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TEMPLES OF ASTARTE ACROSS THE MEDITERRANEAN

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ABSTRACT

We present a compilation of orientations of seven temples dedicated to the Phoenician goddess Astarte across the Mediterranean. The chronology of the earliest temple corresponds to the Early Bronze Age – temple of Baalat Gebal at Byblos, 2800 BCE – but the rest dating back to the Iron Age, from IX to IV BCE. We find that most temples follow a sun-rising or moon-rising orientation pattern but three of them show westerly orientations in the range of azimuth between 232° and 239°. These values are consistent with the orientation custom found by Esteban & Escacena (2013a, b) in a sample of Iron Age sanctuaries of the southern half of the Iberian Peninsula that show direct influence by Phoenician colonisation. One of the potential targets of these westerly orientations is the setting of Venus at its extreme southerly position. This possibility can be related to the well-known ties between the Phoenician goddess Astarte and planet Venus.

KEYWORDS: Archaeoastronomy, Phoenicians, Astarte, Venus, Temples, Byblos, Pyrgi.

1. INTRODUCTION AND AIMS

Esteban and Escacena Carrasco (2013a, b) carried out an archaeoastronomical study of several religious buildings of the southern half of the Iberian Peninsula dated from IX to V century BCE. All sites show direct influence by Phoenician colonisation and most of them have even been interpreted as true Phoenician temples. An element commonly associated with some of those buildings is the presence of bull hide-shaped altars, which are relatively common in Spanish protohistory as well as in other places of the Mediterranean and are also known as 'Cyprus ingot'. These altars have been interpreted as dedicated to the Phoenician deities of Baal and Astarte (e.g. Escacena Carrasco 2009). Esteban and Escacena Carrasco (2013a, b) find that those sacred buildings are oriented to the same azimuth of $55^\circ/235^\circ$. While the easterly orientations to 55° do not show a clear astronomical target, the westerly orientations to 235° show a fairly precise fit to the azimuth of the setting of Venus at the southernmost venustice. This extreme position of the planet occurs every eight years, between October 29 and November 6 in 81% of the cases during the last four millennia (Šprajc 2013), and its setting takes place just a few degrees south from the winter solstice sunset. Astarte was the Phoenician goddess of nature, life and fertility, as well as the companion of the god Baal. She had strong cosmic character, represented by a star symbol and identified with the planet Venus. Several ancient written sources refer to places and temples dedicated to Venus/Aphrodite on the coast of the Iberian Peninsula, especially in the south, sites that have traditionally been linked with Astarte (Pérez López 1998). In fact, Strabo (III 1, 9) refers to the existence of a temple dedicated to *Phosphoros* -the carrier of light - at the mouth of the Guadalquivir River. Strabo also uses the Latin epithet *lux dubia* - twilight - to describe *Phosphoros*, while many authors have linked *Phosphoros* with Astarte, then assimilated to the Roman goddess Venus and personified in the eponymous planet (Tovar 1962: 814).

After the results of Esteban and Escacena Carrasco (2013a, b), one obvious question is if azimuths about $55^\circ/235^\circ$ are also found in the orientation of other Phoenician temples. In this paper we explore the presence of that orientation pattern in temples dedicated to Astarte in other Phoenician territories, colonies or places influenced by the religion of these seafarer peoples.

2. THE SAMPLE TEMPLES

We have made a bibliographical search of temples in former Phoenician motherland and colonies or places of strong Phoenician influence along the Mediter-

ranean. The selected temples have the two following characteristics:

- they have been excavated and have a well-established chronology;
- they were dedicated to Astarte or a goddess that is clearly assimilated to this Phoenician deity.

The geographical distribution of the sample temples is shown in Figure 1 and includes: Temple of Baalat Gebal (Byblos, Lebanon), East Temple (Umm-el-Ammed, Lebanon), Temple of Astarte (Kition, Cyprus), Tas-Silg (Marsaxlokk, Malta), Temple B (Pyrgi, Italy), Mastio shrine (Monte Sirai, Sardinia, Italy) and room A-40 at El Carambolo (Camas, Spain). The chronology of the earliest temple corresponds to Baalat Gebal at Byblos, which dates from the Early Bronze Age (2800 BCE). The rest of the sanctuaries date back to the Iron Age, from IX to IV BC. The latitude and chronology of each temple are indicated in Table 1.

3. NOTES ON INDIVIDUAL TEMPLES

3.1. Temple of Baalat Gebal at Byblos

Baalat Gebal - Lady of Byblos - was the goddess of the Phoenician city of Byblos. Her temple was built about 2800 BCE, it was the most monumental religious building of the city and was in use until Roman times (see Aubet 2009). Baalat Gebal was generally identified with the Phoenician goddess Astarte. Egyptian texts from the Middle Kingdom equate Baalat Gebal with the Egyptian goddess Hathor, whose iconographies are very similar. In the II century CE, the temple was still famous with the name of Aphrodite (Ribichini 2001: 125-132). As most important Phoenician cities, Byblos was located at the coast; in particular, the temple of Baalat Gebal was very close to the shore. Its western horizon is facing the Mediterranean Sea.

3.2. East Temple at Umm-el-Ammed

Umm-el-Ammed is a Phoenician settlement located near the coast about 17 km to the south of Tyre. It has a sizable cultic complex of two main sanctuaries built in the Persian period (VI - IV BCE, Kamlah 2008). The larger temple was dedicated to the worship of Milkastart and the second, called the East temple, was dedicated to Astarte (Christian 2014). The orientations of both temples differ in about 9° .

3.3. Temple of Astarte at Kition

Literary evidence points out that the first presence of Phoenicians in Kition (present-day Larnaca, Cyprus) was at the beginning of the X BCE (Hadjisavvas 2013). The archaeological zone known as



Figure 1: Geographical distribution of the temples studied in this paper.

Bamboula site has a temple dedicated to Astarte, built in the IX BCE, the largest Phoenician temple known up to date. It has an orientation rather close to the east-west direction and its entrance is facing the east (Aubert 1987: 42-44).

3.4. *Tas-Silg*

Tas-Silg is a hilltop near the coastal village of Marsaxlokk (Malta). A megalithic temple was built in the Tarxien Phase (c. 3100-2500 BCE, Cardona 2013). In the last quarter of the VIII BCE, after taking over Malta, the Phoenicians built a temple to Astarte incorporating upstanding remains of the earlier temple. In the Roman era, the temple was converted into a sanctuary of Juno, which was the Roman equivalent to Astarte (Cardona 2013). The nucleus of the temple has a D-shaped setting of large irregular blocks from the original megalithic phase.

3.5. *Temple B at Pyrgi*

Pyrgi was an Etruscan port to the northwest of the present-day town of Cerveteri, in the province of Rome (Italy). Thefarie Velianas, king of Caere (ancient name of Cerveteri), erected Temple B at Pyrgi around 510 BCE (Ribichini 2001: 134). Three Golden tablets found in 1964 at the site record a dedication made by the king to the goddess Astarte and her Etruscan equivalent, Uni. Two of the tablets are inscribed in the Etruscan language and the third in Phoenician. The temple is very close to the coast and its entrance is facing the southwest, to the sea.

3.6. *The Mastio shrine at Monte Sirai*

Monte Sirai is an archaeological site near Carbonia, in the province of Carbonia-Iglesias in Sardinia (Italy). The site is inhabited since the Neolithic and the first evidences of Phoenicians date back to 750 BCE (Bartoloni 2004: 34). Most of the religious mate-

rial found at Monte Sirai comes from the Mastio shrine, located at the acropolis of the settlement and erected at the IV BCE. The most important finding at this building is an Archaic statuette representing Astarte, which is considered the cult statue of the shrine (Bartoloni 2004: 40). It is interesting to note that a possible foundation deposit from about VI BCE was found almost directly below the statue and other associated cult objects. This indicates that the area of the Mastio shrine may have a sacred role quite early in Mount Sirai.

3.7. *The room A-40 at El Carambolo*

Archaeological fieldwork carried out on the top of the hillock of El Carambolo (Camas, Province of Seville, Spain) has confirmed the clear presence of Phoenician archaeological remains and religious elements at the site (Fernández Flores and Rodríguez Azogue 2007). The finding of a bronze statuette of Astarte indicates the possible consecration of the temple to this Phoenician goddess (Blanco Freijeiro 1968: note 5). The first building – dated to the IX BCE – began as a simple rectangular structure divided into three spaces with their entrances in the eastern side. In the later phases, the original building was converted into the central backyard of a large complex. The best-conserved chapel of the complex – called room A-40 – has been interpreted as a chapel dedicated to a male deity (Baal/Melqart) and a large bull-hide-shaped altar was found on the floor, at the centre of this room. Esteban and Escacena Carrasco (2013a, b) carried out an archaeoastronomical study of the complex.

4. MEASUREMENTS

For all the sample temples, we determine the azimuth defined by the direction of their long axis in the sense indicated by the entrance. Most of the tem-

ples studied have entrances facing east, but there are some exceptions. Temple B of Pyrgi is open toward the west while the sanctuary of Tas-Silg has two entrances, one to the east and other – along the same axis – to the west. The azimuths were obtained using Google Earth in all cases except in El Carambolo and Umm-el-Amed. The orientation of El Carambolo has been taken from Esteban and Escacena Carrasco (2013a, b), who take the measurements at the site just after the archaeological excavations. In the case of the East Temple of Umm-el-Amed we determined the orientation making use of the detailed map published by Vella (2000). Tas-Silg had two entrances in both, the Neolithic and Phoenician periods and we consider both orientations. Although the temples of Byblos and El Carambolo have their entrances in the east facades, we also analyse the westerly orientations of the buildings as it is explained in Section 5. In Table 1 we include the latitude of the sites, their chronology, the azimuth, the height of the point of the horizon towards the temples are facing and the corresponding declination of the celestial body that rises or sets at that point of the horizon. Except in the case of El Carambolo, for which we have direct measurements, the height was estimated from the web application www.heyswhatsthat.com. We have estimated a canonical error in declination of about 2° except in El Carambolo, where Esteban and Escacena (2013a, b) give an estimate of the error. In Figure 2 we show the orientation diagram of the temples with respect to the cardinal and present-day solstitial points.

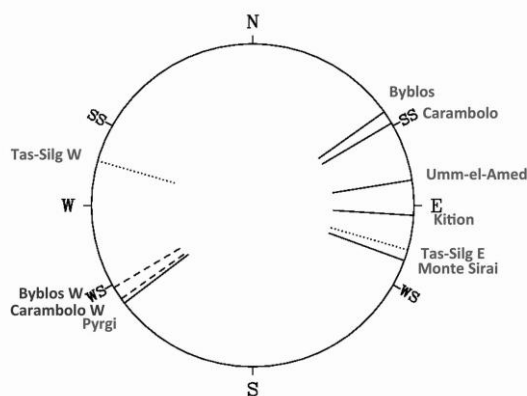


Figure 2: Orientation diagram of the temples. *Tas-Silg has two entrances at opposite directions, both orientations are represented with dotted lines. The westerly orientations of the temples of Byblos and Carambolo are indicated by dashed lines. SS and WS mean summer and winter solstices, respectively.*

As far as we know, and apart from El Carambolo, the only sanctuary of our sample which orientation has been measured is Temple B of Pyrgi. Aveni and Romano (1994) give an azimuth of 228° almost 5° to

the south of our value. In this case, the corresponding declination would be -30° .

5. RESULTS AND DISCUSSION

The data collected in Table 1 and Figure 2 indicate that most temples follow a sun-rising (or moon-rising) custom, following a declination range between -15° and $+28.5^\circ$. It is interesting to note that the declination associated with the entrances of the temples of Byblos and El Carambolo is about $+28.5^\circ$, suggesting a possible relation with the moonrise at the major northern standstill. However, the entrance of the temple of Pyrgi and the westerly orientations of the buildings of El Carambolo and Byblos lie in the declination range -27.8° and -24.5° , respectively. This group of orientations is consistent – within the errors – with the setting point of Venus at its southernmost position, corresponding to a declination of about -27° for the VIII-V BCE, date of construction of the temples of El Carambolo and Pyrgi, and about -26.2° for the, epoch of construction of temple of La Baalat, XXIX BCE (calculations obtained from Šprajc 2015). This westerly pattern is consistent with that found by Esteban and Escacena Carrasco (2013a, b) in four religious buildings of southern Spain – including El Carambolo – that show influence by Phoenician colonisation. It is remarkable that the temples of Byblos, Pyrgi and El Carambolo, are located in places where the vision of the western horizon seems to be favoured (the sea horizon in the two first temples, see Figures 3 and 4, or the downslope of a hill in the third one, see Esteban and Escacena Carrasco 2013a, b), reinforcing their possible relation with Venus settings, although a possible relation to the moon rise at northern major standstill cannot be disregarded.



Figure 3: Satellite image (taken on December 15, 2014) of the area around the temple of Baalat Gebal at Byblos (Lebanon). The circle indicates the exact location of the temple. Source: Google Earth, coordinates $34^\circ 07' 07.32'' N$ and $35^\circ 38' 43.59'' E$.

As it has been said in the introduction, the characteristics of the cult of Astarte strongly suggest its relation with Venus. One of the most common symbols related to Astarte was a rosette or a star within a circle (Kukhan 1960: 80; Escacena Carrasco 2011: 177, 191). Escacena Carrasco (2011-2012) indicates that this symbol was also the emblem of the Mesopotamian goddess Ishtar, which ties with the Phoenician Astarte are very clear. Astarte had the title of “Queen of the Heavens”, as it is indicated in passages from the Hebrew Bible (Jeremiah 7, 18 and 44). She has been known as the deified evening star and was assimilated to the Roman Venus and personified in the eponymous planet (e. g. van der Toorn et al. 1999).

It is clear that precise direct measurements at the sites studied in this paper are badly needed. However the results of this paper, suggest that some of the known temples of the Mediterranean dedicated to Astarte and built in Phoenicia, Phoenician colonies or territories with Phoenician influence may share a similar pattern of westerly orientations related to the setting of Venus at its extreme southerly position (or the moonrise at northern major standstill). This is

consistent with the well-known relation of Astarte with the planet Venus and opens new possibilities for the study of Phoenician religion and ritual and its transmission across the Mediterranean in the first millennium BCE.



Figure 4: Satellite image (taken on June 26, 2015) of the area around the temples A and B of Pyrgi (Cerveteri, Italy). The circle indicates the exact location of temple B, dedicated to Uni-Astarte. Source: Google Earth, coordinates 42°00'53.89"N and 11°57'49.63"E.

Table 1: Relevant data of the sample temples. Tas-Silg has two entrances at opposite directions labelled as “East” and “West”. We also include westerly orientations for the temples of Byblos and El Carambolo.

Site	Entrance	Latitude (°)	Temple	Dedication	Chronology	Azimuth (°)	Height (°)	Declination (°)
Byblos (East)	E	34.12 N	Baalat Gebal	Astarte	XXIX BCE	59.4	5.9	+28.4 ± 2.0
Byblos (West)						239.4	-0.2	-25.5 ± 2.0
Umm-el-Amed	E	33.10 N	East Temple	Astarte?	VI-IV BCE	81	5.1	+7.2 ± 2.0
Kition	E	34.92 N	Astarte	Astarte	IX BCE	93.6	0.0	-3.3 ± 2.0
Tas-Silg (East)	E & W	35.85 N	Astarte	Astarte	VIII BCE	106	-0.2	-13.2 ± 2.0
Tas-Silg (West)						286	0.4	+12.6 ± 2.0
Pyrgi	W	42.02 N	Temple B	Uni-Astarte	V BCE	232.7	0.0	-27.2 ± 2.0
Monte Sirai	E	39.18 N	Mastio shrine	Astarte	IV BCE	110	0.7	-15.2 ± 2.0
Carambolo (East)	E	37.43 N	A-40	Baal/ Astarte	VIII BCE	54.6	2.0	+28.5 ± 2.2
Carambolo (West)						234.6	0.0	-27.8 ± 1.5

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