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Melanesia. Tapa bark cloth painted in brown and black. 40 x 80 cm. (Archives Anati).

Hunter-gatherer rock art in two regions of Central-Southern Patagonia (Argentina): contrasting visual themes, techniques and landscapes

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The discovery and study of rock art in Patagonia had an early start in the 19th century (Moreno, 1876; Burmeister, 1892), and it has been the subject of continuous research throughout the 20th and 21st centuries (see syntheses in Podestá, 1996; Fiore and Hernández Llosas, 2007; Fiore, 2012). Following the key questions raised in this project *When, Why and to Whom*, we present here a brief overview of our research on hunter-gatherer rock art from two archeological regions located in Central-Southern Patagonia (Santa Cruz Province, Argentina): the Extremo Sur del Macizo del Deseado (henceforth ESMD) and the Margen Norte del Río Santa Cruz (henceforth MNRSC) (fig. 1).

These two large regions (see map in fig. 1) are separated by more than 150 km, a long and flat space that includes the Chico river basin; the regions are clearly distinct in terms of their landscapes as well as of the resources available for hunter-gatherers in the past (Franco and Cirigliano, 2009; Acevedo *et al.*, 2014). Both regions are characterised by a steppe environment with small shrub vegetation. ESMD is characterised by ignimbrite and sandstone rock outcrops surrounding lagoon basins, as well as by short canyons, with a great number of caves and rock shelters of different sizes (Franco *et al.*, 2013). MNRSC is characterised by long basalt canyons which run transversely to the northern shore of the Santa Cruz river with a roughly North–South orientation (a few sandstone outcrops are also recorded); these canyons have high vertical walls of irregular shapes, and include fewer caves and rock shelters than ESMD (Franco *et al.*, 2014).

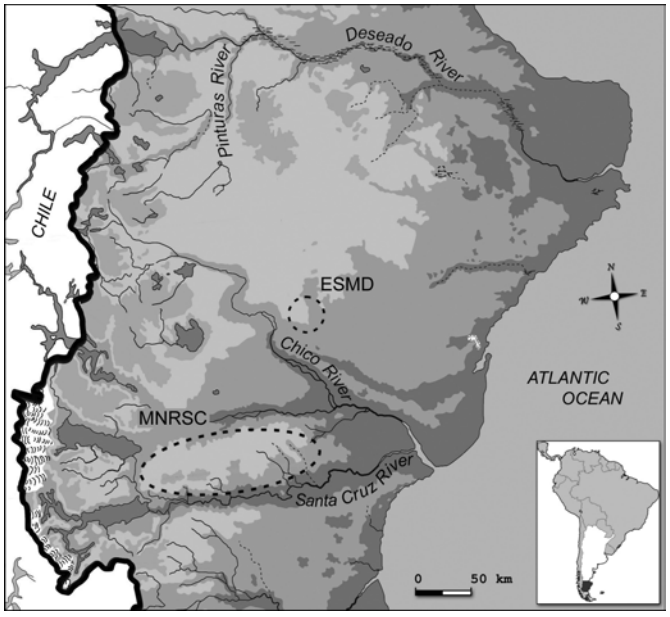

Fig. 1. Map of Central-Southern Patagonia (Argentina) with ESMD and MNRSC regions marked with dotted lines.

Both regions differ in terms of their environment and resources: while ESMD has greater availability of siliceous rocks of very good quality for knapping tools, as well as several natural pigment sources which are easy to locate and to access, MNRSC is currently less arid and has comparatively more water sources, a feature that paleoenvironmental studies seem to confirm for past times too (Franco and Cirigliano, 2009, Acevedo *et al.*, 2014).

Rock art shows great differences in both regions in terms of its motif types, themes, production techniques and site topography. ESMD is characterised by a motif repertoire of 54 types, which include hand negatives, guanaco[1] figures, geometric motifs made with solid lines (circles, meanders, zigzags) and/or with dots (dotted circles, U-lines, parallel rows of dots, etc), three digits (bird footprints), etc These were mainly made using positive and negative painting techniques to apply a vast series of colours, red (in different tones), black, yellow, orange, green. Most of these motifs have been recorded in caves and rock shelters which offer an effective shelter for the images from environmental factors which can affect their conservation (Acevedo *et al.*, 2014). MNRSC is characterised by a repertoire of 47 types, which includes circles combined with lines, straight lines, meanders, three digits, dotted motifs and a few guanaco figures. These were mainly made using engraving techniques: mostly pecking, as well as incision and scraping. Hand negatives have also been recorded. Most of these motifs have been found on

1 A camelid species named *Lama guanicoe*.

Fig. 2. Painted negative hands at Site 23, Viuda Quenzana locality, ESMD region.

open-air walls, which do not offer effective shelter for these images (Fiore and Ocampo, 2009; Acevedo *et al.*, 2014).

When?

Central-Southern Patagonia lacks so far direct dates for rock art motifs; therefore, the chronological sequence built by archeologists working in this area comes from inferences developed from images covered by dated layers, production remains found in archeological dated layers and chemical analyses of pigments found in dated strata, compared with pigment samples of painted motifs. Results of these researches suggest that rock art in Patagonia stretches along a wide temporal sequence, beginning c. 9,300 years BP at the site Cueva de las Manos (Gradin *et al.*, 1979) up to the contact period between indigenous peoples and European groups in the 16th century.

Given that rock art production can be dated preliminary through relative dates provided by the earliest and latest radiocarbon datings found in each region, which come from excavations at rock art sites: in ESMD, hunter-gatherer occupations range between c. 10,800[2] and 400[3] years BP; in MNRSC they range between c. 7,700[4] and 1,000[5] years BP (Franco *et al.*, 2013, 2014).

Also, one red pigment has been found in a layer dated c. 10,800 and 10,400 years PB at the site La Gruta 1, which suggests that colouring substances were being handled already in those initial moments of the occupation of the region, either to produce rock art or for other activities (Acevedo *et al.*, 2014).

In MNRSC, one yellow and two red pigment remains, of similar tones to the painted rock art images, have been found in the layers dated between c. 1,700 and 1,000 years BP at the sites of Mercerat 1, Bi Aike 3 y Yaten Guanjen 1 (Franco *et al.*, 2014). Given that the archeological signals of human occupation in the region are most frequent during this period, it is possible that part of the rock art images may have been produced at this time. The engravings, which are the most frequent type of rock art in this region, may also have been produced during this period; however, the

2 La Gruta 1 Site (Franco *et al.*, 2013).
3 La Gruta 1 Site (Franco *et al.*, 2013).
4 Yaten Guajen 12 Site (Franco *et al.*, 2014).
5 Yaten Guajen 1, Yaten Guajen 12, Bi Aike 3, Mercerat 1 Sites (Franco *et al.*, 2014).

beginnings of their production may have been earlier (c. 2,500 years BP), as shown by data from other Patagonian regions (Gradin, 1988; Re, 2010).
Different engraving patinas, states of conservation of paintings and engravings, and motif superimpositions indicate that in both regions several rock art production events may have taken place through time. However, given that patina and conservation depend not only on age, but also on local environmental conditions (e.g. rock type, shelter, weathering, etc), further studies will be required to identify such distinct events.

Why?

The reasons why rock art was produced by hunter-gatherers in Central-Southern Patagonia are evidently complex, since they involve multiple factors. Due to space limitations, we will focus on three of them: spatial location, image-making techniques and represented themes. Regarding spatial location, in ESMD rock art is mainly located in rock shelters and caves, while in MNRSC it is mostly located on open-air rocks.Why was art produced in these different topographies? As noted above, systematic fieldwork observations show that ESMD has many more caves and rock shelters than MNRSC, while MNRSC is characterised by large walls; therefore, a first answer to this question is that topography availability was different in each region, which may have led to the regional differences found in rock art location. Yet both regions share the fact that these images are not hidden, but are rather quite accessible and visible by any observer (past and present). In turn, this can be related to the question regarding image-making techniques: why are images in ESMD mainly painted while in MNRSC they are mainly engraved? This may be related to pigment availability, which, according to observations of the current landscape, is greater in ESMD, as well as to the fact that open-air walls in MNRSC do not offer proper shelter for painted images, while caves and rock shelters in ESMD can to an extent offer more protection from environmental factors affecting their conservation. This may be one of the reasons why hunter-gatherers chose engraving techniques to create images on the open-air walls of MNRSC, since they would last longer under such conditions (moreover, smudges of paint of unidentifiable shape suggest that they made some painted motifs, which were deeply affected by weathering, erosion, etc).
Regarding the question of what was represented, the process of visual communication underlying the display of rock art images can operate at different levels. These three analytical levels require a high degree of cultural knowledge shared between the producer and the observer. First, the formal perception and description (shape, colour, etc) of the motifs, their spatial layout and combinations: although both regions share some motif shapes (e.g. hand negatives, guanacos, bird footprints), they greatly differ in their colours, since rock art in ESMD is much more colourful because it is painted in several hues, while the engraved rock art in MNRSC provides a much more homogenous experience in terms of the visual perception of its patinas. The second level entails the identification of the motifs' referents (i.e. the real or imagined represented subject, if the motif did have a referent): this is only possible for the viewer if he/she knows the appearance of the actual represented referent of a figurative motif (e.g. an zoomorphic motif resembles a known fauna species), or if he/she knows the visual code underlying the representation of a referent through an abstract form (e.g. in a certain cultural visual code, a geometric motif represents the soul of the ancestors). As noted above, given the similarity between the formal aspects of some designs and the actual appearance of their referents, in both regions we can currently identify the representation of human body portions (hands), fauna species (guanacos) and fauna footprints (birds,

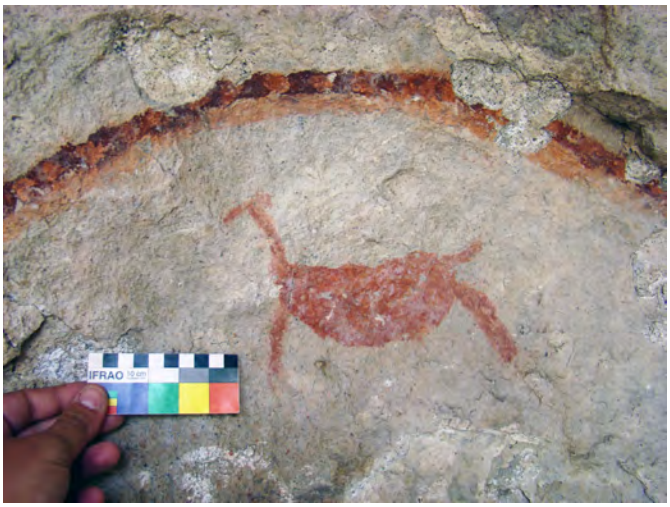

Fig. 3. Painted guanaco figure with curved lines at Site 08, Viuda Quenzana locality, ESMD region.

possibly some *Rheidae* species); to this we can add the identification of motifs representing human footprints in MNRSC, which have not been identified so far in ESMD (Fiore and Ocampo, 2009; Acevedo *et al.*, 2014). Highly geometric motifs, such as circumferences and meanders, are extremely frequent in MNRSC, while dotted lines forming different shapes are typical of ESMD: in these cases, we cannot pass from the first analytical level – formal description – of the motifs, since we cannot identify the represented referents (if such geometric motifs were indeed representational). Finally, the third analytical level refers to the interpretation of the referent's meaning/s (i.e. the concepts, values and/or feelings connoted by the referent itself as well as by the combination of two or more motifs). Such interpretation requires knowledge not only about the motifs and their represented referents, but also about the information (data, concepts and/or values) they encoded (Panofsky, 1972; Washburn, 1983; Conkey, 1984). Given that we are dealing with prehistoric contexts and lack ethnographic information that might help build such interpretations, we cannot offer rigorous analyses of what these images may have meant for their authors and past viewers. However, even if we currently cannot decode their meanings, the recurrent use of specific motif types, sometimes combined in the same manner and with similar spatial layouts, constitute identifiable visual themes (Leroi-Gourhan, 1967; Aschero, 1997). Thus, contrasting themes can be identified in both regions under study: while ESMD is characterised by a human and animal theme (representations of hands of all sizes denoting individuals of all ages and guanaco figures denoting key hunting prey for these Patagonian hunter-gatherer societies), MNRSC is characterised by a highly geometric theme (of unknown referents and meanings for present viewers), while hand negatives and guanaco figures are present in a much smaller proportion. Therefore, although at present we cannot read the past meanings of these images, we can approach some levels of their contents.

Fig. 4. Engraved geometric and footprint motifs at Yaten Guajen III, MNRSC region.

To whom

Rock art is fixed in space, located in certain bedrock topographies and in certain environments: this means that rock art's spatial display and distribution can shed light regarding hunter-gatherer mobility and landscape construction, since images can be used to mark and create territories, spaces and places (Jochim, 1983; Conkey, 1984; Bradley *et al.*, 1994; Aschero, 1997; Fiore, 2006; Lessen-Erz, 2008). Results of our research in the regions under study suggest that rock art production in ESMD and MNRSC shows several differences and some similarities in the construction of their visual landscapes, which in turn helps to ascertain to whom these images were addressed. As noted above ESMD and MNRSC differ in terms of the bedrock types (ignimbrites versus basalt), chosen topographies (caves versus open-air walls), main motif

Fig. 5. Engraved guanaco figure at El Lechuza, MNRSC region.

types and represented themes (hands and guanacos versus geometric designs) and production techniques (painting versus engraving): these differences suggest that the recurrent creation of rock art images by hunter-gatherers in these two separated regions generated two different visual landscapes, and that interregional contact did exist, but was not intense. In turn, this indicates that visual communication was more intense at an intra-regional scale than at an interregional scale, thus evidencing that probably rock art was addressed for – and observed and reproduced by – local populations more than non-local populations circulating in other regions of Patagonia.

However, given that some motif types – negative hands, positive hands, guanaco figures, bird footprints, human footprints, circumferences – do appear in both regions (with very different frequencies) and are also recorded throughout Patagonia (Gradin, 1988; Aschero, 1997), it is clear that both regions also share elements, which is consistent with the existence of hunter-gatherer networks operating at interregional scales. Moreover, it is noticeable that both ESMD and MNRSC share the fact that rock art images are displayed in clearly visible sites, where motifs are not hidden and could be viewed by all members of the community: this suggests that rock art was addressed to viewers of all ages and genders, and that images were intended to be seen not only by local site inhabitants but by any contemporary passer-by who approached the ESMD rock shelters and the MNRSC open-air walls. Given the recurrent use of some panels (which can contain dozens and sometimes hundreds of motifs), the existence of some superimpositions, as well as the location of painted images in sheltered bedrocks in ESMD and engraved images on open-air walls in MNRSC (where, according to each technique, they have greater chances of surviving the challenges to their long-term conservation), it is also possible to think that rock art was addressed also to future generations of hunter-gatherers.

Thus, through rock art production, Patagonian hunter-gatherers created visual landscapes as contexts through which they could communicate with contemporary members of their communities, with other neighbouring and distant populations, as well as with their descendants. The formal features, technical qualities and spatial layout of these designs have a deep archeological value, which includes both their scientific relevance and their importance as cultural heritage. Parts of their messages are now probably lost, but the material presence and visual power of these images are a precious legacy that still lives on with us.

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