

Gran Canaria Re-visited

José Carlos Gil

Agrupación Astronómica de Gran Canaria

Juan Antonio Belmonte

Instituto de Astrofísica de Canarias

Abstract. During the mid 1990s, extensive archaeoastronomical fieldwork was performed in the island of Gran Canaria, which is the richest of the Canaries from the archaeological point of view. Solstitial and equinoctial “markers” were discovered or postulated along the island in connection with the calendric information contained in the historical sources. A suggestive relation to the major southern lunastice was also proposed for the tandem Roque Nublo - Roque Bentaiga. A decade later, a new set of appropriately scheduled observations have been settled during the last three years in order to further prove or disprove the postulated relationships. Besides, new sites such as Montaña Santidad and Los Altos del Coronadero were explored. Our new data and detailed on site observations have confirmed some of the earlier proposals and have tingled some others. As a highlight of our results, the lunastice rising at Roque Nublo and the summer solstice sunset at Teide, as observed from the sacred sites of Roque Bentaiga and Los Llanos de Gamona, respectively, may be catalogued as outstanding examples of the strong relationship between astronomy and landscape in ancient Canary Island culture.

1. Introduction

Gran Canaria is one of the islands of the Canarian Archipelago. The Canaries belong to Spain since their conquest and colonization by the Crown of Castile along the 15th century. At that time, all the islands were inhabited by different cultural groups in almost total isolation between them. The islanders came very likely from the nearby African continent and were possibly related to proto-Berber (Libyan) groups, as their cultural remains and the old ethnological sources seem to indicate. This pre-European population probably settled in the islands in an epoch not earlier than the 5th century B.C. Their cultural diversity, reflected by the material remains, economic activities and social organization, may be explained by the occurrence of migrations from the continent at different epochs. Moreover, the remarkable ecological differences between the islands could stress this diversity by means of particular adaptive processes to particular environmental characteristics.

Gran Canaria presented the most evolved and richest pre-European culture of the archipelago. The social structure was complex and hierarchical, similar to a proto-state. Of special interest is the existence of priests, called “faican”, who belonged to the nobility and were dedicated to religious, political and social

duties. The relatively high cultural level of the ancient “Canarios” is clearly illustrated by the existence of irrigated land agriculture, with the stock of the products in communal granaries. The burials are found in natural caves –as it is typical in other islands– and in tumular tombs, concentrated either in small groups or in huge necropolis. The presence of a large number of petroglyphs stations, including alphabetic, and of religious images has no comparison in the rest of the archipelago either.

Some general aspects of the religious world of the aboriginal population of Gran Canaria at its connections to cultural astronomy can be inferred from the ethnohistorical references. These sources were written by Europeans, or islanders that had become Europeanized, shortly before, during and after the conquest and tell us the importance of astral cults and divinities amongst the Canarios. Actually, the sun, the moon and probably other celestial bodies (stars and planets) were their principal deities (Tejera Gaspar 1992, Jiménez 1994). There are also numerous but, unfortunately, rather vague ethnological references about the existence of a calendar, and the use of the position of the sun and the moon and, presumably, some stars for time computing (Barrios García, 1997, Belmonte, 2008).

2. Discussion

The existence of sacred places in pre-Hispanic Canary Islands is reported by many of the ancient historians and has been proven by the archaeological evidence (Perera Betancort et al. 1996). The references about sacred places are more explicit for Gran Canaria, and the existence of certain sanctuaries on the top of significant mountains of the island –the so-called “almogarenes” –, where particular rituals took place at precise moments of the year, has been largely demonstrated.

From the archaeological point of view, several places have been found to be the probable remains of the pre-Hispanic almogarenes. All those sites share similar archaeological context and elements. A few of them are located in relatively low places but, typically, they occupy high spots dominating a wide panorama. They frequently consist of flat platforms carved in the soft volcanic rock with a number of sculpted basins (called “cazoletas”) eventually connected by small channels. Of these, the one at Roque Bentaiga is the paradigm. However, there is other typology of presumable sacred places in Gran Canaria attending to their archaeological context. These special sites frequently include several truncated conical structures called “torretas”, which are usually associated with horseshoe-shaped or ellipsoidal structures. The torretas are peculiar to Gran Canaria and consist of a vertical pile of dry-stones resembling a small tower. Some places present large number of torretas, as for example Llanos de Gamona or Los Altos del Coronadero, with more than twenty stone-towers in each case.

There was a complete lack of archaeoastronomical fieldwork studies in Gran Canaria when our research team begun working on the islands in the 1990s. Nobody suspected the extraordinary astronomical potential that yields behind the pre-Hispanic remains of this island. Our results (see e.g. Esteban et al. 1996 & 1997) strongly suggested that most of the almogarenes could be related with



Figure 1. Moonrise at the major southern lunastice touching Roque Nublo, as observed from the sanctuary of Roque Bentaiga. The circle represents the same phenomenon but as would have been observable c. 2000 years ago when the island of Gran Canaria was presumably colonised. Photograph by J. C. Gil, taken in July full moon of 2006.

solar observations and, probably, solar cults. In fact, they are usually located at high spots dominating a wide, and sometime, impressive panorama.

The almogaren at Roque Bentaiga was the first place to be investigated in Gran Canaria since the earliest fieldwork on the site was performed by O. Gonzalez and research has been conducted on site until today. Early results have suggested that Roque Bentaiga was a sort of solar and lunar observatory, presenting spectacular hierophanies related with the movements of both the sun and the moon. Among this was the predicted full moon occultation by Roque Nublo as observed from the almogaren at the moment of the southernmost lunastice (Belmonte and Hoskin, 2002). When this phenomenon was first proposed, the moon was approaching the minor standstill and we had to wait a complete decade before being able of checking the hypothesis on site.

In June and July 2006 (and 2007) we moved to Bentaiga to observe moonrise at the full moons closest to the summer solstice. Figure 1 shows an example of what we were able to observe from the centre of the almogaren (at other points in the sanctuary, other configurations were observable). Moving back c. 2000 years to the period of colonization of the island, we noticed that the effect we were envisaging (see Figure 1) would have not produced in the way our previous calculations predicted. Apparently, we had overestimated our data. However, the visual phenomenon was still very impressive and, notwithstanding, southernmost lunastice was still the only epoch when the moon touches Roque Nublo as observed from the centre of the sanctuary at Roque Bentaiga. The lesson we learnt was that nothing can surpass direct observations of a predicted phenomenon and that caution should be the dominant attitude.

In the last few years, we also decided to continue checking other important areas of the island, notably the south and southwest where our previous campaigns were not complete. The first author decided to investigate a place called Montaña Santidad, where a large ellipsoidal structure was located (see Figure

Montaña Santidad

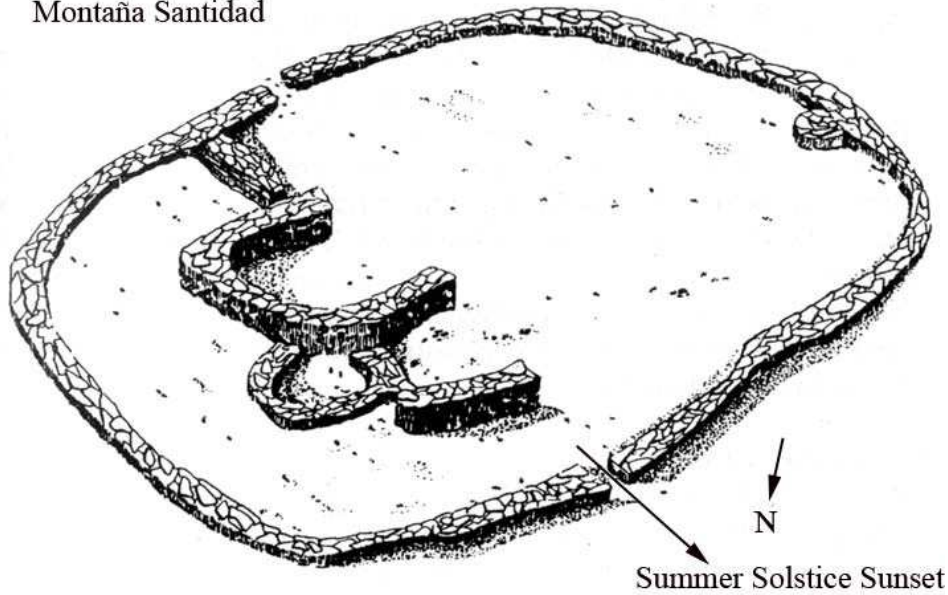


Figure 2. The “almogaren” (aboriginal sanctuary) of Montaña Santidad is one of the largest dry-stone built monuments of the island. Its astronomical orientation and its name, as well as its location on the top of a hill overlooking the surrounding landscape, reinforces its sacred character.

2). The local oral tradition about an aboriginal priest (“cura canario”) and the name of the site suggested a religious character for this great structure. Our data discovered a relationship with the important date of the summer solstice and our observations clearly confirm that connections. The western access was open to sunset at that precise moment of the annual cycle over the top of Montaña de Inagua, a most relevant peak in the western horizon, as shown in Figure 3. Besides, in clearer days, the Teide Peak, the huge volcano in the neighbouring island of Tenerife, is visible at a pair of degrees to the left (south) of Inagua and might have acted as a foresight to predict the arrival of the solstice. Actually, in the south-west of Gran Canaria there were a series of aboriginal sites with torretas, horseshoe-shaped structures and ellipsoidal enclosures where this connection could be emphasized. This was already hypothesized by Aveni and Cuenca (1994) but never studied in detail or verified with direct observations—some of their proposals were even contradictory—.

The most curious of these sites is Los Llanos de Gamona, where no less than twenty torretas (mostly ruined) and several horseshoe-shaped structures have been catalogued. The site is not especially impressive from the topographic point of view (i.e. it is not at the summit of a mount like many other sanctuaries) but shows a pair of relevant features at the horizon. On the one hand, at the east, Montaña Santidad is found at the azimuth where sunrise at the largest day of the year is produced, with a horseshoe-shaped structure open in that direction. On the other hand, sunset at summer solstice is produced on the top of the distant



Figure 3. Summer solstice sunset behind the mountain of Inagua, aligned with one of the two ingresses of the sanctuary of Montaña Santidad. In clearer days, the Teide Peak, in the neighbouring island of Tenerife, is visible at a pair of degrees to the left (south) of Inagua and might have acted as a foresight to predict the arrival of the solstice. Photograph by J. C. Gil.

Teide volcano, as we have recently verified with direct observations. Figure 4 illustrates this phenomenology and shows that in the period of colonization of the island, the alignment was nearly perfect. Moreover, another of the horseshoe-shaped structures on site is facing directly that mountain, perhaps deliberately. From the authors' point of view, this fact may suggest that Gamona was selected as an especial sacred place due to the solar phenomenology produced in its western horizon.

Teide Peak, with its 3717 m, is the highest mountain of the Canary Islands (even of Spain) and is visible from the rest of the islands, being probably present in the pre-Hispanic mythology of all of them. This idea has been suggested by A. Tejera (1992,) who even proposed a nexus between the formidable aspect of the mountain and the idea of *Axis Mundi*. Fig 5 further emphasizes this hypothesis. The picture was taking after summer solstice sunset and the shadow effect (combined with an extraordinary colour effect, unfortunately unappreciable in the black and white image) could be catalogued as fascinating. We had observed similar effects in other island locations but never with such splendour.

Our fieldwork in Gran Canaria is not at all finished. There are intriguing sites still to be researched. However, several of them are located at isolated or nearly inaccessible sites where fieldwork is not an easy task. For example, one of these sites is Los Altos del Coronadero, in the “empty space” of the south-east of the island. The site consists of more than two dozens of torretas located on the sharp contour of the summit of a narrow, long –inaccessible unless climbing– rocky outcrop in the middle of a ravine (see Figure 6). We have already tested the site from the two borders of the ravine, searching for solstitial or equinoctial alignments as those present in other sites of the island with certain suggestive results especially at the moment of the winter solstice



Figure 4. The archaeological remains of Los Llanos de Gamona, with several dry-stone monuments such as circles or a large group of sharp, circa two-meter high “torretas”, are located in the very special place of Gran Canaria where summer solstice sunset is (was) produced behind the majestic presence of Teide volcano at the horizon. In the authors’ opinion, this might have justified the selection of Gamona as a very important sacred place. See the text for further discussion. Photograph by M. Sanz de Lara.



Figure 5. A few minutes after sunset at the summer solstice in Los Llanos de Gamona, the shadow of Teide was spectacularly reflected in the celestial vault in a symphony of colours and contrasts. This splendid hierophany emphasizes the character of high, singular mountains as point of connection between the earth and the sky, in agreement with the idea of Axis Mundi as defended by M. Eliade (1991). Photograph by M. Sanz de Lara.



Figure 6. A close up of Altos del Coronadero. This spectacular archaeological spot consists of more than two dozens of “torretas” located on the top of a nearly inaccessible rocky crest in the middle of a ravine. The presumable astronomical connections of the sites with the neighbouring landscape (notably a natural arc visible in the image) are currently being examined. Photograph by J. C. Gil.

sunset. However, some topographic elements, like a natural rock arch, are so near that a direct inspection from the torretas is mandatory. Hence, a climbing of the site is indeed an objective but will need such ability, and a certain degree of risk, for which the standard archaeoastronomer is certainly not prepared.

References

- Aveni, A., & Cuenca, J. (1994), *El Museo Canario* 49, 29
- Barrios García, J. (1997), *Sistemas de numeración y calendarios de las poblaciones bereberes de Gran Canaria y Tenerife en los siglos XIV-XV*, Universidad de La Laguna
- Belmonte J. A. and Hoskin M. (2002), *Reflejo del Cosmos*, Equipo Sirius, Madrid
- Belmonte, J. A. (2008), *Tiempo y religión*, Ediciones del Orto, Madrid
- Eliade, M. (1991), *Mito y realidad*, Labor, Barcelona
- Esteban C., Schlueter R., Belmonte J. A., & González O. 1996, *Archaeoastron.* 21, S73
- Esteban C., Schlueter R., Belmonte J. A., & González O. 1997, *Archaeoastron.* 22, S51
- Jiménez J.J. 1994, *In Time and Astronomy at the Meeting of Two Worlds*, 402, Institute of Archaeology, Warsaw
- Perera Betancort M.A., Belmonte J.A., Esteban C., & Tejera Gaspar A. 1996, *Tabona* 9, 165
- Tejera Gaspar A. 1992, *La religión de los guanches: ritos, mitos y leyendas*, Edicolor, Tenerife