



## HUNTING PRACTICES IN ROCK ART SIERRA ARICA (FAR NORTH OF CHILE)

Carole Dudognon\* & Marcela Sepúlveda\*\*

**ABSTRACT** - Placed in the northernmost part of Chile, Sierra d'Arica hides several rock art sites. These sites contain animal representations, especially camelids, drawn using a range of ochre colours and dated to the recent archaic age (6,000–4,000 years ago). This phase is particularly interesting because of the deep social and cultural changes which happened in this period, among which the most remarkable event was the taming of the camelids. On the walls of the shelters in this region it is possible to observe the representations of many capturing systems, as well as entrapping and encircling techniques. Therefore, the organization complexity of the hunters may be underlined. The research D. Lavallée led at Junín, Peru (1985) has shown that the development of a hunting technique specializing in the camelids was an essential step in the route to taming other species. This paper also aims to characterize, through rock art, the cinegetic techniques used by archaic people. This will allow us to highlight the gradually increasing level of technical and social complexity reached in the period considered, which will help us make sense of the deep behavioural changes in relation to this animal resource.

**RIASSUNTO** - Situata nell'estremo nord del Cile, la Sierra d'Arica ha numerosi siti di arte rupestre. I siti in questione mostrano delle rappresentazioni animali, in particolare di camelidi, disegnate in una gamma di colori ocra e la cui realizzazione è attribuita al periodo arcaico recente (6000 – 4000 anni fa). Questa fase ha di particolare interesse, in quanto avvengono dei profondi cambiamenti sociali e culturali di cui il passaggio all'addomesticamento dei camelidi è l'evento maggiore. Sulle pareti di questa regione sono presenti numerosi sistemi di cattura, così come tecniche di intrappolamento e di accerchiamento. Sottolineeremo perciò la complessità organizzativa dei cacciatori. Le ricerche di D. Lavallée a Junín in Perù (1985) hanno illustrato come una caccia specializzata per i camelidi fosse stata una tappa essenziale nel passaggio all'addomesticamento di tale specie. Allo stesso modo questo intervento intende caratterizzare le tecniche cinegetiche utilizzate dalle popolazioni arcaiche attraverso l'arte rupestre. Questo consentirà di mettere in evidenza il sempre maggiore grado di complessità tecnica e sociale che si è sviluppato nel periodo in questione per spiegare i profondi cambiamenti comportamentali nei confronti di questa risorsa animale.

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Rock art in the far north of Chile is in a mountainous region where volcanic erosion has shaped a highly distorted terrain, difficult of access. At the source of the Lluta river, the confluence of several streams coincides with the junction of *quebrada* (valleys), which are natural pathways for both humans and animals (Fig. 1). Along the *quebrada*, settlements of hunter-gatherers have left much archeological evidence indicating humans deeply anchored in the environment. The art sites are located between 3,200 m and 3,800 m in a very favourable ecosystem for camelids (guanaco or vicuna), where vegetation is abundant during the rainy season (December to March). Well protected against deterioration, prehistoric art has been preserved on large panels or in small shelters. However, some cases show an advanced level of deterioration due to the action of water runoff or vandalism.

The first efforts by Niemeyer<sup>1</sup> to collect data have left little room for interpretation of the material. This art mainly uses red paint and is characterized by the systematic representation of camels, anthropomorphic figures and a few pumas. Early studies have classified the animal figures into a naturalistic period, stylistically related to late urban occupation (13th–15th centuries). While this type of classification has reached its limits, it has revealed useful similarities and correspondences between remote sites, sometimes about 30 km apart.

\* Université de Toulouse, Université Toulouse Le Mirail 2, UMR 5608, Laboratoire TRACES-CREAP, France

\*\* Departamento de Antropología, Universidad de Tarapacá, Arica, Chile

1 NIEMEYER H. 1972, Las Pinturas de la Sierra de Arica, Santiago, (Editorial Gerónimo de Bibar).



In the 1980s, Santoro's work<sup>2</sup> helped give a timeline for the settlement of the area. His excavations have revealed material that has been dated to the Late Archaic (6000—3700 BP). This phase is particularly interesting because it covers profound social and cultural changes. Some of the paintings are considered contemporary with the period and recent research confirms this chronological assessment. However, further research into the archeological contexts proves temporary or seasonal occupations of low intensity or short duration. Domestic activities that have been identified are related to the consumption of local plants and rodents. Few animal remains are present in these contexts, indicating a minimal relationship with the hunting scenes depicted on the walls (García and Sepúlveda 2011; Sepúlveda et al. 2013).

It seems desirable to explore the transition to the domestication of camels, a major element of the Recent Archaic as underlined by the research of Lavallée in Junin in Peru (1985). Julien's archeozoological analysis (1985) shows a specific camelidae hunt was performed before the first signs of domestic hunting. This hunting specialization led to new hunting techniques (Lavallée 1988, p. 273). It therefore seems important to analyze all hunting techniques depicted on the walls, reflecting a possible specialization in this environment rich in meat resources. What are the hunting techniques visible in the rock art of the extreme north of Chile? Can analysis of these paintings provide information about the lives of hunter-gatherers in the region?

The contribution of ethnography is essential to understanding the use of weapons and traps depicted. Given the absence of ethnographic data in the southern Andes, in particular related to hunter-gatherer groups, we can exploit materials specifically designed by tribes for their hunting.

#### SCENES AND INTERACTIONS

We mainly studied scenes depicting anthropomorphics and camelidae, where the focus is on the interactions between these two species. Hunting scenes are defined as 'one specific thing going on at a particular time with a limited number of participants'<sup>3</sup> and can be divided into two scenes, one where the animals are slaughtered and one where they are captured. Both practices lead to completely different behaviour and strategies, especially when they focus on the interactions between humans and animals. This interaction between the hunter and his prey is essential to understanding technical aspects of the hunt because man, with his ethological knowledge, will adapt his behaviour to target and implement an appropriate strategy. It is precisely this relationship to the animal that we seek to identify in pictorial productions. Hunting practices constitute an art in itself that one must be able to decode through what are probably symbolic representations.

Several processes give access to a relative chronology of figures.<sup>4</sup> The stylistic phases have been analyzed and give typical representations as time markers. The first phase, the oldest and most easily recognized, is in naturalistic style, characterized by large dimensions with anatomical detail and dynamic figures. Significant differences have been observed in the pictorial treatment of animals and men, the latter being represented on a smaller scale and schematically. Overlays are also used to establish the chronology of the paintings. At several sites, the entanglement of these paintings reveals stratification of figures and colours, as is the case in Vilacaurani and Incani.

Two sites identified in this study, Vilacaurani and Incani, are 4 km apart. Their coexistence, still questionable, seems likely in view of the style, but especially because of the bestiary and themes. On the walls of these two sites more than 800 figures are present and form a rich catalogue of camelidae hunting scenes. Vilacaurani, located on a river terrace, consists of a long tuff panel (8 m) decorated to a height of 4 m (Fig. 2 and Fig. 3). Incani is a large shelter in hard rock, decorated on all sides, overlooking a deep *quebrada* (Fig. 4 and Fig. 5). Each hunting practice seen on the walls is the subject of a computerized record and has been linked to a known hunting technique.

#### HUNTING TECHNIQUES

We currently distinguish three types of hunting techniques:

Throwing weapons are objects that are often depicted on the walls. The superposition of paintings allows us to think these spears were used when the paintings were first executed, and held by anthropomorphics whose pictorial treatment is simplified. The weapons used to injure or kill the animal, as shown in Fig. 6, are involved in an active hunt<sup>5</sup> where the number of catches is low. In later scenes, anthropomorphics show more details (head-dresses), and the throwing weapons, still represented, are more bow-type. This attribute reflects an important technological development of the small projectile class.

2 C. Santoro and J. Chacama, Secuencia de asentamientos precerámicos del extremo norte de Chile, *Estudios atacameños*, 7, 85, 103, 1984, pp. 22–46.

3 Lenssen-ErzT. 1992, 'Coherence – a constituent of "scenes" in rock art', *Rock Art Research*, p. 91.

4 Sepulveda M., Saintenoy T., Faundes W. 2010, 'Rock paintings of the precordillera region of northern Chile', *Rock Art Research*, p. 166.

5 Moscovici S., 1972, *La société contre nature*, Paris (10/18).

The ‘battue’ is a hunting technique that requires several people herding the animals to a specific destination. Our corpus has several scenes showing this practice, where prey seems to be led towards fences (Fig. 7). Both cases involve capture techniques; the system can be easily interpreted as the forerunner of *Chacu*, which is a hunting technique of Andean populations in Inca times. This practice was carried out once a year by the villagers capturing camels in order to shear and then release them. It is important to note that in many of these paintings of camels they were pitted or scraped on the neck, which is where the best-quality wool grows. However, it is very difficult to support a coexistence between painting and pitting.

More sophisticated traps are appearing in the final stages of the paintings. A noose is present in the centre of the main panel of Vilacaurani, using bright red paint over former figures. The technique, which is to put a release mechanism on the footprints of an animal or herbs that will be grazed, captures the camel by the legs or neck. A complex system represented on the wall, connecting several nooses, allows more than one animal to be caught at the same time. This ingenious technique currently seems unique. It aims to capture and immobilize wild animals, which can also be an interesting element in favour of the practice of shearing. As part of the capture system, we noticed a camel engraved with fine incisions being held at the neck by a carefully painted anthropomorphic (Fig. 8). It may also suggest that the hunt has been used to catch animals that are destined to remain under the control of man. It is suggested here that there may be a phase with attempts to confine the animal. Ethnography allows us to know the relationship of man with his environment: ‘the use of the trap, an ecologically specialized instrument as an extension of the environment, defines indirect aggression’ (Bahu-chet, Pujol 1975, p. 182). Although the work of anthropologists takes place on another continent, the idea that trapping is a work resulting from specialization in the environment reinforces the idea that hunting techniques are becoming more complex. It is important to combine this data with archeozoological studies to test these hypotheses.

The observation of these techniques and their study through iconography allow us to highlight interesting strategic characteristics. First, chronological inventory techniques are obviously moving towards the choice of techniques encouraging the proliferation of catches. This may suggest a growing demand for meat, skin, wool... This practice also leads hunters to capture the animal alive. This point is particularly important because the purpose of the hunt changes – we do not want to kill – and this change seems to us a turning point in hunting practices. Capture implies release or confinement.

#### ART: REALITY, MYTH, HISTORY?

This overview of hunting practices in the far north of Chile brings us to question art as a source of knowledge. The absence of any written, oral or mythological source about hunter-gatherer groups of this region of the world gives a special importance to these graphic testimonies. The main obstacle in this study is the relevance of the relative chronology. To compensate for the faint archeological evidence, two types of methods are combined: the stylistic phases and the overlays to deduce the steps in the paintings. The first naturalistic phase was precisely defined and confirmed by the observation of the overlays. In the hierarchy of overlays, we note a major stylistic change in the anthropomorphics. Wearing fitted head-dresses, in more dynamic positions and bearing anatomical details, these characters stand out among the older figures. The chronology seems to work but it is still very vague because none of the two methods is able to establish the time elapsed between the different artistic representations.

The difficulty then lies in the spatial reading of rock art. The sites, perhaps visited at different times, will not necessarily reflect the true practices of one group. One can only think that the practices are present at various times without knowing the time between each work. Research in the Atacama Desert, about 1,000 km south of our study area, which had once clearly defined two styles (Confluence and Taira), is now confronted with new data. The intertwining of these two styles has finally allowed us to establish a (kind of) coexistence in the styles.<sup>6</sup> The rock wall can today be considered not only in a chronological perspective, but also in its spatial dimension, because it could indeed be the meeting point of two lifestyles. The idea of territorial dispute is often used to conceptualize the meeting of hunters with pastoral societies, leading to a rich artistic production.

Art is an interpretation of reality and must be open to criticism. While the realism of the scenes depicted suggests a true representation of hunting techniques, this aspect is to be moderated taking into account the artist’s singularity. We can think that only a collective tradition can explain the magnitude in time and space of this artistic practice. However, we cannot forget the style of the artist and the creativity of individuals. Some scenes, in fact, refer to single acts of painting although they fit in a naturalistic tradition (Sepúlveda 2011).

<sup>6</sup> Gallardo F, Yacobaccio H. 2012 ‘Wild or domesticated? Camelids in early formative rock art of the Atacama Desert (Northern Chile)’, *Latin American Antiquity*, pp. 115–30.



Since we cannot rely on oral tradition, it seems impossible to grasp the mythological dimension. Only the 'battue' hunting technique seems to echo a current *Chacu* practice. It is also possible to note a considerable artistic involvement in the observation of camelidae, and thus reveal an idealization of the scenes. Nevertheless, we can consider that the paintings reflect a certain search for style, in which the artist chooses to focus on certain parts of the animal in a more or less naturalistic way. This concerns a stylistic choice reflecting knowledge and also specific decisions about how to represent animals and original scenes in which camels and men interact dynamically.

#### CONCLUSION

Art allows us to visualize hunting techniques which are the basis of the socioeconomic system of hunter-gatherers. The description of rock art scenes helps us to better understand the men who walked these regions in prehistoric times. Throwing weapons, spear-like at first and bow-like later, always figure in the representations as attributes of the hunter. At the heart of a favourable hunting system, the numerous painting techniques seem to reflect a growing investment in a capture method. These efforts aimed at capture seem to reflect a change in the relationship of man to animal. The will to keep the animal alive is the first sign of a profound change in which the capture of the camel is part of a time plan. Concerning these interpretations, we should, however, keep in mind the absence of a reliable chronology and the lack of a time scale between hunting with throwing weapons and the transition to a capture system. The geographical distribution of paintings underlines the territorial coverage of the hunter-gatherers, but we cannot yet say that they are the only ones to have used these shelters. To what extent does pictorial art reflect the art of hunting? Aware of the difficulties in transferring artistic works into scientific data, we need to concentrate our efforts on finding new archeological artifacts and thus use multidisciplinary methods to increase our knowledge.

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#### BIBLIOGRAPHY

- BERENGUER J.  
2009 Las pinturas de el médano, Norte de Chile / 25 años después de Mostny y Niemeyer, Boletín del Museo Chileno de Arte Precolombino, vol. 4, pp. 57–95.
- DIGARD J.-P.  
2009 Les voies de la domestication animale, entre tendances, hasards et nécessité, in Demoule J.-P., La révolution néolithique dans le monde, CNRS édition, Paris, pp. 165–179.
- GALLARDO F.  
2001 Arte rupestre y emplazamiento durante el Formativo Temprano en la Cuenca del río Salado (desierto de Atacama, norte de Chile), Boletín del Museo Chileno de Arte Precolombino, vol. 8, pp. 83–98.
- GALLARDO F. YACOBACCIO H.  
2012 Wild or domesticated? Camelids in Early formative rock art of the Atacama Desert (Northern Chile) Latin American Antiquity, vol. 16, no. 2, pp. 115–30.
- GOURICHON L. HELMER D. PETERS J.  
2006 A la croisée des pratiques cynégétiques et de l'iconographie des animaux sauvages. Haut et moyen Euphrate – X<sup>e</sup> et IX<sup>e</sup> millénaire av. J.-C., in Sidéra I. dir., La chasse, pratiques sociales et symboliques, De Boccard, Paris, pp. 133–46.
- HELMER D.  
1992 La domestication des animaux par les hommes préhistoriques, Paris, Masson.
- LAVALLEE D. JULIEN M.  
1981 Un aspect de la préhistoire andine : l'exploitation des camélidés et des cervidés au formatif dans l'abri de Telamarchay (Junin, Pérou), Journal de la Société des Américanistes, vol. 67, pp. 97–124.
- NIEMEYER H.  
1972 Las Pinturas de la Sierra de Arica, Santiago, Editorial Gerónimo de Bibar, Editorial Universitaria.
- NÚÑEZ L. SANTORO C.  
1988 Cazadores de la Puna Seca y Salada del Área Centro Sur Andina (norte de Chile), Estudios Atacameños, vol. 9, pp. 13–65.
- SANTORO C. CHACAMAJ.  
1984 Secuencia de asentamientos precerámicos del extremo norte de Chile, Estudios atacameños, vol. 7, 85, 103.
- SANTORO C. DAUELSBERG P.  
1985 Identificación de indicadores tempos culturales en el arte rupestre del extremo norte de Chile, in C. Aldunate, J. Berenguer y V. Castro, Estudios en arte rupestre, Museo Chileno de Arte Precolombino, Santiago de Chile, p. 69–86.
- SEPULVEDA M.  
2012 Estilo versus agencia: Rescate del individuo en la práctica rupestre. En teoría arqueológica en Chile: Reflexionando en torno a nuestro quehacer disciplinario, editado por Ayala P. y Vilches F. Ediciones UCN y U. de Chile/ Santiago de Chile. pp. 188–209.
- SEPULVEDA M.  
2012 La tradition naturaliste des peintures rupestres des groupes de chasseurs-cueilleurs de l'extrême nord du Chili, in Vialou D., Préhistoire des Amériques, Cahiers des Travaux Historiques et Scientifiques (CTHS), Paris.
- SEPULVEDA M. SAINTENOY T. FAUNDES W.  
2010 Rock paintings of the precordillera region of northern Chile, Rock Art Research, vol. 27, no. 2, pp. 161–175.
- SEPULVEDA M.  
2008 Pinturas rupestres de la Precordillera de Arica (norte de Chile). Re-evaluación a 40 años de la obra pionera de Hans Niemeyer, Boletín SIARB (Bolivian Rock Art Research Society) vol. 22, pp. 68–79.
- LENSSEN-ERZ T.  
1992 Coherence – a constituent of 'scenes' in rock art, Rock Art Research, vol. 9, n. 2 p. 87–105.
- WHEELER, RUSSELL, REDDEN  
1995 Llamas and Alpacas: pre-conquest breeds and post-conquest hybrids, Journal of Archaeology Science, vol. 22, pp. 833–40.

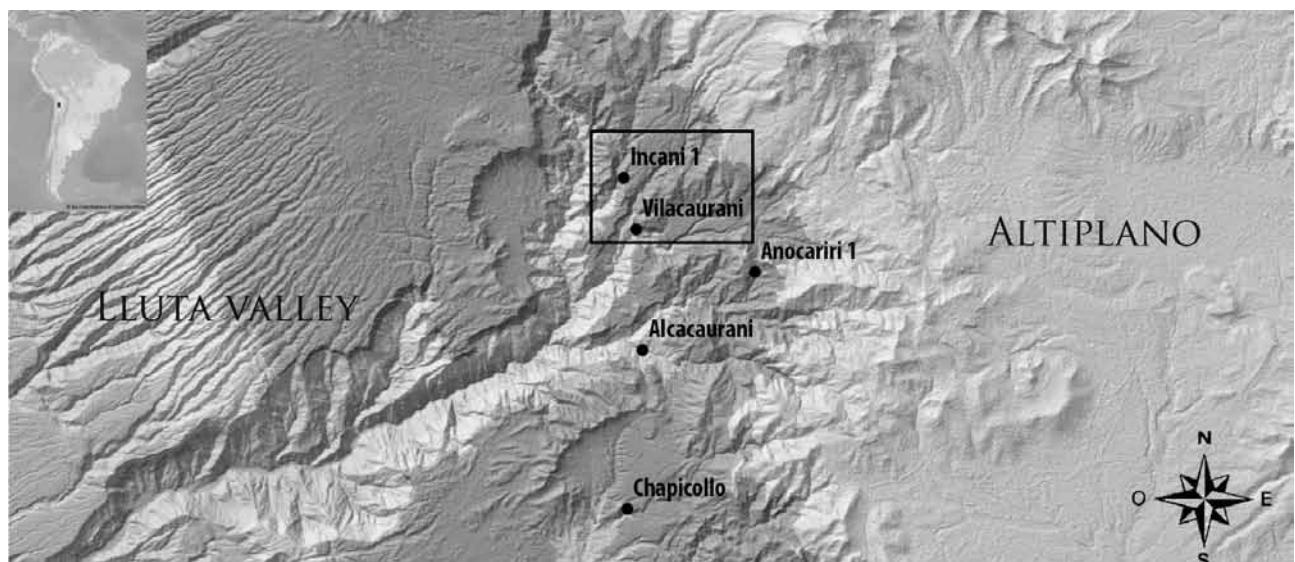


Fig. 1: Location of rock art sites (DTM of the Precordillera of Arica by T. Saintenoy, C. Dudognon and M. Sepúlveda)



Fig. 2: Rock panel, Vilacaurani (Photography by C. Dudognon)



Fig. 3: Painted panel, Vilacaurani (Photography by C. Dudognon)



Fig. 4: Rock shelter, Incani (Photography by C. Dudognon)



Fig. 5: Painted wall, Incani (Photography by C. Dudognon)

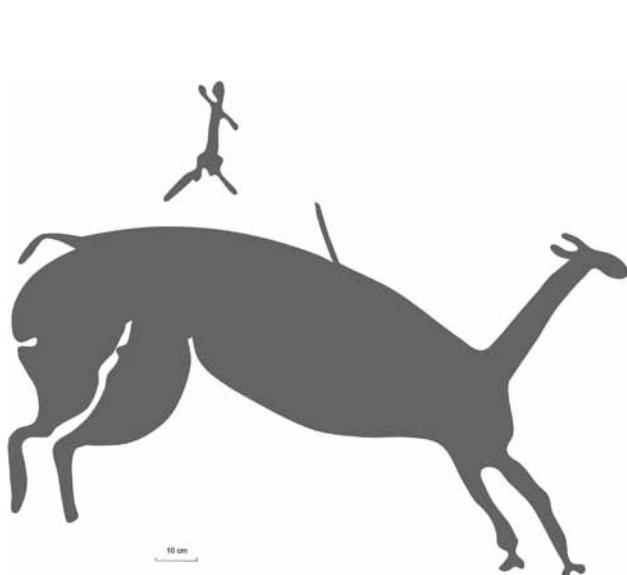


Fig. 6: A scene from site Incani 1, a spear is thrown into the back of the animal (C. Dudognon).



Fig. 7: A scene from Vilacaurani, anthropomorphic figures surround camels (C. Dudognon)



Fig. 8: A scene from Vilacaurani, a complex system of trap (C. Dudognon)