



KEYWORDS: *Rock art – Collective memory – Past in the past – Visual analysis – Chile*

## ENGRAVED MEMORY: PETROGLYPHS AND COLLECTIVE MEMORY AT LOS MELLIZOS, ILLAPEL, CHILE

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**Abstract.** This article presents an approach to rock art in Los Mellizos, a site located in Chile's semiarid north, from a perspective that considers this material to be a reflection of practices associated with the construction and transformation of the collective memory of the different peoples who inhabited the area. The possibilities for using the archaeological record as a means to access issues such as notions of the past, the use of the past in the past and collective memory, are discussed, as well as a methodological approach that focuses on the visual characteristics of the site.

**Resumen.** Se presenta en este artículo una aproximación al arte rupestre del sitio Los Mellizos, en el norte semiárido de Chile, desde una perspectiva que considera a esta materialidad como un reflejo de prácticas asociadas a la construcción y transformación de la memoria colectiva de los diferentes pueblos que habitaron la zona. Para ello se discuten las posibilidades de acceder a cuestiones tales como las nociones del pasado, el uso del pasado en el pasado y la memoria colectiva a partir del registro arqueológico, así como un enfoque metodológico que se centra en las características visuales del sitio.

Palabras clave: Arte rupestre – Memoria colectiva – Pasado en el pasado – Análisis visual

### Introduction

Rock art is one of the most captivating types of archaeological remains, in part owing to its enigmatic designs. We believe, however, that there is another origin for this fascination. Petroglyphs and pictograms have always existed, or so it seems. They are vestiges of another time, yet they continue to be visible and present. They are one of the few cultural products that are rarely transformed into archaeological record; as long as they are in view, they are constantly re-signified, playing roles in social life, whether of anecdotal or radical importance. Rock art does not go unseen.

Rock art, as with monuments in general, can connect the present with the past, participating in the social construction of the collective memory of a society. This idea serves as the basis for the following article, and in it we show that rock art is a vehicle of mnemonic information, and is therefore a gateway to past social processes that created and transformed the collective memory of the different peoples who inhabited the same region.

Thus, the goal of this exploratory study is to determine the role played by rock art in practices related to the construction of collective memory of differ-

ent groups and, therefore, in the social practices of remembering and looking back. In particular, this research is focused on the site Los Mellizos, located on the upper Illapel River, in the southern limit of Chile's semiarid north, an area of geographical transition between the absolute desert of the further north and the Mediterranean climate of the central zone.

We begin from the assumption that rock art is, in some sense, a reflection of the memory of the group that created it. Marking space with petroglyphs in a permanent way suggests a need to leave a record of something — an event, an idea, a fundamental principle — that was stored in memory. It implies the existence of a social and cultural decision that compelled its materialisation and, therefore, its communication. In this sense, for traditional societies the realisation of most of rock art was mediated by the necessity to externalise and materialise certain contents of individual and collective memory, just as Layton (1991) argued for traditional societies' art in general.

Approaching collective memory in past societies is a key element if we want to understand them, since it is a socially constructed notion (Halbwachs 1950). Thus, what may seem to be simple memories are

configured in a particular social order, creating a common background for subjects' daily practices. This background, however, is not permanently defined, nor is it necessary that there be only one, providing it with an inherent dynamism (Halbwachs 1950). Nevertheless, collective memory's greatest significance is that human groups become aware of themselves by contrasting their present to their own built past (Halbwachs 1950), meaning that the construction of a particular memory also involves the construction of a particular social identity (Olick and Robbins 1998; Leoni 2009), as well as a particular manner of grasping the past, of remembering or forgetting (Augé 1998).

Past becomes a fundamental reference point for understanding the collective memory of a group, as it is the axis on which it is built, while each society's notion of time is linked closely to how it relates to its own memory. Despite the notion of the eternal present highlighted in traditional societies, every group perceives the passage of time in its own way, and so possesses some degree of awareness of their past (Gell 2001).

In traditional societies, the past is connected to myth and so reaffirmed through ritual. Ritual should be understood as an act of marked traditionalism, since 'it implies an insatiable repetition of eternal value, the absence of change, the infinite consistency of the sacred' (Hernando 2002: 95). It is because of this that ritual maintains the *status quo*, legitimated by the particular concepts of time predominant in traditional societies. The temporal inversions or suspensions of social order that characterise ritual confirm, unquestionably, that the said order is normative (Gluckman 1963, in Bell 1998). In this way, ritual transforms the obligatory into the desirable (Turner 1988) and through that it can be understood as a normalising element. Ritual does so, by means of its 'performativity' that suggests that ritual is effective when it generates some type of transformation, independent of its scale. Consequently, ritual achieves what it does by 'virtue of its dynamic, diachronic and physical characteristics' (Bell 1998: 75). According to Hodder (2006), the performative act, or the representation which is given in it, is significant, practical, corporeal and political.

We can note, then, that in traditional societies, there is a close relationship between ritual activities and the way in which collective memory is constructed. Both involve active processes of constructing reality and comprehending the world, and they are connected by the social dynamics that underscore them as well as by the constructions of order that sustain these dynamics. This shows as well the links that exist between ritual, memory and identity, the first being a concrete manifestation in which the latter concepts come into play, memory as the element that sustains ritual and that is simultaneously transformed by the very same performativity it promotes, and identity, the configuration of a being's consciousness, constructed based on a defined membership and therefore on particular traditions.

### Rock art as memory

But, is it possible to access these issues through an archaeological approach? It may seem that there is no clear relationship between memory, notions of the past and material culture. However, various researchers have proposed the existence of a close link between memory and the archaeological record, developing studies that have established the role played by materiality in the construction of collective memory and perception of time (Leoni 2009; Jones 2007; Fewster 2007; Mytum 2007; Williams 1998, 2003; Gosden 1994; Bradley 1991; Kelly and Kaplan 1990).

Jones (2007) has suggested that material culture can act as traces of past events, as Gosden (1994) has argued that the world created by past societies becomes the basis for the socialisation of future groups, emphasising the materiality of that world, suggesting that people exist within a previously built and lived reality, which no doubt they will further transform and re-live. This is related to the point made by Renfrew (1998) regarding the importance of material culture in what he called external symbolic storage, which is related to the ability of objects to contain meanings.

Van Dyke and Alock (2003) have proposed the existence of four categories of accessible material culture remains through which collective memory is constructed and observed and, we might add, transformed: (i) evidence of ritual behaviour, (ii) narrative, (iii) representations and objects that often have commemorative functions, and (iv) places. These categories provide insight into the multiplicity of possibilities that the archaeological record provides in order to approach collective memory.

One type of material culture is closely related to the idea of 'technologies of remembrance' (*sensu* Jones 2007), which concerns us especially in this paper. It is what Criado (1993) has conceptualised as a monument and which is defined as 'an aggregate of intended results fixed in an artificial product, visible in terms of space, and which maintains this visibility through time' (Criado 1993: 47), a definition that fits perfectly with rock art. According to this same author society seeks to control and overcome time through the monument, reflecting a particular form of relationship with it (Criado 1993). Renfrew (1998) states that monuments serve to preserve memories which would be lost if it were not for this storage. In this sense, material culture in general and monuments in particular have the ability to safeguard meaning, playing an active role in social dynamics.

The link between the monument and the construction and transmission of collective memory becomes clear. Rock art must then be understood not only as a reflection of the culture that produced it, but also as a constituent part of it, since by preserving memories, it promotes certain ways of doing things, regulating social conducts.

Rock art can therefore be comprehended as a fitting access point to the notion of the past in the past. It is

particularly appropriate because it can give us access to the construction of collective memory on two different levels. First, there is the scale that Troncoso (2008) has called micro-spatial, i.e. the block of stone, which establishes relationships between designs and rocks, and among the designs themselves. At this level, we believe that rock art can be associated with the third category presented by Van Dyke and Alock (2003), since here it is possible to see representations with commemorative functions (although this is not necessarily so). On a broader level, the macro-spatial scale (Troncoso 2008), rock art can be associated with Van Dyke and Alock's (2003) fourth category, as its immobility and durability provide meaning to a space, transforming it into a cultural landscape.

We can establish, then, that rock art can serve as a vehicle for the understanding of the relationship between a society and the past considering four elements: (i) relationships between designs of different moments on the same panel, which can be described by proximity, overlap, or juxtaposition; (ii) reuse of rocks through new designs engraved on different faces; (iii) spatial relations between engraved rocks; and finally (iv) the reoccupation of the space, either through the production of new rock art or simply by occupying the same space for other practices.

These four elements may or may not occur. In the case that they do, it is plausible to consider that there is an attempt to incorporate the otherness of the past into the present, reflecting a way of establishing links with former times. However, if the relationships and/or reoccupations mentioned above do not exist, this will also reflect a cultural decision to engage in a different way with the past. In any case, by its monumental nature, the rock art of the past forces a choice: either it is included or excluded from the present.

Collective memory is an important part of a people's intangible cultural reservoir. Hence exploring the manner in which this memory is transmitted implies deepening our understanding of the forms of cultural transmission used in each society. In order to meet this need, Rowlands (1993), on the basis of the preponderance of the material world in the 'storage' and transmission of memory, suggested the existence of two basic forms of cultural transmission or practices, which are manifested in two kinds of objects. On the one hand there are objects tied to inscriptive practices, which are characterised as playing the role of *aide-mémoire*. These objects are

[...] culturally constructed to connote and consolidate the possession of past events associated with their use or ownership. They are there to be talked about and invested with the memories and striking events associated with their use. The link between past, present and future is made through their materiality (Rowlands 1993: 144).

On the other hand, there are objects produced by incorporated practices. These objects are essentially different from those specified above, as they are not *aide-mémoires*, and therefore do not point to the past.

They do not embody memories of past events but have themselves become embodied memories; objectified and condensed as a thing. [...] When images actually become memory they can no longer refer to any fixed past outside themselves which they commemorate or reflect. Instead, as objectified memory, they can give value to nothing but themselves (Rowlands 1993: 147).

Considering rock art, it seems to fit exclusively among the objects associated with inscribed practices, as it implies the inscription of stones with certain representations. In fact, Connerton (1989) suggests that inscribed memory is represented, among other things, by monuments. But this is not necessarily so. A central aspect of rock art is its visualisation (capacity of being observed) and visibility (capacity of observing), and not every petroglyph or stone possesses the same characteristics in this regard. Whether rock art is intended to be viewed by as many people as possible or, conversely, its visibility is very limited, the decisions of those who made this type of mark on the rocks were necessarily related to the visual, or in the words of Criado (1993), with a given 'visibility will', and therefore with particular strategies of visibility.

With the above in mind, we could argue that the most visible designs belong to the group of objects related to inscribed practices, since their high visibility is the result of a set of choices regarding technique, location and size, among other features. Thus, these designs would have been made with the intention of being observed, recognised and comprehended. In contrast, rock art with a low profile requires that those who desire to see it must move and search for it (if the location is unknown), provoking a bodily act in the subjects. Moreover, it would be logical to think that petroglyphs with poor visibility preference the importance of the very act of marking the rocks, rather than the viewing potential of a particular design.

### Local pre-History and Los Mellizos

Los Mellizos is located on a narrow terrace on the southern bank of the upper Illapel River, near the confluence of the Illapel and Tres Quebradas Rivers (Fig. 1). This valley has a long sequence of Historical occupation, beginning with early hunter-gatherer populations that had a high degree of seasonal mobility between different altitudes, ranging from the Pacific coast to the trans-Andean valleys of San Juan, Argentina (Gambier 1986). Later, in the Early Ceramic period (hereinafter PAT) that extends from around 100 CE to 1100 CE, the region's first ceramic-producing societies appeared. From the study of settlement patterns, Pavlovic (2004) proposed that a mobile lifestyle persisted during this period and that it continued even under Inca influence. Meanwhile, Sanhueza and her colleagues proposed the existence of diverse groups in the PAT 'that are materially expressed in very different ways' (Sanhueza et al. 2004: 50), due to the presence of pottery ascribed to the Agrelo-Calingasta culture of central-western Argentina and other ceramic types

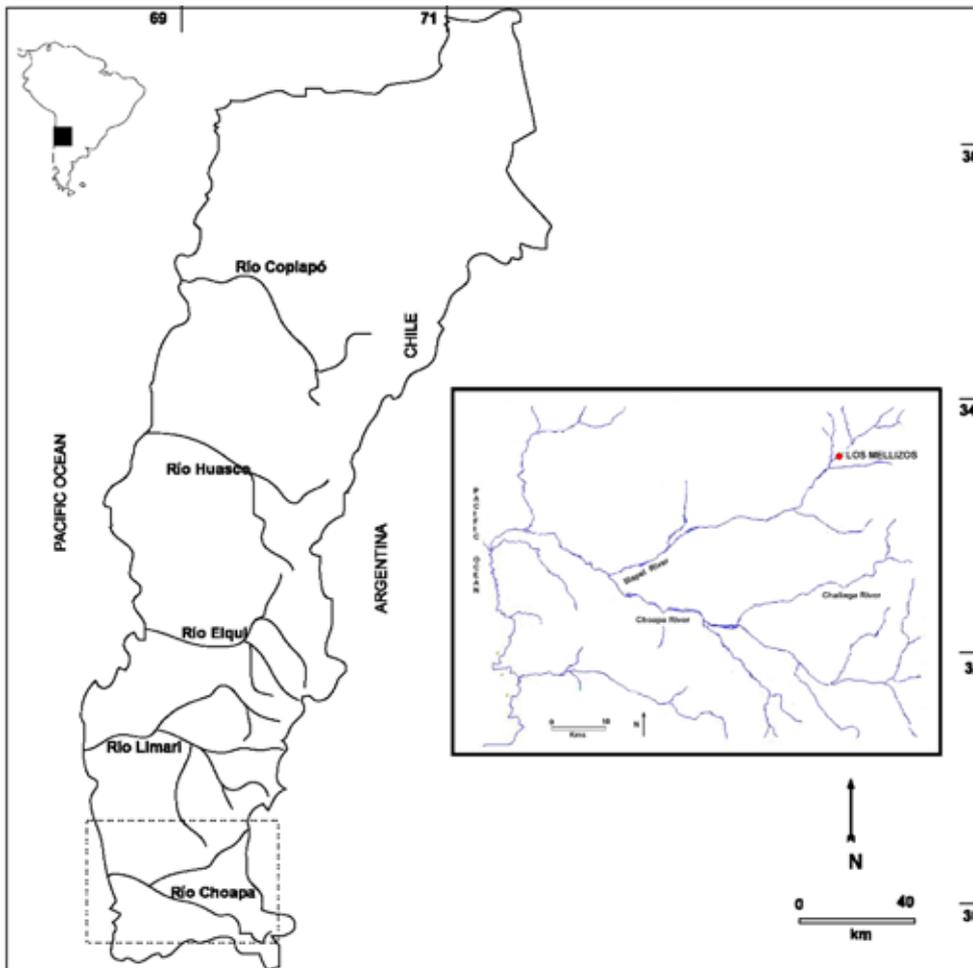


Figure 1. Location of Los Mellizos site.

particular to the zone, thus differentiating this area from regions further to the north where the El Molle complex was culturally dominant during the same timeframe.

The Late Intermediate period (hereinafter PIT), extending between 1100 CE and 1450 CE, saw the emergence of the Diaguita culture, which has been defined as characteristic of this period throughout the semiarid north. This was an agricultural society with a family-based social organisation and, for the most part, a sparse pattern of occupation, although nucleation has been demonstrated in some sectors of fluvial terraces. The society was characterised by low-intensity, subsistence exploitation of the environment (Troncoso 2004). In the Illapel valley, this sparse settlement pattern does not imply a socio-cultural dispersion. Gonzalez (2004a), analysing the decoration of Diaguita ceramics from this period, states the existence of a 'great unity throughout the valley that manifests the Diaguita representational universe' (Gonzalez 2004a: 77), suggesting that the people of this valley had a sense of belonging to a larger cultural group.

Diaguita populations were, by the mid-1400s CE, incorporated into the state apparatus of the Inca Empire or *Tawantinsuyu*, experiencing a fairly radical change

in their social patterns and lifestyle (Troncoso 2004; Troncoso et al. 2004; Gonzalez 2004a and b). With this, the so-called Late period (hereinafter PT) begins. In it, ceramics underwent remarkable transformations, especially in terms of morphology and decoration. Designs typical of Cuzco were incorporated into Diaguita graphical representation generating mixed patterns, evidenced mainly in the so-called central Diaguita area that corresponds to the northern valleys of Elqui and Limarí, being almost nonexistent in areas far from this centre, as it is the case in the Choapa and Illapel basins.

As stated by Troncoso (2004) and Gonzalez (2004a and b), the final phase of Diaguita development before the arrival of the Spanish conquerors

is marked by a significant increase in dietary diversity and by much more intensive extractive strategies than those of the previous phase. In this case it is an intensification of previous practices rather than a completely new economic scheme.

The production of rock art has been recognised in all of these periods, PAT, PIT and PT, each with its own dynamics and visual techniques. Petroglyphs from these phases are distinguished on the basis of 'differences in the semiotic rules of design production, the patterns of symmetry that define them, their arrangements on the panel and some technological aspects' (Troncoso 2009). Thus, three sets of petroglyphs have been identified, presenting a wide variety of designs.

It should be mentioned that the distinctions between petroglyphs of the Late Intermediate and Late periods are not very marked, a fact that is not unexpected considering that during both periods the Diaguita culture was the most prominent in the area, and suffered only minor modification to its pottery designs and an intensification of economic practices as a result of Inca influence. Nonetheless, there are some clearly Incan designs, such as the quadrangular with inner chess-like motifs (Fig. 2), quite similar to the decoration observed in different Incan textiles, or the representation of a rectangular figure with an X in it (Fig. 3) that may represent the quadripartition, a key element of Inca ideology and represented in different



Figure 2. Chess-like Inca motif.



Figure 3. Quadrangular Inca motif, with perpendicular lines, dividing figure in four, example of the representation of quadripartition.

materials, from pottery decoration to architectural organisation.

In Los Mellizos there are examples of petroglyphs made during different periods and by different societies. The site is composed of a total of 160 decorated blocks, the greatest concentration in the Illapel basin. Research led by Troncoso (2009) and carried out at the site has shown that the variety of designs is related, among other things, to temporal and cultural differences (see Table 1), suggesting the existence of rock art assignable to the Early Ceramic (100 – 1100 CE) (Fig. 4), Late Intermediate (1100 – 1450 CE) (Fig. 5) and Late periods (1450 – 1536 CE) (Figs 2 and 3). Table 2 shows the number of



Figure 4. Design engraved during the PAT.

	Schematics	Zoomorphs	'Masks'
PAT	Simple circles, and juxtapositions of these figures, without a clear symmetry pattern, except for translation.	Linear 'camelid' representations, with curved back sides. They can be represented both isolated or with other 'camelids'.	Face representations with circular outline and iconic representation of eyes, mouths and noses.
PIT	Designs with more complex symmetrical patterns (rotation and reflection). They are engraved using a continuous line.		Representations of quadrangular outline, with segmented interior and frets designs.
PT	Designs with internal decoration, organised in vertical or horizontally inside the panel. The double reflection symmetry pattern highlights.	Rigid bodies 'camelids', with neck-body angles of 90° approx. They are generally associated with 'human' representations.	Very similar to those of PIT, but some of them present a double reflection symmetry pattern in their composition.

Table 1. Characteristics of the different types of designs by periods.



Figure 5. Designs engraved during the PIT.

	N
PAT	21
PIT	41
PIT-PT	42
PT	58
Historical	7
Indeterminable	30

Table 2. Number of blocks with designs from each period. PIT-PT corresponds to a category in which it was not possible to distinguish between those engraved during the PIT and those engraved during the PT.

blocks thought to have been engraved in each period.

Although its most prominent distinguishing feature is the presence of rock art, Los Mellizos also contains material in stratigraphic deposits that has shown the existence of housing occupations dated to the PAT. The presence of hearths, floors and abundant ceramics supports this interpretation (Larach 2010). This material evidence and the lack of remains from the PIT and the PT mark a clear distinction in the way this space was used by different populations. First, it evidences that during the PAT, people not only engraved the stones of this site, but also lived among them. Second, it shows that throughout the subsequent periods, the Diaguita and Diaguita-Inca populations used this space exclusively for producing petroglyphs, living in other areas associated with fluvial terraces, which is consistent with an agricultural lifestyle.

### Methodology

As noted, the way in which to approach rock art relies primarily on the visual. To do so, we conducted a series of analyses, establishing relationships between different characteristics of the petroglyphs at Los Mellizos, which can be grouped into two main categories: visibility and visualisation, and intra-block spatial associations.

The first analysis was an attempt to establish the visibility and visualisation of each block in the site in relation to the others. The criterion for determining the presence or absence of these indicators was the possibility of viewing other rocks marked with petroglyphs from the vantage point of each of the engraved blocks (Fig. 6). From this analysis, visibility and visualisation ranges were established (high, medium and low).

For this research, we will define visibility as the possibility of identifying surfaces engraved with rock art from the position of a particular block; that means, it corresponds to the number of marked blocks that, standing in front of a rock art panel, can be distinguished. For our purposes, a visibility scale was generated in order to separate the group of rocks. Three visibility ranges were established. The possibility to observe seven or more blocks of rock art is defined as high visibility; medium visibility, on the other hand, is the category applied to those blocks from which three to six others can be seen; and low visibility is appropriate when there is the potential to view none to two other decorated blocks.

Visualisation, on the other hand, is understood as the capacity for being observed from other blocks of



**Figure 6.** Picture of a rock art block, showing the different other blocks that could be observed, and distinguished, from it.

the site, which means that the visualisation is given by the number of blocks from which a particular block can be seen and recognised as having petroglyphs. In order to analyse this aspect, a similar process to that used for defining visibility was followed. First, the blocks were separated according to their level of visualisation. Then, three groups were established: rocks with a high degree of visualisation, which can be observed from the position of nine or more other blocks; those with medium visualisation, defined as those which can be distinguished as engraved from three to eight other blocks; and finally those with low or no visualisation, which can be viewed from only two or fewer other rocks.

We compared this information with the stylistic characteristics of each design, as well as with other attributes that we thought might influence the visibility and/or visualisation of a block, such as the size of the rock, its designs and the spatial distribution. In this way we were able to characterise all six groups of blocks (blocks with high, medium and low visibility and blocks with high, medium and low visualisation). Following the visibility analysis, several variables present on the micro-spatial scale (Troncoso 2008) were considered, including the chrono-cultural assignation of the designs, the size of the rocks and the types of designs. These variables were obtained by recording each of the blocks, panels and figures at the site, allowing the site's formal reality to be characterised.

At this point, vegetation might be a problem, but in general terms, and because of the geographical characteristics of the site, it is probably not an important factor, since it might have not changed since the time of the first petroglyphs. Nonetheless, we are aware that the clearing of the site, by cutting or burning vegetation could have happened, but sadly there is no evidence that can prove such a practice.

One of the main attributes that were considered is the relationship established by the superposition of two or more designs. To achieve this, the superposition of petroglyphs made during different cultural periods was determined using the stylistic background previously discussed. We also examined the relationships between

petroglyphs found on different faces of the same block in order to analyse the reuse of rocks over various moments of the site's occupation. Finally, we mapped the rock art blocks with the goal of ascertaining the spatial relationships between them and their designs. The chrono-cultural characteristics of the designs were considered so that changes in the spatial organisation of the site over time could be assessed.

## Results

In an attempt to be brief, we will present only a summary of the results obtained over the course of this research, dividing them into three main sections: visibility, visualisation and spatial relations.

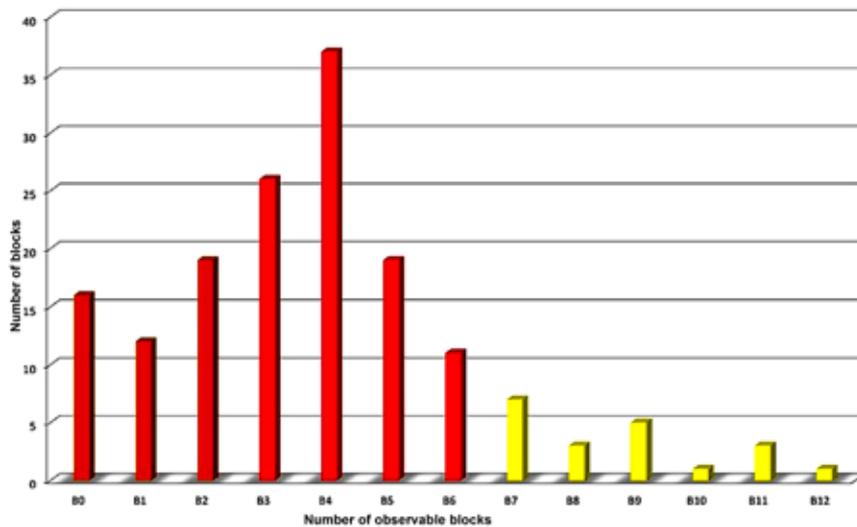
### Visibility

The visibility analysis fulfilled at Los Mellizos revealed the existence of notable differences between the engraved blocks. Figure 7 illustrates the number of blocks per range.

A surface's low visibility is related neither to the size of the rock on which the petroglyph is executed, nor to the presence of specific types of designs. Additionally, less visible surfaces are not the result of practices associated with one period, but rather the contrary; they were done over the course of time and their fabrication was not intensified at any particular moment. Finally, the spatial distribution is likewise unrelated to the low visibility of these blocks, given that they are found dispersed throughout the extent of the site.

The surfaces with medium visibility presented characteristics similar to the previous group on the basis that it was not possible to establish relationships between the attributes of the blocks that were considered: size, types of designs, spatial distribution, and chrono-cultural designation. Nevertheless, this last attribute can be discussed due to the greater presence of PAT designs in this category, in comparison with the low- and high-visibility groups. This, however, does not appear to be conclusive when it comes to understanding the visual dynamics of the engraved faces.

In terms of surfaces with high visibility, these are characterised by their large size. Although sometimes

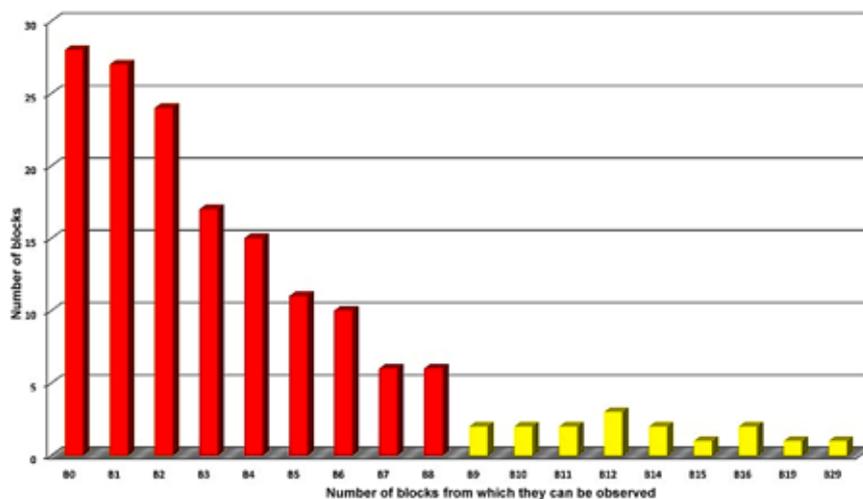


**Figure 7.** Visibility graphic. Different ranges of visibility: orange columns show low visibility blocks, the red ones show medium visibility and the yellow ones the high visibility blocks.

being of medium or of very large size, they never qualify as being small. The designs were produced principally in the Late Intermediate and Late periods, and are situated in three specific areas of Los Mellizos, characterised by a small but significant difference in height with respect to the rest of the site. In reference to the type of designs, we can see that in general, the behaviour of this group is fairly similar to that of the site in general, from which we conclude that high visibility is not correlated with a particular type of design. Consequently, this category presents clear associations with specific characteristics, which demonstrates intentionality.

#### Visualisation

The attributes considered in order to characterise each one of the groups were the same as those described earlier for visibility. Figure 8 shows the number of blocks



**Figure 8.** Visualisation graphic. Different ranges of visualisation: orange columns show low visualisation blocks, the red ones show medium visualisation blocks, and the yellow ones high visualisation blocks.

in accordance with the visualisation ranges established earlier.

The group of inscribed blocks with low or no visibility was unrelated to the attributes that were analysed. Neither the size of the blocks, nor the type of designs, nor the spatial distribution seem to play a role in these blocks' low degree of visualisation. The only factor that might be considered relevant is that half of the blocks engraved during the PAT belong to this category.

Blocks with medium visualisation did not present a clear relationship with either their size or with the designs executed on them. Nevertheless, with regard to their chrono-cultural designation, it is necessary to highlight the presence of designs characteristic of the PT. With respect to the spatial

distribution, a small concentration of blocks with medium visibility is positioned in a semicircular formation, although the majority of blocks of this type are found dispersed throughout the site.

Finally, the blocks with high visualisation are characterised by being of large or very large size, as well as for having a greater proportion of figurative designs, with those that are anthropomorphous being of particular note. These blocks are primarily associated with the PIT and the PT; however, there are very few that have designs exclusively linked to one period. Finally, the spatial distribution of these blocks forms a ring that encloses a circular space that is not obscured by other rocks in the site. In consequence, it is evident that each of these factors contributes to the attributes typical of this group, suggesting the intention of creating a high visualisation or exhibition of the blocks and their designs.

Considering visibility and visualisation, we can propose that Los Mellizos presents, on a general level, what could be called a restricted internal visibility. Nevertheless, it is possible to identify a reduced group of blocks that demonstrate high visibility in the site, whether by the opportunities they offer to observe the designs on other blocks or for the high degree of exhibition that they display. Figure 9 shows the low percentage of blocks with high visual relationships at the site in comparison to those that have low visualisation and visibility. In general, those blocks that are more visible and/or possess greater visibility present characteristics that

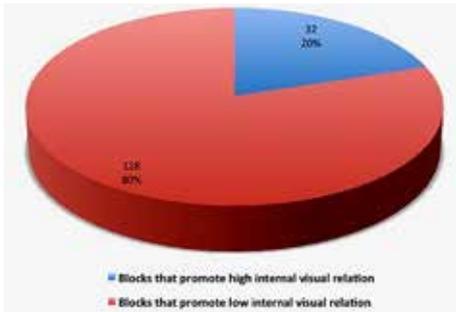


Figure 9. Proportion between blocks that promote a high internal visual relation and those that do not.

distinguish them from the others, as we have seen.

**Spatial relationships**

The analyses related to the spatial distribution of the designs and the blocks permitted the relationships between the designs and blocks of different periods to be characterised. Thus, not only the spatial relationships between the blocks, but also the historical reality of their distribution in the site were determined.

With respect to the former, it was possible to establish that one of the characteristics of this site is the scarcity of superpositions. Of the 884 designs recognised, only 37 presented superpositions (whether these be over or under other designs). These superpositions are found on only 15 blocks, of which two have a high visualisation, one a high visibility, and another that meets the criteria for both. The remaining blocks are part of the medium visibility and visualisation groups (Table 3). In this sense, it appears that superposition is not related to the configuration of strategies for visibility and visualisation.

These superpositions are generally found on panels with a high concentration of designs and on those where there are patinated furrows or chips beneath the visible designs. For this reason, we can determine that the superpositions are not ‘breaking’ earlier designs, but that they are still a way of re-utilising the surface. Regardless, there is one exception in which the obliteration of previously made designs appears to be more intentional.

The majority of examples of this type of relationship are found between schematic designs, with anthropomorphic and zoomorphic petroglyphs appearing rarely. Drawing from this, it can be concluded that the superpositions in Los Mellizos are unrelated to a particular design, given that designs of a schematic type are the most prevalent in the site.

Another interesting point is

Block with superposition	Chrono-cultural assignation	Visibility range	Visualisation range
14	PAT / PIT / PT	Medium	High
23	PT	Medium	Medium
37	PIT / PT	High	Medium
50	PT / Historic	Low	Low
62	PAT / PIT	Medium	Medium
68	PIT -PT	Medium	Medium
70	PAT / PIT	Medium	Medium
74	Undetermined	Medium	Low
75	PIT-PT	Medium	Low
86	PAT / PIT-PT	High	High
102	PIT	Medium	Medium
103	PAT / PIT / PT	Medium	Medium
114	PIT / PT	Low	High
119	PT	Low	Low
125	PT / Historic	Medium	Low

Table 3. Characteristics of the blocks that have overlapping designs.

that the rarity of superpositions does not imply that there is no relationship between designs from different periods. In fact, there exist various panels in which there are designs from different times, generating configurations that could be called ‘mixed’ (Table 4), and creating visual, spatial relationships between designs realised in distinct socio-cultural contexts. In this sense, it is striking that there are only four blocks where designs from the PAT and the PIT are associated, and that PAT and PT designs never appear together, at least a PIT design is present as well, a situation that occurred on three blocks. This contrasts with the relationship that exists between figures attributed to the PIT and the PT, of which there are mixed examples on 16 blocks.

With respect to the historical construction of the site, we noted that the visual strategies that were utilised underwent fairly radical transformations over time. During the PAT, the spatial configuration between decorated blocks was relatively dispersed, lacking an apparent order. The reduced number of blocks and their sparse concentration constitute fundamental characteristics of the site during this period. Thus, the spatial intervention was of a low intensity, as can be seen in Figure 10.

During the PIT, on the other hand, the continuation of the practices of rock art production at the site led

	PAT	PIT	PT	PIT-PT	PIT/PT	PAT/PT	PAT/PIT
PAT	13	4	0	3	3	***	***
PIT	4	16	16	1	***	3	***
PT	0	16	31	1	***	***	3
PIT/PT	3	1	1	37	0	0	0

Table 4. Relations between designs of different periods in the same block. (PIT/PT: Intermediate period and Late period; PIT-PT Intermediate period or Late period)



Figure 10. Petroglyph blocks distribution during the PAT.

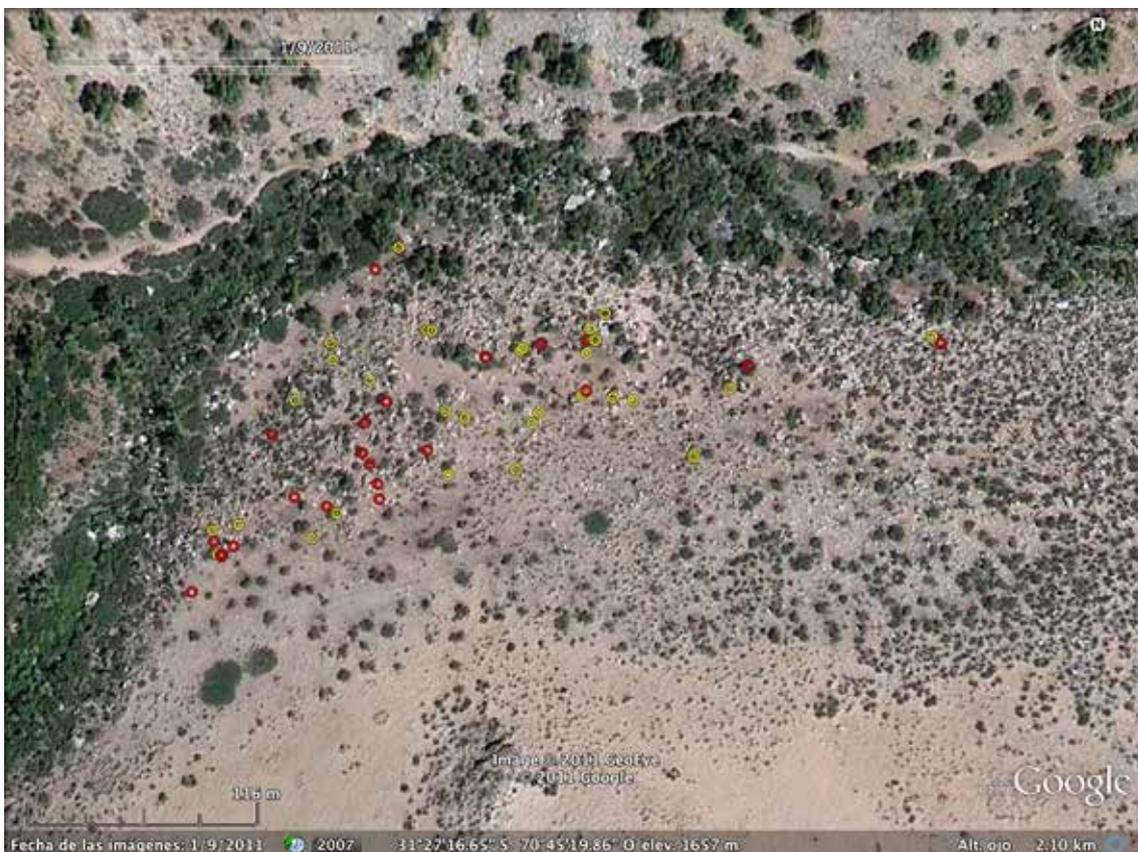


Figure 11. Petroglyph blocks distribution during the PIT, that is, considering designs engraved during the PAT and the PIT, the former represented in red and the latter in yellow. The intervening space remains the same.

to an increased density, giving rise to considerable concentrations of blocks (Fig. 11). We also see that during this period there was an augmentation in the number of blocks that promote a high internal visual relationship, but we must also note that during the PIT, the 'limits' of the site were maintained and that new blocks were engraved in the same space that had undergone previous intervention, without marking a significant difference.

Finally, during the PT Los Mellizos demonstrates a noticeable increase in the number of rock art blocks, which signifies an intensification in petroglyph production practices (Fig. 12). Greater concentrations of decorated blocks were generated, which nevertheless are found within the same spatial expanse as defined in the PAT. In this way we see a re-utilisation of the same space, a pattern that implies a spatial association with the earlier production. Also important is the greater number of blocks with high visibility and/or visualisation that show a relatively structured organisation, with some concentrations being clearly distinguishable.

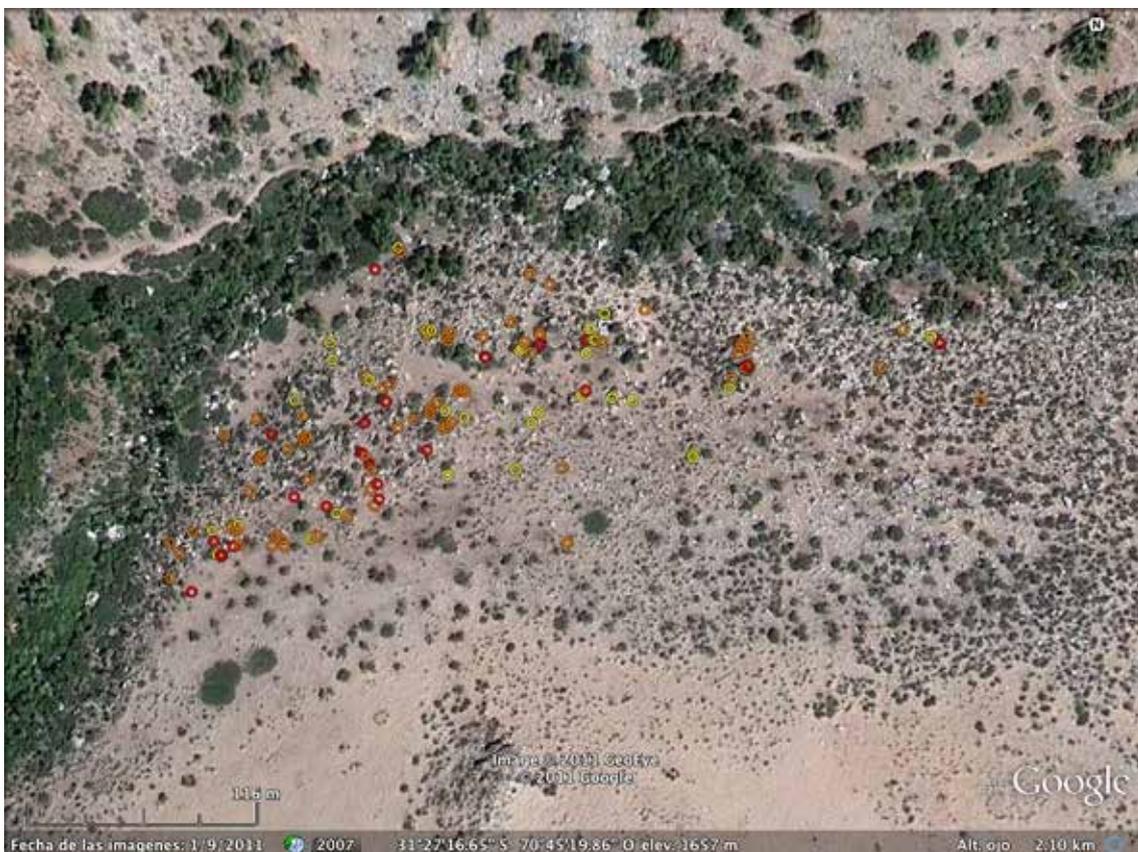
The significant increase in the 'density' of decorated blocks suggests an intensification of this practice, while the growing number of blocks that promote high internal visibility recalls what were previously discussed as 'exhibitionist' strategies. On the other hand, it confirms that the extent of the site was fixed

during the PAT.

### Discussion

Petroglyphs from the PAT are found, for the most part, in the low and medium visibility and visualisation groups, that is, they do not promote a high internal visibility. In order to encounter and observe them, constant movement throughout the site is necessary, which forces a particular mode of experience, generating a memory which is lived and appropriated by means of movement and practice, with and through the body. Thus, the actions that produced this type of record correspond with the incorporative practices previously discussed.

This view is supported by the fact that during this period, the site was also being used as a place of residence within the circuits of seasonal mobility, producing recurring contact with the petroglyphs in a domestic setting. These mobile populations would have signified the spaces they used with petroglyphs, since as they moved through the valley, they went 'placing', or better, creating a memory, a particular discourse about the space, its use, and the associated social practices. Thus, this memory is a 'seasonal' one, constructed in the movement and anchoring in space, and achieving a macro-spatial narrative. This supposes that memory as experienced by groups in the PAT is undeniably linked with the ethos of the hunter-gatherer: mobility.



**Figure 12.** Petroglyph block distribution during the PT, considering all the blocks engraved during pre-Hispanic times. In red, the blocks with PAT designs; in yellow, those engraved during the PIT, and in red, the blocks engraved during the PIT.

Criado (1993) proposes that visual strategies of this type, which he has called strategies of hiding, are encountered precisely in these types of hunter-gatherer or horticultural societies. This may seem contradictory in regard to other theories proposed by Criado that state that rock art is a type of monument and therefore should be associated with practices of exhibition and monumentalisation. However, we believe that this nuanced difference is due to the low visualisation and visibility of these petroglyphs, and by extension, their low visual impact on the setting.

It is logical that PAT populations privileged this visual strategy and that they are subjects who appropriate memory through their bodies, their movement and their immersion in a known and understood space, be it in the site Los Mellizos or in another space in the upper Illapel valley. Memory is reproduced in the domestic sphere, along with other daily activities. Thus this space would be the privileged axis, in that it is the stage on which collective memory — by means of designs on rock — materialises.

We propose, then, that during the PAT, rock art functioned as an element that demarcated temporarily used space, providing it with content and ideas that, although they do not necessarily remit a determined past (or at least we are not capable of suggesting this at the moment), they refer to the re-occupation of that space, and therefore to social renewal through mobility. Thus, rock art helps to configure a specific type of collective memory associated with the everyday in relation to a mobile way of life, linked to the space as a fundamental axis of organisation and to a non-complex society. We have defined this type of memory as Memory 1.

This strategy differs from that which we see in the following period. During the PIT, evidence of inscriptive practices is reflected in the existence of high-visualisation and high-visibility petroglyph blocks. As was seen previously, the groups of blocks with high visibility and visualisation were composed for the most part of panels engraved in the PIT and the PT. From this we can conclude that it was during the Late Intermediate period that inscriptive practices began to be more important.

This, then, was a notable innovation. Due to the lack of a settlement or other material record of Diaguita populations, we can conclude that Los Mellizos was a place of passage or of sporadic use, and the preference for inscriptive practices is caused by the need to make the petroglyphs plainly distinguishable in a non-daily space. Here we see something similar to an idea explored earlier in reference to the PAT: the employment of particular practices is in tune with other aspects of social life.

During the PIT, some of the petroglyphs were made on blocks that were naturally arranged in circular patterns, generating internal spaces bordered by blocks of rock art, thereby encouraging high visualisation through a greater control of the production of petro-

glyphs, at least in regard to their placement. Additionally, the notable increase in the density of decorated blocks suggests an intensification of the material intervention in the site, which we can relate to the fact that this is, for the Diaguita populations, a space that existed apart from the commonplace and that ought to have been 'culturalised'.

Diaguita populations established links with the past through rock art, since it not only involves determined forms of transmitting their culture, and by extension, their memory, but also particular strategies of relating to those who intervened with the space much earlier. This can be evidenced on three different levels: (i) the spatial level, in which the same place where PAT populations created petroglyphs is re-utilised; (ii) the level of the block, in which previously engraved blocks are reused, most of the time on different panels, although there are instances of superposition; and (iii) the design level, in which we see the incorporation of new motifs based on new semiotic logics, such as the appearance of complex symmetrical patterns.

On these three levels, the PIT populations always had the option of whether or not to relate to the earlier designs. The Diaguita used both strategies, opting sometimes for a close link, as with that seen in the re-utilisation of blocks, and others for more distant relationships, as with the reuse of the site and the visual association with PAT blocks.

Thus, the relationship established with the PAT through rock art permitted the resignification of a space previously used by others, incorporating it into the collective memory. The change is then naturalised and the new is perpetuated, not only with respect to the future, but also toward the past. The Diaguita populations linked themselves with the past of others, making it their own, but still maintaining their distance. This relationship with others supposes a 'dialogue' that is given expression on the rocks, a negotiation between the Diaguita and the original inhabitants of the place (a negotiation that may well have been developed only in the symbolic world of the Diaguita, without a concrete relation being necessary). They transformed the previously formed spatial memory, at the same time generating their own memory based on this relationship. In this way, they materialise their presence in a previously occupied place where the mark of the past made itself evident. Reorganising the space and giving it new content and meaning, they perpetuated its use, legitimising it. This is consistent with agricultural logic, in which access to the land is a crucial factor.

These societies would have possessed a system of genealogical kinship (Hernando 2002) that stressed the idea of time and of ancestors as markers of identity. This coincides with Criado's theory (1993) that societies that begin to have control over the production of resources tend to present visual strategies related to what he has termed exhibition.

In the case of the Diaguita, the preponderance of time is reflected in a desire for transcendence by means

of a permanent and highly visible art, that not only takes over a space, but that also prolongs itself through time. The incorporation of PAT art on certain levels and its exclusion on others speaks to us of a process of appropriation of the past, of continuity and break, and therefore of a reconstruction of memory, based also in a previous cultural foundation that was resignified. This strategy of constructing memory has been termed Memory 2A.

Finally, during the PT, the site experienced a considerable increase in the number of petroglyphs that promote a high internal visual relationship, which supposes intensification in the inscriptive practices previously described for the PIT. The latter can be associated with the incorporation of Diaguita populations into the state apparatus of the Inca Empire. In this context, what we see in the rock art of Los Mellizos contributes to a continuity of practices.

Nevertheless, not everything in the site can be explained by continuity. During this period, designs with great symbolic significance that can clearly be ascribed to the Inca appear and are abundantly represented on distinct materialities along the length and breadth of the empire. These designs are found, many times, on blocks already covered with Diaguita motifs. This reveals an intention to generate a close relationship, as much on the level of the site as on the level of blocks, which can be understood as an Inca strategy — possibly administered by Diaguita populations from Elqui or Limarí — to legitimise the annexation of this territory, manipulating the collective memory of the local populations by appropriating an important space. The high visibility of the late designs helps to emphasise this new reality in a traditional context, obscuring the change and promoting principles fundamental to *Tawantinsuyu*.

On the other hand, it is also probable that the local populations took the opportunity to join the empire, transforming the graphic representation of Los Mellizos with Inca guidelines and designs, moulding their own collective memory by incorporating the ideas and foundations of *Tawantinsuyu*. The evidence gleaned from the technological analyses (Vergara 2010) reveals a continuity in the techniques used for producing rock art in the PIT and the PT, suggesting that Diaguita populations may have manipulated their own past in pursuit of a present linked to a new political and ideological reference.

The reorganisation of the site — spatial, visual and iconographic — would be determined by socio-political and religious transformations, which, although inscriptive practices are maintained as a way of producing collective memory, modify subtle aspects of cultural transmission. This generates a completely new form of approaching the culture's roots, due to, essentially, the transformation of the meaning of the place by incorporating a broader and more diverse territorial and socio-political reality.

We believe that the intensification of inscriptive

practices and the reorganisations that we have discussed can be understood in light of the approach to stratified societies expounded by Hernando (2002). According to her work, in stratified Amerindian societies — among which the Inca stand out — there exists a differentiation in terms of the construction of identity between those who hold power and those who do not. Thus, the rural base of a society of this type maintains a mentality similar to that of an undivided society, while the ruling class generates new forms of understanding the world, resulting in a growing process of individualisation.

The Diaguita populations in the PT would have maintained a way of understanding the world similar to that which they had during the PIT, as well as their practices for perpetuating collective memory. Nevertheless, their incorporation into *Tawantinsuyu* suggests the presence of a ruling class in the same valley, and it is probable that it was this group that promoted the incorporation of the new visual references in the area. Accordingly, the designs made during the PT are associated with historical memory, as well as related to a 'hegemonic' construction of the past. In this case, we could call this new strategy for constructing collective memory Memory 2B, since it differs from the 2A strategy, but also maintains a sense of continuity with the PIT. This is consistent with social dynamics in Choapa during the Late period, which underwent significant transformations, but also maintained strong continuities.

Considering the above discussion and the contributions of Criado (1993) and Hernando (2002), we can propose a model to understand the form in which rock art is related to collective memory and how it can reflect certain social and identity-related characteristics. We suggest that the form in which the societies relate to their pasts and establish guidelines for the construction and transformation of their collective memory is linked in a structural manner to other aspects of the social. Figures 13, 14 and 15 demonstrate these relationships

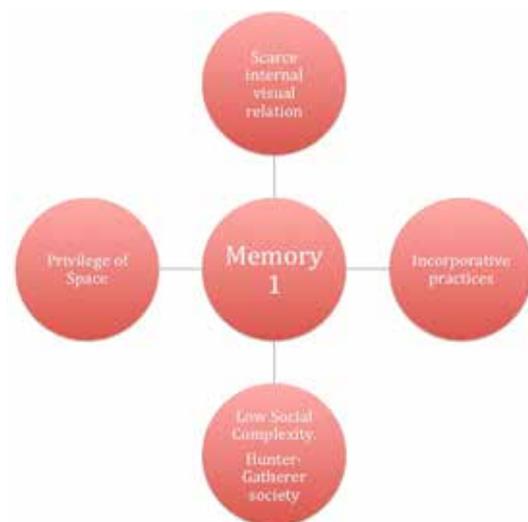


Figure 13. Configuration of Memory 1, our proposal for the PAT.

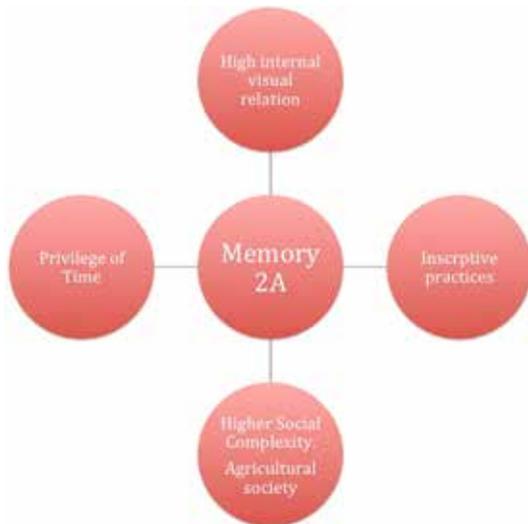


Figure 14. Configuration of Memory 2A, our proposal for the PIT.

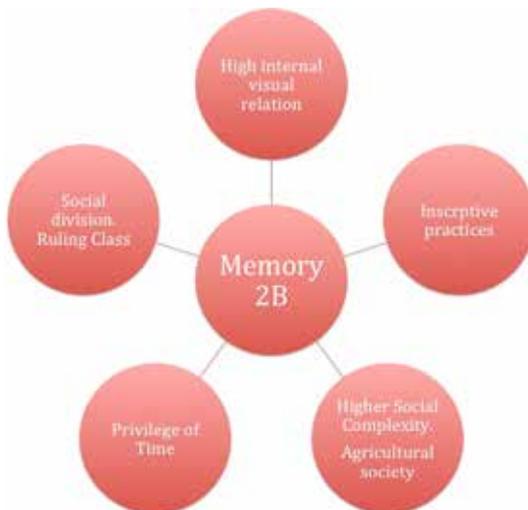


Figure 15. Configuration of Memory 2B, our proposal for the PIT.

in a graphic way for the cases related to this memory.

### Towards an interpretation of the site Los Mellizos: memory and transformation

In general terms, we propose that at Los Mellizos, the transformation of methods for constructing collective memory through rock art is evidenced throughout history. Different populations under diverse socio-political contexts produced, manipulated and changed their strategies for accessing and constructing collective memory.

With this in mind, it is interesting to note that in this site, despite the high number of existing figures, there are very few superpositions and the relationships between designs of different periods demonstrate a certain order. This suggests that the later populations respected the earlier designs since they are included in

their space (people could have engraved rocks located far from the other blocks) and to a lesser extent, chose to link directly to them (by reusing the same blocks). Due to the respect for and connections with previous designs, we believe that the logic of structuring the site reveals a certain manner of understanding the past, and therefore is closely linked with forms of thinking about and constructing collective memory.

The above prompts us to consider the importance that this site must have held, first for being the greatest concentration of petroglyphs in the valley — 15.05% of all the petroglyphs in Illapel — and second for its continued re-utilisation. This importance, we believe, is supported by the fact that Los Mellizos can be seen as a ritual space since it presents the characteristics proposed by Bell (1998) for ritual-like activities — formality, traditionalism, invariability, the existence of rules, sacred symbolism and performance. Above all, engraving in a place that is marked by previous interventions reflects the traditionalism of the site. This permits the creation of a link with past modes of doing, making it appear that the act of decorating a rock has been carried out in the same way ‘for all time’. The formality of this is evidenced by constantly producing petroglyphs in the same space, and in some cases, on the same rock. Thus, the continuity that we discussed earlier is key for this invariability, and the existence of rules in Los Mellizos is apparent. First, of the tremendous number of rocks potentially available for intervention, only some were used; second, because in traditional societies, the use of certain designs and not others is determined by rules and social guidelines, the representations on the stone follow the cultural norms of the group that made them. As for sacred symbolism, this is evidenced at Los Mellizos by the representations on the rocks. Nevertheless, this is much clearer for the Late Intermediate and Late periods, in which we encounter designs that are also found in other media, such as ceramics. These stepped motifs, step-frets, clepsydras, and other more specific designs have been associated in general with contexts with marked religiosity — funerary contexts, feasts or in places of worship. Finally, performance is a key element, as much in the production of rock art — the act of engraving a rock — as in the product’s consumption — traversing the site in a specific manner in order to appreciate the different designs.

Thus, the production of collective memory in the societies that used this space is framed in a concrete social practice, which is ritual. In this context, it is possible to see how collective memory is generated, consolidated, manipulated and transformed by the socio-cultural importance of an act with these characteristics. The manipulations of collective memory, the transformations and renewals, could not have been made in a more propitious context, since as discussed previously, ritual can be seen as a naturalising element (Turner 1988). Ritual, then, can be understood as a channel for the expression of conflict and complex social

tensions, more than as an affirmation of social unity as was posited by Durkheim.

On the other hand, as it is possible to recognise that memory is linked to social practices, we could also state that in this case, memory is linked to the space, thus creating a spatial memory that considers the particular relation that the different groups established with their landscape. In doing so, Los Mellizos can be considered as a place, in terms of Tilley (1994), with a deep history of practices that would give it a great density of significations and a particular importance in the configuration of the landscape itself.

### Conclusions

As a hypothesis for future work, we propose the existence of a structural relationship between modes of political organisation, conceptions of time and space, practices that promote cultural transmission, and strategies for the visibility and visualisation of monuments, in particular rock art. In combination, these aspects give rise to a particular way of constructing collective memory, and any changes that they may undergo result in the substantive transformation of this memory. We therefore believe that to approach the problem of collective memory in past societies requires the consideration of different social, political and economic aspects from both day-to-day and broader, institutional perspectives, as these are the sustenance for the generation of a particular vision of the past. In this sense, the diagrams presented previously could be refined in order to respond to new factors and to other materials that have the potential to be used in the construction of collective memory.

Returning to rock art and keeping in mind the development of this investigation, we believe that manifestations on rock in general have the potential to be understood as mechanisms of memory of the highest importance for two fundamental reasons: first, by being associated directly and permanently with a particular space, rock art 'anchors' memory to a visible point, recognisable and tangible, externalising it and preventing it from being forgotten. Second, the collective memory 'stored' in rock art acts in a particular sphere of the social, in a plane linked to ritual and to a representation of the sacred in which not only religious aspects, but also economic, and above all, political factors come into play.

With this line of reasoning, we follow Renfrew's (1998) proposal regarding the capacity of material culture — in this case rock art — to constitute an external, symbolic mechanism of storage. In consequence, the acts of engraving rocks and of observing these petroglyphs are rooted in the profound human necessity to externalise thoughts and to construct a collective memory that can bestow meaning on social reality. In short, collective memory is established as an important aspect of a people's social configuration and although it may seem to be an abstract concept that is difficult to grasp and of little use for the construction of our own

history, we have seen that rock art was able to provide a solid path to approach it.

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