

REFLECTIONS ON THE COMPARATIVE STUDIES OF PETROGLYPHS IN THE CANARY ISLANDS AND NORTH AFRICA. EL BARRANCO DE BALOS (GRAN CANARIA, SPAIN) AND FOUM CHENNA (ZAGORA, MARRUECOS)

Pedro J. Sosa-Alonso* and Agnes Louart**

ABSTRACT

Petroglyphs created by ancient Canarians cultures share certain similarities with rock art panels in the nearby African continent, in terms of the subject matter of the motifs. The methodology developed to document the rock art stations at Balos (Gran Canaria) provides us with essential data to help question some of the parallels drawn with petroglyphs in Africa, such as those at Foug Chenna (Zagora, Morocco). As a result we have been able to detect differences in the graphical expressions at both locations, some in terms of the techniques applied as well as the contexts in which they are located. Les méthodes employées pour documenter les sites rupestres de Balos sur l'île de Gran Canaria ont permis d'apporter des données essentielles, permettant de revenir sur certaines comparaisons entre les gravures du nord de l'Afrique et en particulier celles de Foug Chenna (Province de Zagora, Maroc) et de mettre en lumière quelques différences de ces expressions graphiques quant à leurs techniques d'exécution, entre autres.

KEYWORDS: Rock art, current technologies, Barranco de Balos, Foug Chenna, Libyco-Berber, human representations.

ALGUNAS REFLEXIONES EN TORNO A LOS ESTUDIOS COMPARATIVOS
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Y DE FOUM CHENNA (ZAGORA, MARRUECOS)

RESUMEN

Los petroglifos realizados por las culturas indígenas de Canarias poseen ciertas similitudes, en cuanto a la temática de los motivos, con los paneles rupestres del cercano continente africano. La metodología desarrollada para documentar las estaciones rupestres de Balos (Gran Canaria) nos aporta datos imprescindibles que nos ayudan a cuestionar algunos paralelismos que se han establecido con petroglifos del continente, como los presentes en Foug Chenna (Zagora, Marruecos). Gracias a ello, hemos podido detectar diferencias en las expresiones gráficas de ambos lugares, algunas en relación con sus técnicas de ejecución y a los contextos en los que se localizan.

PALABRAS CLAVE: arte rupestre, tecnologías actuales, barranco de Balos, Foug Chenna, líbico-bereber, representaciones humanas.



1. INTRODUCTION

Comparative studies have always formed a part of archeological methodology. The use of comparison “has been and is present in the expression of theories and the creation of explanatory models that attempt to reconstruct the ways of life of past societies” (Balsero Nieto, 2009: 6). Comparison in rock art has thus also been used to significantly advance research. The clearest example of this in the archeology of the Canary Islands dates back to the 19th century, when French anthropologist René Verneau realised that the writing observed at the indigenous archeological sites in the islands may be related to the alphabet depicted in inscriptions in North Africa that were also being studied at that time (Verneau, 1882: 287). It was at this moment that prehispanic cultures in the Canaries began to be recognised as having come from the Maghreb, with links to Ancient Numidia. Some rock artworks did indeed allow for parallels to be drawn, such as the podomorphs, figures of horsemen and concentric circles, among others, whose formal features were similar to those found in many archeological sites in the Berber area of North Africa.

This comparative method has had a positive impact on the progress of research, which has led to the discovery of evidence surrounding the origins of settlement in the Canaries. This has not only been possible by comparing graphical expressions, but also through confirmation offered by genetic studies carried out over recent years. However, there are still a lot of unknowns surrounding the ancient settlement of the islands, especially in relation to the identity of those very first inhabitants, their primitive way of life, adapting to the island environment, and their cultural expressions.

There are limits to the parallels that can be drawn between the petroglyphs of the archipelago and the African continent, given the acceptance of a somewhat vague and uncertain “cultural affiliation” (Soler, 2005: 167). Nevertheless, equally the singularities of both regions have been highlighted. That is why a study such as this is necessary, because we have not only drawn comparisons between the islands, where differences in rock art are clear, but rather by working in both contexts (the Canary Islands and Morocco), we have been able to consider the limitations of such comparisons.

The work carried out at Balos led us to learn about the various references made to the North African archeological site, Foug Chenna¹ (Farrujia de la Rosa y Bravin, 2010; Ventura Florido, 2017) because of the presence of riders and/or horsemen, among other motifs. This site has been the subject of many studies,

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** Doctorando en la Universidad de La Laguna.

¹ Archeological site visited during a survey in September 2019 around the upper valley of Uad Eç Çayyad.



including A. Bravin's² doctoral thesis on this “horsemen phase”. Therefore, what we present here is a comparison of certain motifs from both archeological sites (Balos and Fom Chenna), in the form of a preliminary analysis within the framework of a broader study of the Balos site, the work of which is still in the documentation and recording phase.

Far from offering new quantitative data, this article aims to invite a reflection on the connection between archeological sites in the Canary Island archipelago and those in the neighbouring continent.

Although both archeological sites contain a large number of engravings, not everything may be compared, especially when taking into account chronologies. This is critical prior to searching for parallels and pointing out similarities. Thus it is important to establish relative chronologies before going on to assess technical, aesthetic and contextual factors.

As we will see in this work, both archeological sites share in common the presence of human figures, alphabetic characters and horsemen. With this, we must also evaluate the space and time in which these petroglyphs are located. It must also be restated that this is only a preliminary analysis, since a huge amount of documentation is still outstanding in the recording of the rock art stations at Balos.

2. AIMS

The rock art stations in the *Barranco de Balos* (Balos ravine) have been the subject of most of the attention awarded in literature that focuses on petroglyphs on the island of Gran Canaria (Hernández Benítez, 1945; Jiménez Sánchez, 1962; Beltrán Martínez 1971b; Martín Rodríguez *et al.*, 2007; Senén y Cuenca, 2016; Sosa-Alonso, 2018a). This is due to the fact that it was the first open air site containing engravings to be discovered on the island (Grau Bassas, 1882), and that it contains the largest number of engraved motifs to have been discovered to date, across hundreds of panels.

As we have seen, in some instances comparativism is helpful towards understanding certain archeological elements. But is it possible to understand the rock art stations at Balos through the engravings located in the neighbouring continent? This question has been addressed by many published works in recent years (Farrujia de la Rosa y Bravin, 2010; Venura Florido, 2017), despite the fact that there are no completed studies of the site. That is, except for the work by Antonio Beltrán Martínez (1971b), who is one of the authors to have carried out the most complete study of this area.

Further, before drawing comparisons with other archeological sites we must take into account the following: 1) A complete study must be carried out using the latest documentation and recording techniques; 2) The superimpositions of engraved

² This researcher dedicated a chapter in her doctoral thesis, which is currently awaiting publication, to work that she has kindly made available to us.



motifs should be analysed; 3) At Balos no difference has been observed between diachronic components (indigenous, modern and contemporary), therefore care must be taken when comparing sites with different chronologies; 4) Finally, with new image processing techniques, we are able to see far more now than we have been able to record and study in the past. We therefore believe that the methodology applied to this site is essential in order to understand many different aspects, as well as to enable understanding of other sites which have been compared to the rock art stations at Balos, from another perspective.

The volume of panels present in both sites makes it difficult to quantify the amount of work involved, given that it is necessary to study the superimpositions sequences in each of the panels. However, only the most frequently recurring motifs in both sites have been taken into consideration, those being horsemen, human figures and Libyco-Berber writing.

3. METHODOLOGY

Taking into account the peculiarities of Balos as an archeological site, the working method must be adapted to its characteristics in relation to other rock art sites. The main considerations include the presence of thousands of motifs, numerous superimpositions and the complexity involved in their analysis. Thus to reconstruct the Balos engravings layer by layer is a huge task. In the absence of future campaigns offering further documentation on the site, in this article we offer preliminary results from the panels studied so far, the methodology for which was based on the following:

1. 2D and 3D documentation: The documentation and recording phase of the fieldwork is the most important, because it is by using the data collected from the archeological site that we will be able to explore the rock art that has been created there.

The Balos panels are highly varied despite the fact that they are located upon basalt outcrops. The rock composition varies throughout the site, depending on the exposure, which has meant that a variety of techniques were applied in order for each panel so far studied to be documented correctly. For this reason, photos must be taken at different moments during the day and at night, both with shade hitting different points and with as much sunlight as possible on the motifs. Computer post-processing is an important factor to consider, as depending on the type of photograph, image processing and analysis programmes can offer us a varying degree of information. For this reason photography and 2D and 3D photogrammetry are vital, as the main aim is to achieve the best possible image of each panel.

2. Image processing: Tools such as Photoshop® help us to highlight certain aspects of each photograph without having to disrupt the motifs, which is particularly useful in those instances where it is not possible to see them clearly for whatever reason.



3. Image analysis with DStretch®: Even though this image analysis programme was created exclusively for pictorial rock art (Harman 2005), in the case of *the Barranco de Balos* it has worked well on petroglyphs. One example of this was reflected in a prior study, where we revealed a variety of previously unseen motifs in areas such as Sector 1 and 2 at the Balos I site (Sosa-Alonso, 2019). In this work it is clear that we have been able to observe a large percentage of the engraved motifs thanks to this software.
4. Patina outlines: In some cases, the “magic wand” tool in Photoshop® allows us to create a digital representation of the groove of the motifs. In this type of outline we can accurately see the colouring of the patinas and make comparisons between motifs. However, it is important to keep in mind that patina analysis requires photographs that haven’t been processed previously, as this processing changes the colour variation and can lead to confusion.
5. Patina analysis: The patina colouring in an outline can only be considered reliable in those panels where there is a very clear distinction in the colouring of the groove, or else in spaces or sectors where the rock has a similar composition, colouring and exposure. However there are occasions in which this is less visible and so we must also rely on other factors such as superimpositions, techniques and the arrangement within a panel.
6. Superimpositions: Archeological excavations involve working with the superimposition of strata (Harris, 1979). In the case of petroglyphs, a similar method can be applied to motifs (Harris & Gunn, 2017), something which has been previously carried out in the Canaries (Navarro Mederos y Cancel, 2020). When observing these superimpositions, there are many factors that can assist in their identification, and in determining the different chronological blocks in which the rock art has been created. We have thus based our observations on different parameters such as the colouring of the patinas, the techniques used, the arrangement of the motif within a panel, the context, the type of motif, the style and the size. Therefore, unlike the patina outlines, the outlines showing superimpositions, carried out using a colour code, indicate the chronological phase which each of the petroglyphs in the site belong to.

In the Foun Chenna archeological site a similar methodology has been developed to that described in this section, where we have discovered that similarly to Balos, not all engravings are the same, and they were created by different artists during different time periods. This obviously complicates the comparative framework.

For this study, we have selected panels that contain similar engravings or motifs in both sites. As previously stated, these archeological sites contain many panels where there is still a lot of work outstanding to document all of the petroglyphs. Therefore this work constitutes a preliminary study which will serve as a reflexion on the comparative framework between the Canary Islands and Morocco.



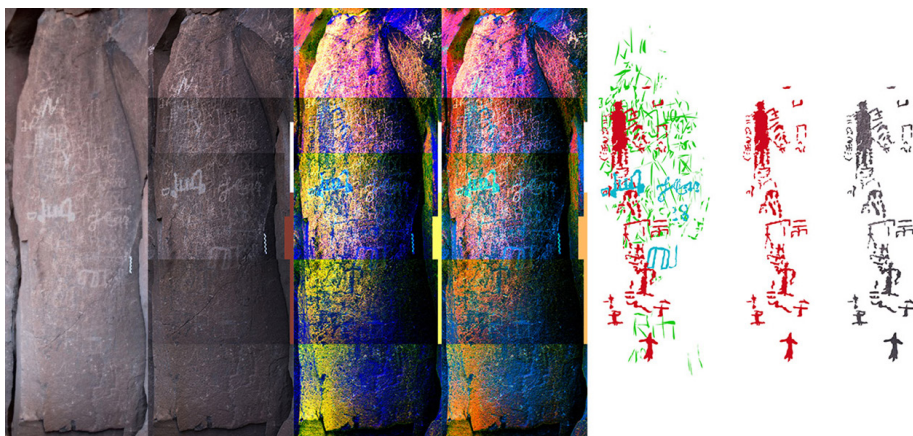


Figure 1. Work process for the digital capture of Canarian-Amazigh rock engravings through 2D photogrammetry, image analysis of panel sections for enhanced viewing, outline of superimposition and extraction of the oldest level which can be seen in the last image with a patina outline.

4. FINDINGS

According to our understanding and criteria, the rock art located at Balos can be divided into four main chronological phases which are at present very difficult to define. In this study we propose a periodisation scheme based on the collection of panels that have been studied thus far. To represent the outlines we have selected warmer colours for the oldest layers and cooler ones for those more recent. The blocks shown in figure 1 are as follows:

1. Phase I (red): This is clearly an indigenous layer. The patinas are those shown in the darker colours and are therefore the oldest; the technique applied was that of semi-continuous pecking with or without abrading in the grooves. The most recurrent motifs are anthropomorphic figures, Libyco-Berber writing and the “comb-like” motifs, so-called because of their morphology. They are fairly schematic in style, as can be seen in the anthropomorphic figures which sometimes depict male genitals.
2. Phase II (yellow): We know from the colouring of the patina that this is an ancient layer, although the colour is slightly lighter than that of the previous phase. It is difficult to know whether these are indigenous engravings or whether they date from after the European conquest. The technique used was semi-continuous pecking, possibly with abrading in the grooves, and the most common motifs are anthropomorphic figures (although there is one zoomorphic figure in the form of a bird), in a schematic and uniform style.
3. Phase III (blue): They date from between the European conquest to the 19th century. This block includes an array of engravings with yellow patinas,



indicating that they are more recent than those in phase II. Thankfully some of the motifs contain characters from the Latin alphabet, in which it was very common to record people's names with their surnames, occasionally followed by a date which may correspond to the year in which it was made. There are dates from between the 18th and 19th centuries. A great variety of techniques have been used, including pecking, abrading, incising and scraping. There are alphabetic characters in calligraphy of the era, Arabic numerals, less stylized anthropomorphic figures, zoomorphic motifs such as lizards, horsemen and crosses. The style is more realistic than in the previous phase.

4. Phase IV (green): This is modern graffiti dating from the 20th and 21st centuries, and can be divided into two phases. The first includes those engravings that we refer to as "sub-recent", which like those of the previous phase, contain motifs from the Latin alphabet with more mechanical calligraphy, featuring mostly names alongside dates in Arabic numerals (although there are also some in Roman numerals). In contrast, the second sub-phase, although similar to the first, contains the names of couples wishing to immortalize the moment in a space which would last forever. We can also observe the names of two, three and even more people. These may be groups of friends wishing to leave their mark on the site. The dates that accompany this block range from the 1970s to the beginning of the 21st century.

It is important to note that rock engravings appear to have greatly decreased over the last decade. This may have to do with the site being closed off, but also with increased public awareness of the importance of archeological heritage.

5. SOME REFLECTIONS ON THE COMPARISON BETWEEN THE PETROGLYPHS AT BALOS AND IN NORTH AFRICA

In some previous works that compare the engravings at Balos with those appearing in the neighbouring continent, reference is usually made to the Fom Chenna archeological site (Farrujia de la Rosa y Bravin, 2010; Venura Florido, 2017). Is there any relationship between what we can find at Balos and that which appears at this site? As we will see, it is not just the subject matter that must be taken into account, but rather many other factors:

5.1. THE EXAMPLE OF WRITING

Without getting into the issue of philology, as this is not the aim of this study, it is important to note that the Libyco-Berber writing at Balos is not the same as that used in locations such as Fom Chenna, given that there are differences in chronology, context and most probably meaning. It is true that the alphabet is the same, but there are many areas in which we can find different letters, varying



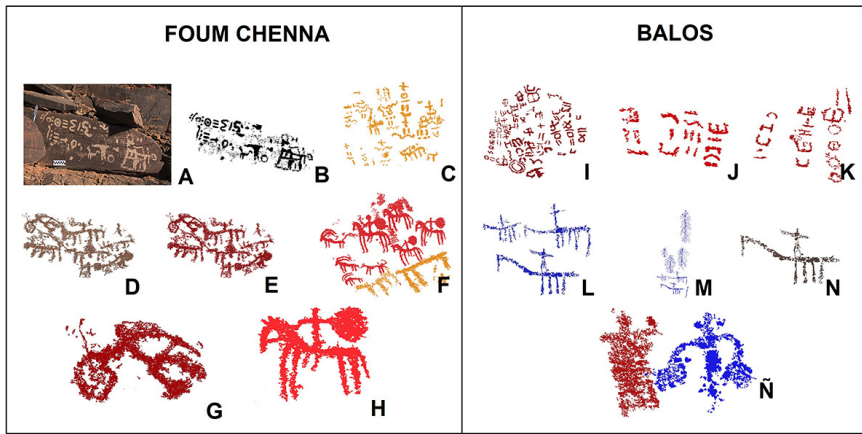


Figure 2. Outlines from Foum Chenna and the *Barranco de Balos*, including some with patina (A, D y N) and some with superimpositions (the remainder).

formats, alternative spaces, techniques and styles that are contrasting and associated with different elements. Therefore, from our archeological understanding, we do not believe this to be a defining element when drawing comparisons (figure 2, outlines A, B, C, I, J, K). Libyco-Berber writing varies a great deal in time and geography, especially within a highly diverse cultural framework such as that of the Maghreb. Its alphabet has been in use for more than a millennium over a vast area. This is why on this occasion we wish to make clear that as it is such a common form of writing, the associated motifs are in fact one of the factors that offer much more reliability when drawing comparisons. While in Foum Chenna it is associated with a variety of elements such as horsemen, anthropomorphic and zoomorphic figures, in the *Barranco de Balos* it is only associated with anthropomorphic figures and only very rarely. We must also take into account the chronological blocks, which is why the outline of the superimposition is important.

5.2. HORSEMEN

It has been insinuated that the engravings of horsemen at Balos could belong to the indigenous phase (Ventura Florido, 2017), but none of the characteristics such as the format, technique or the patina, support this claim. The horsemen at Balos aren't located in visible areas nor in areas of transit, as is the case in North Africa. They are not associated with Libyco-Berber writing, however in the Maghreb and specifically at Foum Chenna there are instances in which associations can be observed. The phase corresponding to the horsemen and the horse, within the extensive Libyco-Berber period, may be the 1st century BCE, although some

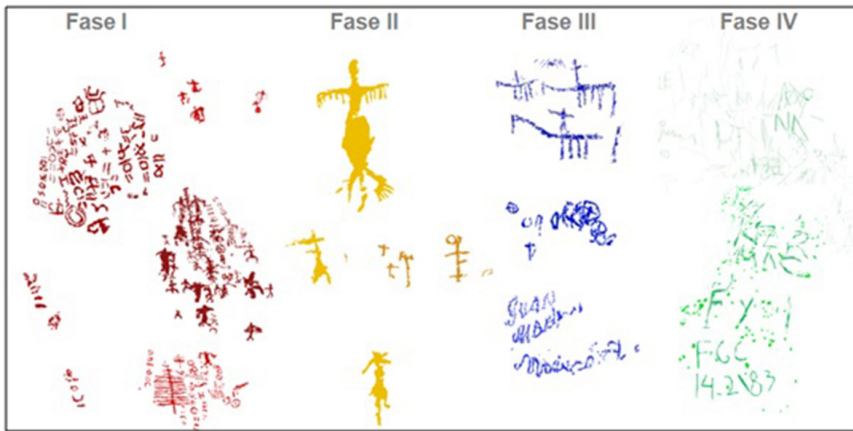


Figura 3. Preliminary approach to the different chronological phases of rock art at the *Barranco de Balos*.

authors have suggested a longer chronology with the introduction of these animals into North Africa around the 2nd millennium CE³ lasting up to the modern age (Bravin, 2016: 85).

Foum Chenna is a fairly complex archeological site, containing around 2555 figures, 17% of which are horsemen. They are distributed across vertical blocks at the mouth of the Uad Chenna, a tributary of the Uad Dree (Bravin 2014: 174). So what type of horsemen should we compare them with when the number of horsemen at Balos is tiny in comparison? Judging by the format, location, space, technique and motifs (aside from having a lighter patina than those engravings which are undoubtedly indigenous), we have placed them within what we have called Phase III, that is to say, among the earlier engravings but not predating the conquest.

Another factor to consider is the amount of horses and riders represented in both sites. In the stations at Balos there are only very few in comparison to Foum Chenna, where the horse and rider are the most frequent motifs, after representations of wild and domestic animals.

In fact, the horsemen in Gran Canaria which are located in the Santa Lucía de Tirajana area of the municipality, aside from having similar characteristics, are associated with other engravings created with metal tools, linked to the modern age

³ Chronologies of this phase of rock art defined by the presence of the horse and horsemen motifs, vary among authors. Some define it as starting with this animal's introduction into North Africa in the 2nd millennium BCE up to the modern age (Searight, 2004), whereas others such as Alain Rodrigue suggest that the horse period can be divided into two phases (Rodrigue: 1999).



or later, such as five point stars and crosses. Therefore, before comparing Balos with Foum Chenna we should break down and utilise all of the information offered to us from each site (fig. 2, outlines D, E, F, L, M, N).

5.3. WARRIORS WITH SHIELDS?

Finally, another element for comparison at Balos is a panel containing human figures with shields, apparently similar to those at Foum Chenna (Farrujia de la Rosa y Bravin, 2010). But upon closer observation, the two figures are in fact completely different in terms of patina colouring and style. The figure that appears to be holding a shield has a more recent patina and the apparent shield could in fact be a representation of hands. In addition, as far as we know this is only one panel out of hundreds. For this reason it is important to make an outline of the patina and the superimposition, as this helps us to better understand the representations (fig. 2, outlines G, H, Ñ).

6. CONCLUSIONS

The method used to collate information in the field, along with post-image processing, provide key evidence for the thorough understanding of a rock art site. This is a vital consideration before making comparisons and connections with other relatively distant stations of engraved rock art which are based solely and exclusively on supposed similarities between a set of motifs.

In the case of Balos, as it is a preliminary study, the methodological approach is yet to be fully developed, given that documentation of the rock art stations is still ongoing. Therefore, we believe that it is necessary to apply techniques in Gran Canaria that have not yet been used, such as traceology studies, along with experimental archeology.

One question that has arisen is that, in the study of rock art, occasionally there is a tendency to draw comparisons based on criteria to do with morphology or aesthetics, without taking into account the superimpositions within a panel, the chronology (even if this is relative), the execution, tools, formats and style. We should be aware of the complexity of rock art and of the fact that comparative studies with the neighbouring continent limit our understanding of the singularity and originality of graphic expression in both North Africa as well as in the Canary Islands. The indigenous cultures in the Canary Islands were undoubtedly North African, and although we may search for evidence of this in rock art, what this proves is that the Africanness of these societies is quite singular and unique in the world.

Today we can say that the indigenous island cultures went on to create their own, changing culture, as a result of their isolation. This is where comparative studies are viable, when we can see there are not even similarities in the engravings from one island to the next, except for the writing (which isn't the same in all cases either). Libyco-Berber cultures are very complex and diverse. Comparative studies





Figure 4. One of the panels at Fom Chenna selected for our study. The motifs displayed on the right have not been obtained via outlines, but rather they were extracted using Photoshop through the colouring of the patinas. In the upper right corner we have a patina outline, where we can observe the pecking technique on the panel. In the lower right corner we have the outline of the superimposition, where we can see the oldest item marked in red and the most recent one in yellow. We have based our observations on the colouring of the patina, the arrangement in the panel (where the oldest images tend to appear in the central area) as well as the subject matter recorded, an assessment of the techniques and the tools used.

can sometimes help us to appreciate these differences and similarities, but as we have seen in this study, not everything can be compared, which is why we stress the need to work with rock art with greater precision, taking into account many factors, above all those related to superimpositions and chronologies. Therefore, rock art helps us to understand the ongoing developments taking place during the time of these evolving cultures, that left their mark in one or many specific locations.



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