface, which rises almost horizontal at ground level in the middle of a flat area, present a moderate view shed on the valley floor, although the decorated portion faces the mountain slope and it is placed low and tilted towards the mountain. On the rock there is only a geometric composition, one of the most elaborate so far encountered in the area (fig. 8). The surface has been fully documented during the research conducted in 2009 and 2010 (Marretta 2009; 2011) and has been investigated through network analysis in 2012 (Marretta, Alexander 2012).

The figure is composed mainly by 25 “under-marked” rectangles, i.e. rectangular areas entirely pecked bearing a straight line very close to one of the long edges, connected to each other by wavy lines and sets of dots spread around the geometric elements. In some cases the dots are enclosed in a sort of circular fence flanked by an under-marked rectangle, a scheme known also in the rock-art sites of Dos dell’Arca (Sluga 1969), Piè (fig. 9) and Vite-‘Al de Plaha (Arcà 2007a), which are placed on the eastern side of Central Valcamonica. The closest comparison is to be found at Pià d’Ort R. 39C (Sansoni, Gavaldo 1995), although there are many still unpublished images of similar typology from nearby Redondo<sup>15</sup>.

What are these rectangles? The topographic interpretation consider these elements as plan-view buildings. Some scholars risk to specify further, stating that they can be representations of farms (Gavaldo 1988) or houses (Priuli 2010). The function of the additional line and especially the fact that the line is always placed on the same side – from the point of view of an observer it is usually the lower portion – in all the rectangles of the same composition remain unexplained. On the other hand this seems to give the impression that there is an above/below orientation, and therefore that these are not pure ‘bird’s eye view’ depictions but rather abstract representations where the shared alignment and the link between few basic elements is of particular importance. This is consistent with Meece statement that ‘the ‘bird’s eye view’ that we take for granted in modern map-making is a particular and specific representation of a world with a surface, viewed from a single imaginary point in the sky above. But this dislocation of human perception from being ‘within the world’ to being above and beyond it develops in a specific social circumstance, arising within specific social structures’ (Meece 2006)<sup>16</sup>. Ethnographic parallels confirm the idea that eventual topographic images produced by pre-literate societies would unlikely be made using ‘bird’s eye view’ and thus would appear totally unrecognizable to us<sup>17</sup>.

Another notable feature is the fact that the geometric elements, especially the under-marked rectangles, are here always connected together by a single and unique line, i.e. they are never directly linked to each other by short segments either when they are very close. This is certainly quite a striking feature for a real settlement seen from above and it is again observable in the similar composition from Pià d’Ort R. 39C (Sansoni, Gavaldo 1995).

Improbable “maps” as these latter cases are on the other hand becoming more frequent as far as the recording of rock-art sites increases. A meaningful case is for example to be found again in Redondo (fig. 10), where a panel placed on an almost vertical wall 2 mt. higher than the present ground level shows a composition of the same basic elements: under-marked quadrangles, sets of dots, lines. What is impressive is the un-connectivity of the whole: lines depart from the quadrangles but, although many of them are close to each other, they all go upward and end abruptly in the middle of the rock panel. This is truly the opposite if compared to the unique connectivity of Coren di Redondo R. 12 as seen above (Marretta, Alexander 2012) and clearly emphasizes the uniqueness of every composition of this type.

#### 4.3 Seradina

Beyond some classical instances (Anati 1982; Priuli 1997), the rock-art area of Seradina, as opposite to the nearby Bedolina, is not particularly rich in geometric composition. A striking exception emerged in 2005 when a whole new rock was re-discovered inside the sub-area of Seradina I – Ronco Felappi. Here in the past a large geometric figure was spotted and briefly mentioned by Ausilio Priuli (Priuli 1991), but soon afterward it was lost under a thick layer of growing vegetation. The surface measure 10 mt length x 4,4 mt width and it is located at the north-western limit of the area. The main characteristic of the rock is undoubtedly the extended grid-shaped motif, which seamlessly stretches across the surface– with some lines running in accordance to the natural undulations – and completely envelops the portion emerging from the ground (fig. 11; 12). Looking from afar the general impression is to be in front of a textile outstretched on the surface, with the underlying 3D structure of the surface visible through it.

15 While the under-marked rectangles are quite common in many geometric compositions of Central Valcamonica the Redondo rock-art site shows a peculiar and unique preference for this feature.

16 This is actually the same idea expressed by cartography historian Denis Wood. See §5. for reference and discussion.

17 See for example the Australian aboriginal *toa* in Sutton 1998.



The the grid appears to be connected with rectangular and sub-oval areas, filled with sets of dots, located mainly in the central part and in the flat portions on top of the rock. It is worth mentioning that the motifs filled with dots continue also where the surface become almost vertical, surely a questionable topographical feature if these elements need to be considered “cultivated fields” (Arcà 2004) and the rock surface was chosen because somehow it reproduced in 3D part of the surrounding landscape, as in Bedolina R. 1 (Turconi 1997) or Pià d’Ort R. 39 (Sansoni, Gavaldo 1995). Several human figures armed with small swords and shields are superimposed onto the composition, arranged mainly in the central-left part and along the perimeter. Despite being overlapped the armed figures appear nonetheless to have been made concurrently with the geometric pattern (Early Iron Age?) due to their careful arrangement with respect to it.

Strictly comparable images can be found in Pià d’Ort R. 39A (Sansoni, Gavaldo 1995: 48), while other cases of less extended grids are located in Paspardo-Vite Al de Plaha and in Piè (fig. 13). Another noteworthy case of choice of a specific portion of the 3D surface to be carved with geometric motifs is in Seradina II R. 18, where a natural bump of the rock was decorated with encircling lines on the steep slopes and a series of dots on the flat top (fig. 14; 15).

## 5. MAPS AGAINST MAPS

Arguments supporting the topographic interpretation<sup>18</sup>, excellently summed by Andrea Arcà (2004), are omnipresent in literature and I will not recount them here. By contrast I will consider new evidences that weaken this idea and, in my opinion, urge to a whole reconsideration of the subject, and in particular of the cases belonging to the Iron Age.

First of all it must be stressed that the so-called “panoramic position” of the geometric compositions, especially the four main images from Bedolina (R. 1, 4, 7, 9), possibly inspiring the drawing of the visible landscape in ‘bird’s eye view’ (Anati 1960; Priuli 1988; Sansoni, Gavaldo 1995), is true only in one case, that is the historical R. 1. The most striking example against the idea that “maps” have a large view shed<sup>19</sup> on the valley floor or around them, and thus depict a portion of landscape as seen from the carved maps itself, is now undeniably constituted by the new big R. 7 and by the already known R. 9, with a similar situation on R. 4 as well if we consider the kneeling position of the carver. Outside Bedolina other cases of secluded panels bearing similar geometric composition are known, for example, from Redondo, where the case mentioned in §4.3 is almost enclosed inside surrounding outcrops of bedrock.

The frequency or uniqueness in certain sites of specific types of geometric compositions – like the Bedolina examples which, in this extremely elaborated forms, are known only here – may lead to the idea that, as for other themes (Alexander 2011; Marretta 2007), this images are intimately related to the place. That is to say that the subject choice do not depend by the more or less overview on the surrounding landscape or by a peculiar morphology of the rocks but it is driven by internal properties of the whole site itself, a sort of local attribute that lead to concentrate here this specific kind of images. Increasingly important is thus the *relationship* among similar images so close to each other in specific sites more than the single images taken alone, as happened in the past with the “Bedolina Map”. Clarifying recurrent motifs and peculiarity of every images in respect to their position with other ‘maps’ and within the landscape is a mandatory approach for present and future research on the subject.

The internal structure of many images shows features that openly contradict the topographic appearance: lines (“paths”?) that do not connect any elements and stop abruptly (Redondo); tree-like relationship between rectangles (Coren di Redondo R. 12, Pià d’Ort R. 39C) and unique degree of connectivity unlikely to be found in real landscapes; motifs that still lack convincing explanation in topographical terms, such as the peculiar alignment of dots inside some frames on Bedolina R. 7 or the extended grid-like figures of Seradina I R. 57, Pià d’Ort R. 39A and Piè R. 1, which have been weakly interpreted as reproduction of “[...] terraced fields, enclosures or paths [...]”<sup>20</sup> (Sansoni, Gavaldo 1995: 48).

The importance of the third dimension in the analysis of Valcamonica rock-art is a relatively new and growing trend of research (Chippindale, Baker 2012; Zefinetti, Peverelli 2009). The use of the 3D surface by the ancient carvers has often been exploited also in the past as a favourable argument toward the topographic interpretation, although now this feature, evermore frequent, seems instead to contradict it. A significant example

18 In Valcamonica a different approach was formulated only by Giuliana Sluga, who suggested a symbolic and gender interpretation for the geometric motifs of Dos dell’Arca. See Sluga 1969.

19 The importance of view shed in Valcamonica rock-art has been discussed by Craig Alexander in his brilliant Ph.D. thesis: see Alexander 2011. Comparing the view shed of rocks so close to each other (an average of 5 mt or less) as in Bedolina is not yet possible due to the low resolution of DEM models available for Valcamonica (20 mt x 1 pixel), an issue that could be resolved by the high quality 3D data acquisition undertaken by the ongoing EU founded project *3d-pitoti: 3d acquisition, processing and presentation of prehistoric European rock-art* for the year 2012-2014.

20 “[...] terrazzamenti, recinzioni o sentieri. [...]”. Translation in English by the author.

is again that of the motif with dots inside (Seradina II R. 18, detail of Bedolina 7, Seradina I R. 57), a basic component of the Bedolina type figures which Arcà considers to be a reproduction of crops (Arcà 2004) but that in some new “maps” appear to be oddly positioned on rocky bumps (cultivated fields on top of “hills?”), on the side of vertical parts, in the bottom of round hollows or on the crest of elongated protrusions, placements which have hard-to-find correspondent in the actual agricultural landscape.

Furthermore, as opposite to the Copper Age (Arcà 2007b; Sansoni 2007), the Iron Age geometric compositions are completely disconnected from the coeval ploughing scenes, especially in Seradina and in Bedolina, two of the rock-art sites with the biggest concentration of both categories. Why not associate the two themes, especially when they share the same site, if they belong to the identical semantic domain?

A final brief remark in respect to cartography and map-making in prehistoric times needs attention. Although there is a rich referencing to Valcamonica in the first chapters of books devoted to the history of cartography (Harley, Woodward 1987; Short 2003; Thrower 2007), critics to the very existence of prehistoric maps are present in the field as well. Cartography historian Denis Wood, for example, quite provocatively argues that “there were no maps before 1500” and that the map as we intend it<sup>21</sup> is the result of the arising of the modern state (Wood *et al.* 2010). The same famous Çatal Hüyük “map” (Mellaart 1967) has been recently revised after new research in the famous Anatolian Neolithic site and its topographical value, still accepted by Arcà, has been practically dismissed (Krygier 2008; Meece 2006). Finally Turnbull has suggested that, since maps are central to Western culture’s way of thinking, ‘Western ontology is in part reinforced by the centrality of maps in Western thinking and culture. Therefore, because of this possible circularity, one must be careful not to take one’s own view as definitive of all maps’ (Turnbull 1993).

These short list of evidences make more and more difficult the identification of the compositions with clear parts of the territory. The question now is: where do we go from here?

## 6. SOME FINAL NOTES ON POSSIBILITY AND PROBABILITY

Basically we need recognisability to be able to categorize and analyze things. This is the usual approach when studying rock-art: field recording, unit identification (single motif distinction), classification, statistics, interpretations. On the other hand one striking fact emerges when we look at the few complete study on Valcamonica rock-art produced in recent years (Sansoni, Gavaldo 1995; 2009): more or less 50% of images fall in the “no-man-land” of the category called “other images” or “signs and symbols”, that is to say “unrecognized images”. The fear to further raise this figure often lead scholars to force the recognition of images that are not so easy to grasp, sometimes with a sort of blind faith that we are looking at something that represent something else, a sign for a really existing object or, in other terms, a pictograph (Chippindale 2001: 254-258).

While pictographs often allow at least to recognize the object depicted, ideograms are abstract signs without any sort of allusion to a possible meaning implied by their shape. In any case both are sort of “boxed concepts” wrapped around an *Heisenberg uncertainty principle*<sup>22</sup>: we cannot say what’s inside the box without transforming it with the very act of observation and understanding, since understanding goes through layers of perception that are culture-conditioned (Layton 1991). In other words we are stuck with our way of knowledge and inevitably forced to re-code a sign through our cultural coordinate, the original ones being inescapably lost. But, like in quantum physics, we are not definitely trapped in a blind spot: as the electron position in space cannot be exactly measured but only assessed trough probability, thus restoring again the possibility of further proceeding with scientific knowledge, so it is the abstract sign on a rock. We cannot decode *exactly* its meaning, i.e. in which position of the human semantic universe it is placed, but we can build a cloud of possibilities and isolate areas of higher probabilities to find its originally intended place.

So what about the geometric compositions? Possibilities of “meaning”, mainly based on ethnographic parallels, are frankly countless. Just to mention few examples: basic geometric elements can mark gender polarities (Whitley 1998; Zubieta 2006), be the graphical expression of entoptic phenomenon (Turpin 2001: 394-395) or even symbolize mythical stories (Baldwin Spencer, Gillen 1899). This latter case in particular had a strong impression on me when I stumbled on it while reading the super-classic Levi-Strauss’ book *La Pensée sauvage* (1962). The fact that a “special individual” of the Arunte tribe (Central Australia) explained its Churinga (fig. 16) to a western man with the following description is really illuminating in respect of the completely conventional code hidden into the basic geometric shape decorating it:

[...] Figure A. represents the *Churinga nanja* of a dead man of the frog totem. On either side of the Churinga, which is a

21 In fact, what our meaning of the term “map” can generate a plethora of different concepts. See Andrews 1996 for a list of 321 definitions of “map”.

22 Being completely ignorant of quantum physics I dare to use here the famous concept formulated by Werner Heisenberg (1949) just for its theoretical suitability to the subject presently under discussion.



wooden one 39 cm. in length, are three large series of concentric circles (*a*), which represent three large and celebrated gum-trees which grow by the side of the Hugh River at Imanda, the centre of the particular group of the frog totem to which the owner of the totem belonged; the straight lines (*b*) passing out from them on one side of the Churinga represent their large roots, and the two series of curved lines at one end (*c*) their smaller roots. These trees are intimately associated with the frog totem, as out of them frogs are supposed to come, which is doubtless an allusion to the fact that in the cavities of old gum-trees one species of frog is often found, and can be always heard croaking before the advent of the rain. The smaller series of concentric circles on the same side of the churinga (*d*) represent smaller gum-trees, the lines attached to them being their roots, and the dotted lines (*e*) along the edge are the tracks of the frogs as they hop about in the sand of the river bed. On the opposite side of the churinga the large series of concentric circles represent small frogs which have come out of the trees, and the lines connecting them are their limbs. This device of small concentric circles united by lines is a very common one on frog Churinga [...] (Baldwin Spencer, Gillen 1899: 145-147).

Further precious information come from the subsequent explanations of other Churinga: the exact same element (concentric circle, dot, line) has a *different* meaning if the referring totem changes. This is allusive to the fact that the value of the sign is contextual: the same sign in a different context can completely change its meaning! What a warning for our investigation on a geometric/abstract figure without informant!

On the other hand new archaeological data coming from excavations in Copper Age sites (Poggiani Keller 2009), and specifically the punctual and accurate analysis by Fedele (Fedele 2011; Fedele, Fossati 2012), reinforce some of Andrea Arcà argumentations toward a probability, among the infinite possibilities, that, at least for the early phase, geometric motifs could be related to some sort of elementary and highly symbolic allusion to the land. Or at least a few of them, while other image of the same kind, although *from our point of view* identical to the former in structure, could have carried concepts that had nothing to do with the landscape, thus explaining the paradoxes encountered so far. In fact, in their more simple forms (single rectangles, lines, arrangements of dots, square filled with dots, irregular pecked areas) they are not even analogically similar to topographic features, while in the later and more complex images, like the one encountered in Bedolina, they only imply an elaborate net of relationship between different units and tell us nothing more than what we *want* to see into them.

In conclusion it seems clear that new insights on the geometric compositions of Valcamonica rock-art, and especially on the convoluted instances of the Iron Age, can be inferred only if the Bedolina rock-art site will be investigated in all its complexity, with special attention to R. 7, 4 and 9 as a system and not as single, isolated images. Moreover the complete analysis of R. 7, with its intricate overlapping, will certainly bring new chronological elements, but also new challenges for those who attempt to identify the surrounding area as the one represented by the Bedolina Map itself (Brunod *et al.* 2004).

These are obviously preliminary remarks and I must admit I am not trying to prove that these images cannot be ‘maps’. What I intend to underline is the fact that there are still many other possibilities to explore and that there are new facts that weaken the topographic interpretation. They can be *also* ‘maps’, but we must be careful not to fall in the trap of reducing every instances to a unique and all-encompassing explanation. Let us in fact keep in mind that geometric elements do characterize many more rock-art sites than before, with huge concentrations in areas like Redondo that still await to be brought to the attention of scholars and specialists. This means that only a thorough analysis of all known cases and an attitude free from contemporary interpretation biases, like the one to see “maps” almost anywhere (Krygier 2008), will permit to increase the comprehension of this complex and often puzzling subject.

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Fig. 1. The famous geometric composition of Bedolina R. 1, also known as the "Bedolina Map", inside the Archaeological Park of Seradina-Bedolina, Capo di Ponte (after Turconi 1997).

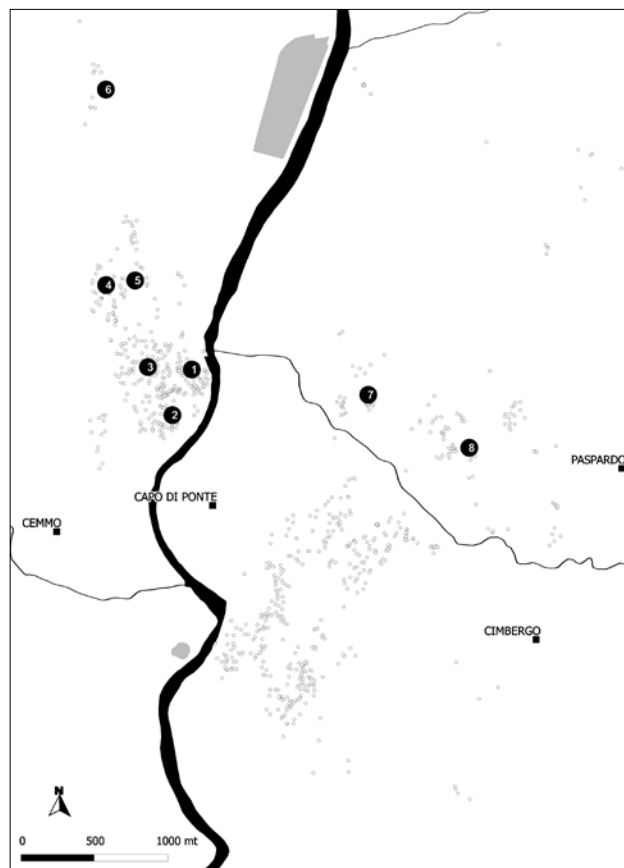


Fig. 2. Map of Central Valcamonica with rock-art sites cited in text: 1). Seradina I; 2). Seradina II; 3). Bedolina; 4). Redondo; 5). Coren di Redondo; 6). Pià d'Ort; 7). Piè; 8). Vite-'Al de Plaha. The small circles represent single carved rocks.

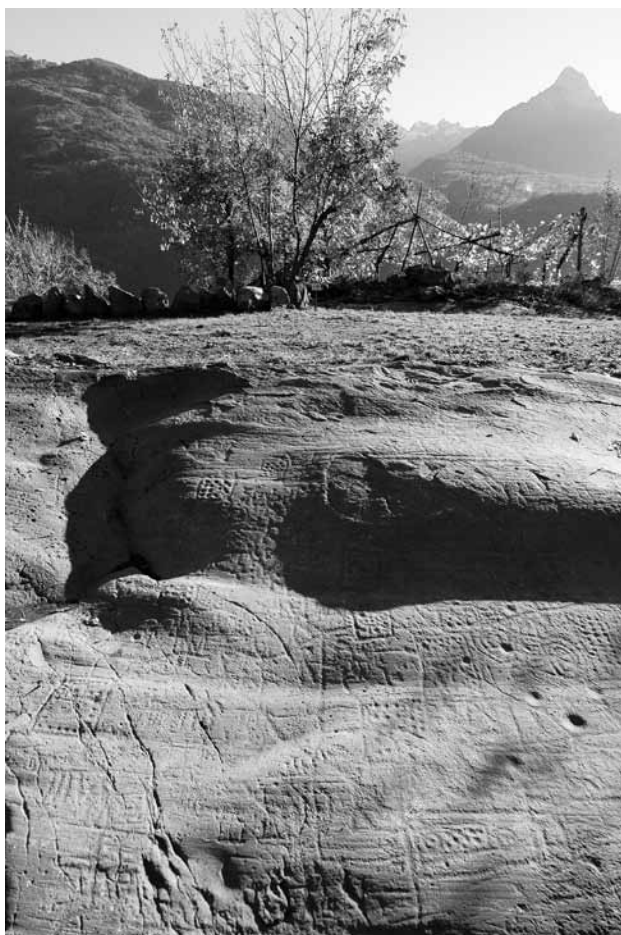


Fig. 3. Bedolina R. 7, Archaeological Park of Seradina-Bedolina, Capo di Ponte. Overview of the rock. Emerging from the background is the Pizzo Badile Camuno (2435 mt).

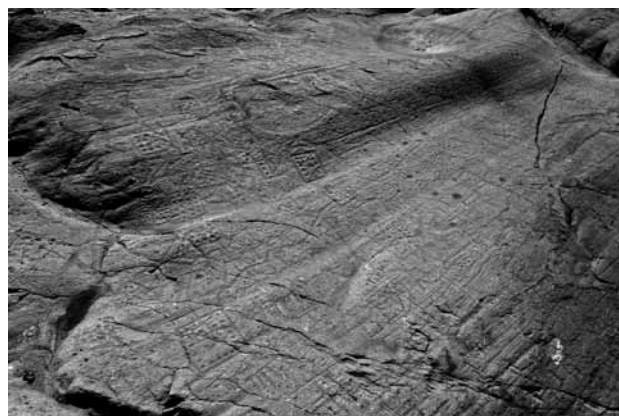


Fig. 4. Bedolina R. 7, Archaeological Park of Seradina-Bedolina, Capo di Ponte. Detail of the central portion of the surface.



Fig. 5. Bedolina R. 7, Archaeological Park of Seradina-Bedolina, Capo di Ponte. Detail of a quadrangle with dots arranged along the inner part of the perimeter. One dot is surrounded by a square, as opposite to R. 1 where single dots appear sometimes to be surrounded by a circle.



Fig. 6. Bedolina R. 7, Archaeological Park of Seradina-Bedolina, Capo di Ponte. Geometric elements adapting to/following the 3D features of the surface.

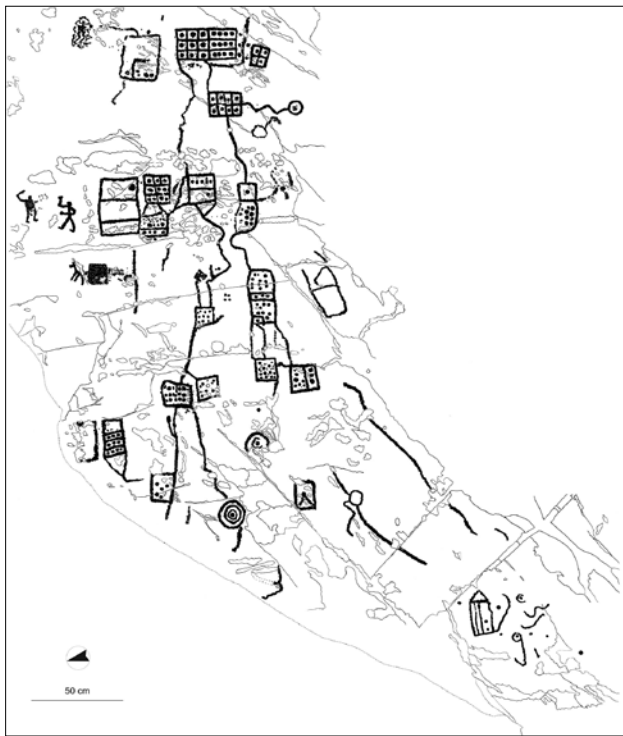


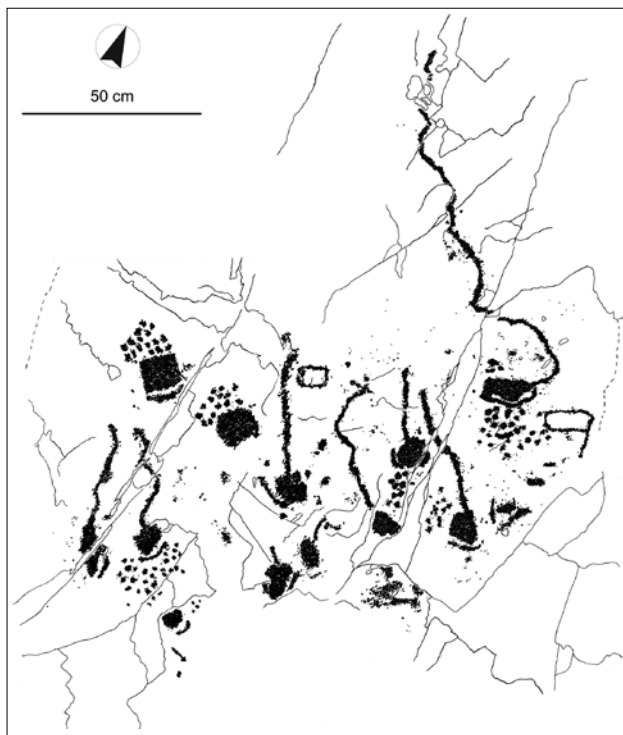
Fig. 7. Bedolina R. 4, Archaeological Park of Seradina-Bedolina, Capo di Ponte. Complete tracing of sect. A.



Fig. 8. Coren di Redondo R. 12, Capo di Ponte. The tree-like "map" composed by the repetition of the "under-marked rectangle" motif.



Fig. 9. Piè R. 3, Capo di Ponte. Under-marked rectangles and groups of enclosed dots form a geometric composition on a rock facing the mountain slope to the east.



▲ Fig. 10. Redondo (rock not numbered), Capo di Ponte. Example of “impossible map”, with “paths” ending abruptly in the middle of nowhere.



Fig. 11. Seradina I – Ronco Felappi R. 57, Archaeological Park of Seradina-Bedolina, Capo di Ponte. The big grid-like composition during the tracing in 2011. ►

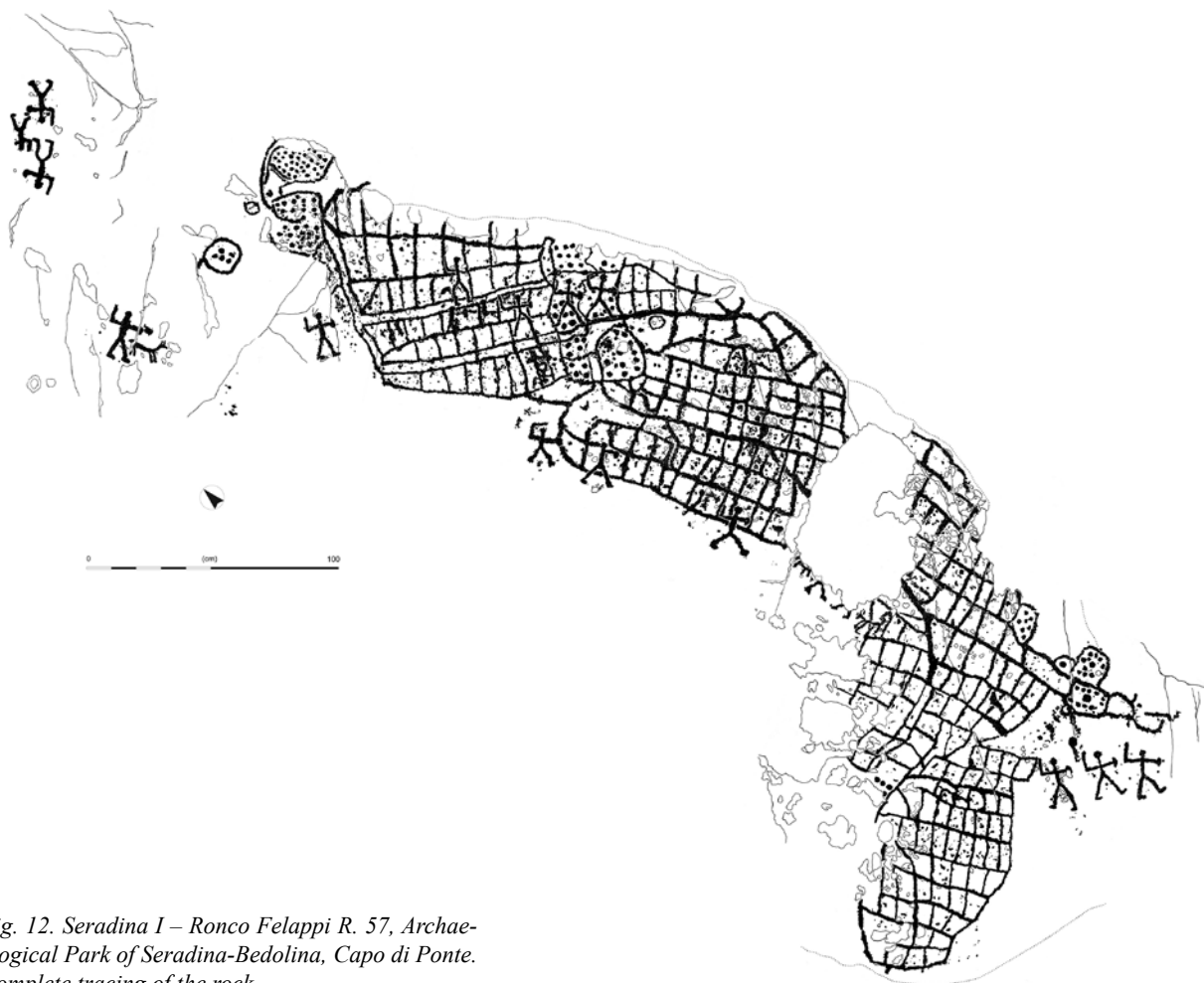


Fig. 12. Seradina I – Ronco Felappi R. 57, Archaeological Park of Seradina-Bedolina, Capo di Ponte. Complete tracing of the rock.



Fig. 13. Piè R. 1, Capo di Ponte. Extended grid motif.



Fig. 14. Seradina II R. 18, Archaeological Park of Seradina-Bedolina, Capo di Ponte. Geometric elements arranged on top and around a natural small bulge of the rock.

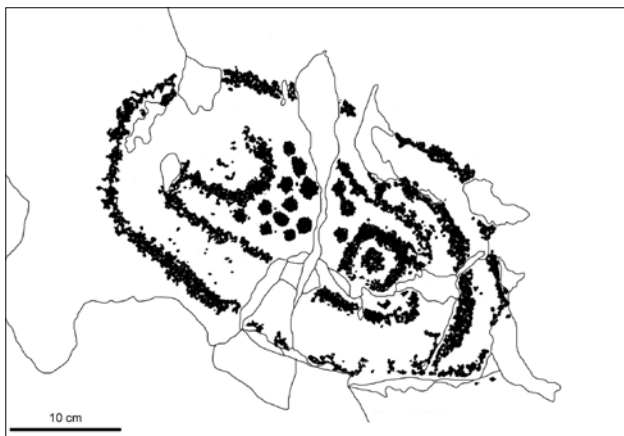


Fig. 15. Seradina II R. 18, Archaeological Park of Seradina-Bedolina, Capo di Ponte. Tracing of the figure.

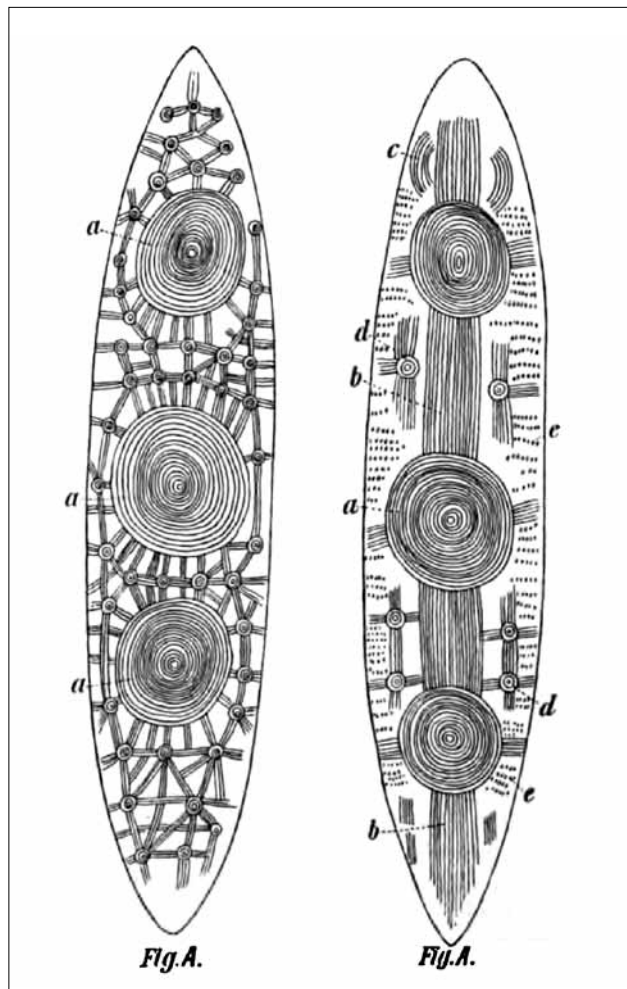


Fig. 16. Churinga from Central Australia (after Baldwin Spencer, Gillen 1899: 146).