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FROM HAGIOGRAPHY TO CELTIC COSMOLOGY: ARCHAEOASTRONOMY AND CHRISTIAN LANDSCAPE IN OURENSE (NW SPAIN)

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ABSTRACT

The cult of Santa Mariña is very popular in the region of Galicia, in northwest Spain. According to tradition, she was born and martyred in two sites at the heart of the modern-day province of Ourense: she was born and grew up around the lagoon of Antela, and was martyred in the parish of Santa Mariña de Augas Santas, where she performed miracles and where her tomb is still preserved. Both places are located in the territory of the *Limici*, a pre-Roman Celtic tribe, and contain a remarkable amount of archaeological material from the Iron Age and Roman times. An archaeoastronomical study has revealed that the most important archaeological sites have a number of significant solar and lunar relationships attributable to the Celtic tradition (lunistics, Celtic mid-season festivals, the cosmos divided into three levels). Christianity preserved these structures through the feast dates of the saints worshipped in different parishes and other places, and their arrangement in different local landscapes. Episodes of Mariña's life and her places of worship are important because they coincide with significant points in the astronomical alignments that have been detected. Hydatius of Chaves (c. 400-469) a *Limici* scholar, bishop and author of a Chronicle, is considered responsible for introducing the cult of Santa Mariña, and as the driving force behind the Christianization of a landscape/skyscape that was previously defined by a Celtic worldview.

KEYWORDS: Galicia, Celtic cosmology, Romanization, hagiography, Christianization, landscape building, archaeoastronomy, Hydatius of Chaves

1. INTRODUCTION

Santa Mariña is a martyr who is widely worshipped in Galicia, in northwest Spain. Together with saints such as St. Eulalia, St. Mamede, or St. Quitera, she defines a very primitive stage of Christianization of the Galician countryside, probably dating from the sixth century on average¹. It is interesting to note that parishes and places of worship dedicated to this saint are often associated with visible archaeological remains dating from different times. The popularity of the saint and her hagiography appear frequently in the literature from the sixteenth century onwards, coinciding with the spread of printing and the compilation of pious traditions and grassroots hagiographies, albeit with shaky historical roots.

The religious context of the Reformation and Counter-Reformation affected debates on the authenticity of the hagiography of Mariña, resulting in the appearance of two schools of thought that have continued to the present day.

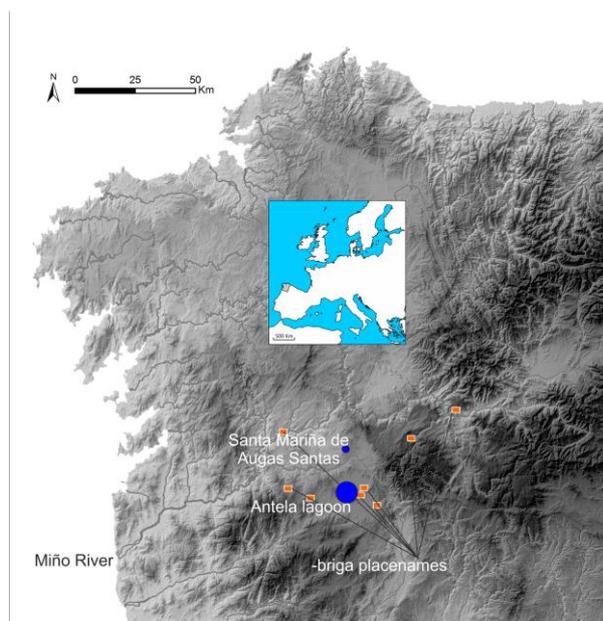


Figure 1. Location of the main places referred to in this article.

The first sceptical or learned school of thought compares the hagiography of Mariña with traditions about her namesake Marina, Pelagia in Greek, or Margaret, a saint from Pisidian Antioch in Anatolia. As the stories attributed to Mariña in Galicia were identical to those attributed to the martyr of Anatolia, the conclusion was that the historicity of the Galician saint was questionable, as she would have

been an anonymous saint onto whom the life and martyrdom of the Anatolian were imprinted. The main proponents of this idea are non-Galician, Catholic scholars.

The second school of thought defends the "archaeological truth" of the saint, supported by Galicians who defend the veracity of the tradition of Mariña from episodes of her life attached to specific places, buildings, rocks or trees, in the geography at the heart of the modern-day province of Ourense. How can a saint be false who gave Christian meaning to the local landscape for the peasant community? This school believes that the idea of the "myth" of Mariña is equivalent to saying that the local peasant communities were mistaken about the world they lived in for centuries (García Quintela and González-García, submitted).

This idea is based on the fact that Mariña's biography is located in two places (Fig. 1). The first is her birthplace and where she spent her younger years, until she was taken prisoner by the evil Roman Olibrius. This is the area around the lagoon of Antela, in the upper reaches of the River Limia, which dried out in the late 1950s. In addition to the legend of Mariña, the lake has a rich folklore and archaeological sites from different eras abound in its surroundings (<http://www.altalimia.org/>). The second location is where she was imprisoned and martyred, in the modern-day parish of Santa Mariña de Augas Santas, whose rich archaeological heritage is inventoried, so to speak, by the episodes from the martyrdom of the saint (<http://santamarinadeaugassantas.com/>).

Our study involves these locations, all of which are archaeological sites. The question is, therefore, to find out the role of the saint in the transformation of a pre-existing skyscape. In other words, our aim was to identify how a pre-Christian skyscape, involving different places and monuments, served as a vector for the spread of Christianity, by attaching the local topography to a narrative that came all the way from Anatolia. This process resulted in the construction of the present-day Christian landscape.

We first present the archaeoastronomical observations of both areas with some explanations to help understand its regional scope. Then we introduce the pre-Christian Celtic and Roman context, and how well they coincide with the observations about Mariña. Finally, we argue that the chronicler Hydatius of Chaves (c. 400-469), who was born in Xinzo de Limia, close to the lagoon of Antela, may have been the architect behind the religious engineering that led to the creation of this Christian landscape.

¹ J.C. Sánchez Pardo, personal communication on the C14 dating of martyr's churches in several parts of Galicia, data to be published.

2. ARCHAEOASTRONOMY AND ASTRONOMY IN CULTURAL OBSERVATIONS

2.1. Around the lagoon of Antela (Fig. 2., table I)

Three sites in the vicinity of the lagoon of Antela are connected with Saint Mariña.

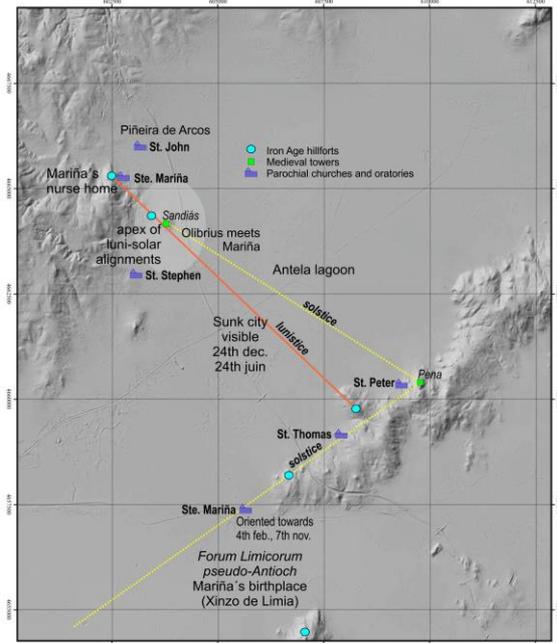


Figure 2. Archaeoastronomical observations around the Lagoon of Antela.

Table I. Astronomical orientation of the elements indicated in the text around the lagoon of Antela (latitude 42° 7'). The columns show the site or structure measured, the azimuth (A) and horizon altitude (h) measured with a precision compass (error estimated to be 1/2°), and the calculated astronomical declination (δ). The last column gives the possible astronomical event or date. For further details, see the text.

Structure	A	h	δ	Event
St. Mariña Church (Xinzo)	112 3/4	0 3/4	-16 3/4	4 th Feb/7 th Nov
Sandiás to Pena	123 1/2	0 1/2	-23 3/4	Winter Solstice
St. Mariña to Pena	57 3/4	1	24	Summer Solstice
Porqueira to Pena	60	0	22	Summer Solstice
Pendón to Cidá	132	0 1/2	-29 3/4	Lunistic

1) The Saint was born in Xinzo de Limia, traditionally called "Antioch" due to a false etymology of "Antela" (evoking the Anatolian origin of the re-used hagiographic tradition). Xinzo church, dedicated to St. Mariña, is built on top of a Roman building whose orientation has survived successive renovations, and differs from the standard orientation of the pre-Romanesque churches in the region (Xusto, 2000, González-García, 2015).

2) The home of the wet nurse who cared for the child and raised her as a Christian is in the hillfort of Pendón de Santa Mariña (Piñeira de Arcos). On the slopes of this hillfort there is a 17th century church dedicated to St. Mariña. This hillfort and the hillfort of A Cidá, on the opposite shore of the lagoon, are the only ones that directly face towards Antela and have a relationship compatible with the major southern lunastic.

3) At the base of the tower of Sandiás in the NW sector of the Lagoon, the Roman Olibrius tried to seduce Mariña, and after her rejection, she was captured and led to Augas Santas. This place has a long cultural stratigraphy: at its peak there is a rock shrine from the Iron Age; in Roman times there was a post on the XVIII road bordering the lagoon of Antela to the West, and in the late Middle Ages a tower was built at the top. This tower has a solstitial relationship with the tower of Pena, its functional equivalent on the eastern side of the Lagoon (Fig. 3).



Figure 3. The landscape of the lagoon of Antela today as seen from the Pendón de Santa Mariña hillfort. The arrows indicate the different landmarks, from left to right: Pena medieval tower, Sandiás tower and A Cidá hillfort. Upper left inset: sunrise at the winter solstice of 2015 over the Tower of Pena, seen from the Tower of Sandiás. Upper right: the lagoon from the Tower of Sandiás, with the rock altar in the foreground.

We can add another three observations from cultural astronomy to these archaeoastronomical observations.

4) One of the folk tales connected to the lagoon refers to the existence of a sunken city. It was also called Antioch, and was sunk because of the sins of its inhabitants who, when tested by Jesus, were found to be uncharitable. The city could be perceived "on the morning of St. John's Day, when the first ray of sunlight shines on the lagoon, deep, deep down the church tower can be seen. And on Christmas Day, at midnight, the bells can be heard".

5) The parishes bordering the Lagoon form a dual interplay of solstitial dates: the eastern parishes are dedicated to St. Peter (celebrated on 29th July) and St. Thomas (21st December), while those to the west are dedicated to Saint John (23rd June) and Saint Stephen (26th December).

6) To the south of the Limia valley, away from the Lagoon, in Porqueira, a third medieval tower has a solstitial relationship with the tower of Pena, in the eastern part of the valley. Also, the solstice line connecting both towers passes over the church of Santa Mariña in Xinzo de Limia.

2.2. The parish of Santa Mariña de Augas Santas (Fig. 4, table II).

The summit of the Os Canteiros hill occupies the centre of the territory of the parish of Santa Mariña de Augas Santas.

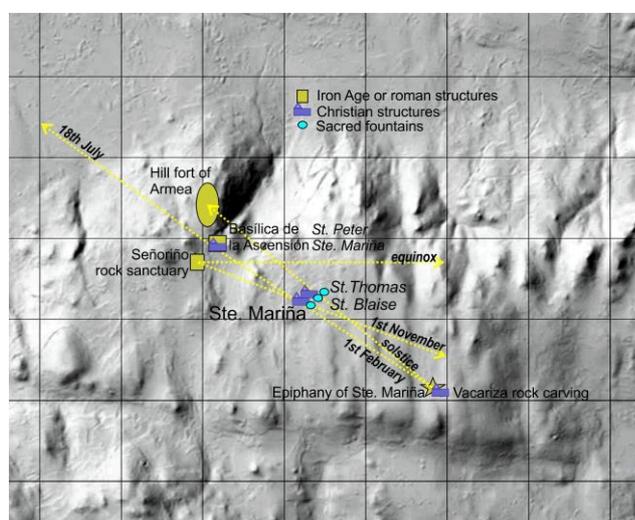


Figure 4. Solar alignments in the parish of Santa Mariña de Augas Santas.

Table II. Astronomical orientation of the different elements indicated in the text around Augas Santas (latitude 42° 14'). The last two lines include data from the hillfort of Avión and the rock art site of A Ferradura, mentioned in the text. Columns are as in Table I.

Structure	A	h	δ	Event
Basilica-Crypt	119¾	6½	-16¾	2 nd Feb/9 th Nov
Basilica-Nave (west)	297½	1½	20.5	26 th May/18 th July
Armea hillfort to Vacariza	126¾	3	-23¾	Winter Solstice
Señorino rock altar	89¾	2	1½	Equinox
Señorino basin	114	4½	-14¾	10 th Feb/1 st Nov
Avión basin	109	0¼	-14	11 th Feb/1 st Nov
A Ferradura	236	1	-23¾	Winter Solstice
	245	1	-17½	1 st Feb/13 th Nov

The main enclave in honour of the saint today is the village of Augas Santas (= Holy Springs), so called because according to tradition, this was where she was beheaded. Her head hit the ground in three

places, where three holy springs emerged. Also, the saint's tomb is in the Romanesque parish church (celebrated on July 18th). St. Thomas (December 21st) and St. Blaise (February 3rd) are also worshipped in the church. This place became an important centre of population after the spread of Christianity. Previously, the habitat was located in the hillfort of Armea and its surroundings (1 km to the NW of the church), while the petroglyph of A Vacariza is located at the top of Os Canteiros.

Around the hillfort there are three places of religious significance, and with interesting solar alignments.

1) The "Outeiro dos Pendóns" is the highest point of Armea hillfort. This hilltop was surrounded by a wall that encircled three large rocks that seem to point towards the present church and the mountain top where the petroglyph is located. The sun rises at the winter solstice in this direction. Also, the most miraculous of the three springs is in a chapel dedicated to St. Thomas (December 21st).

2) On the hill of "O Señorino," a structure was recently excavated that forms a rock shrine similar to others in the region known to date from the Iron Age. The main structures are oriented eastward. In addition, a rectangular basin carved into the rock and eccentric with respect to the main structures, faces diagonally towards the sunrise on November 1st in coincidence with the parish church. A similar phenomenon is also observed in the Avión hillfort (Ourense), without any known justification for its function.

3) The most complicated structure is the unfinished church known as Church of the Ascension or Forno da Santa. The two denominations feature aspects of the complex "biography" of the building (Blanco et al., 2015).

The original building is an underground sauna adjacent to the Iron Age hillfort (García Quintela and Santos-Estévez, 2015; García Quintela et al., 2014). Traditionally, this is where Mariña was said to have been martyred by fire. However, she did not die, as she was rescued by St. Peter, who turned her into steam, allowing her to escape up the chimney. Thus, the hagiography accurately evokes the original function of the building: Mariña, water, in contact with the fire, becomes steam.

The sauna suffered an initial Christian transformation in the sixth century (548 ± 45), probably becoming a chapel dedicated to the cult of the martyr. Then the building underwent two enlargements and renovations until the 13th century, when it became the crypt of a larger church, built over it, which remained unfinished, and commemorates the Ascension (Blanco et al., 2015). The entire structure features an interesting array of solar alignments.

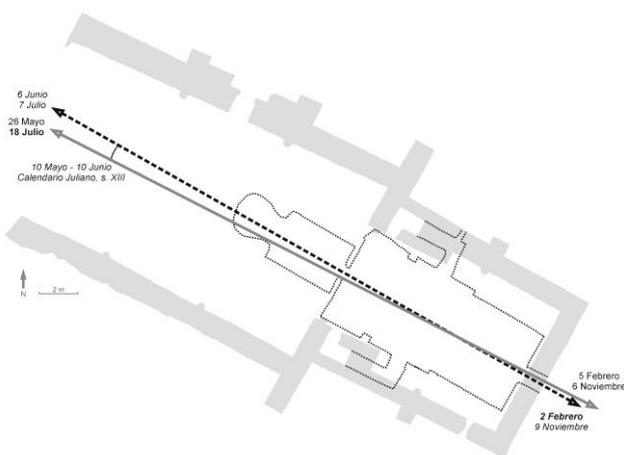


Figure 5. Solar alignments at the Forno da Santa / Church of the Ascension sanctuary in the parish of Augas Santas.

The grey shaded sections show the plan of the upper basilica. The crypt and Iron Age sauna are indicated by the dotted line. The dashed line indicates the orientation of the crypt and apse, the grey solid line indicates the orientation of the nave. It is interesting to note that the angle between the two orientations towards west coincides with the range of dates for the festivity of the Ascension in the middle ages.

The early sauna and different phases of the Christian crypt are consistently oriented towards the solar sunrise on February 2nd (coinciding with the local celebration of St. Blaise). On the surface, the unfinished building of the basilica has an apse with the same orientation as the underground part. To the west, the orientation of the nave is towards the sunset on July 18th, the feast day of Santa Mariña (Fig. 5).

Furthermore, the beginning of February is important in one of the petroglyphs in A Ferradura, a rock art site in the vicinity of Augas Santas, where the orientation of the site is similar to the church of Santa Mariña in Xinzo de Limia (supra) and the feast day is Candlemas (February 2nd) (García Quintela et al., 2015).

3. PRE-CHRISTIAN CULTURAL CONTEXT

The protohistoric cultural context of the region is Celtic. This is suggested by names ending in *-briga*, a standard criteria in defining areas with speakers of Celtic languages. The latest tally puts eight of the eighty known cases in the Iberian Peninsula in the modern-day province of Ourense (Guerra, 2005) therefore the province, accounting for 1.25% of the territory of the Peninsula, concentrates 10% of these names. This finding is corroborated by the Celtic characterization of god's names and pre-Roman people attested in Latin inscriptions of the *Limici*, the tribe that inhabited the area around the River Limia (Lujan, 2009).

The Roman footprint in this cultural horizon from the year 26 BC onwards is important, but discontinuous. Around Antela, the *Via XVIII* route was of

great importance, connecting *Bracara Augusta* (now Braga, in Portugal) with *Asturica Augusta* (Astorga, in Spain), built from 80 AD onwards. Its route along the west edge of the Lagoon is shown by a large number of Roman milestones. Also, the site of the tower of Sandiás probably coincided with the *mansio Gemina* that appears in the Antonine Itinerary (Rodríguez et al., 2004). The *Forum Limicorum* (Ptolemy II 5, 44) was probably to the south east of the lagoon, coinciding with the current town of Xinzo de Limia, with important Roman remains under the current parish church of Santa Mariña (Xusto, 1999, 2000). If we add the Pendón de Santa Marina hillfort, we have all the points where the hagiography locates relevant episodes of Mariña's life that were important in antiquity.

Turning to Augas Santas, the hillfort and the Vacariza petroglyph are pre-Roman (García Quintela and Seoane-Veiga, 2011), but the hillfort was strongly influenced by the Romans, and the surrounding area was also the backdrop to scenes in the martyrdom of Mariña.

Moreover, the Celtic linguistic features that have been identified reveal the existence of a Celtic worldview between the pre-Roman inhabitants of the region, which remained active during Roman rule.

However, the Celtic worldview is not well defined, and its relevance in all of the areas with speakers of Celtic languages is disputed. To avoid a circular argument, we will explore the basic arguments, and how an archaeoastronomical observation supports or disproves its ethno-cultural Celtic definition. We will basically highlight three features:

1. The Celtic cosmos was divided into three levels. A marine or aquatic underworld, an intermediate space inhabited by men, and a celestial and divine world. The Irish mythological texts and linguistic analysis of the Gaulic "kings of the world" agree in this respect (Sayers, 1996; Delamarre, 1999; Mac Mathúna, 1999).
2. The moon and night-time governing the account of time established by the Druids, as evidenced by Caesar, the Gaulish Coligny calendar and ethnographic and linguistic uses in Celtic-speaking countries (Caesar, *Gaulic Wars* VI, 14.6, 18.2; Loth, 1904). We have observed the relevance of the lunastices in the orientation of public monuments with Celtic cultural influence (García Quintela and González-García 2014; García et al., 2014; García Quintela, 2016).
3. The four festivals marking the start of the season attested in Ireland, on November 1st, February 1st, May 1st and August 1st (Le Roux

and Guyonvarc'h, 1995). Their pan-Celtic nature has been disputed, although our observations seem to support such character (González-García and García Quintela, 2014, 2016 this issue on *Lugdunum Conuenarum*).

On this background occurs the Christianization of the celestial landscape.

4. THE CHRISTIAN TRANSFORMATION OF A CELTIC LANDSCAPE.

We have seen a predominance of relationships connecting the solstice with Roman and medieval structures in the vicinity of the lagoon of Antela. However, the pre-Roman hillforts seem to be related to the lunistic. Moreover, in Antela the solstice relationships are present in three levels: underwater, indicated by the dates when the sunken city of "Antioch" can be seen; in the middle plane of the life of rural communities flanking the Lagoon, with parish churches dedicated to solstitial saints; and in the upper plane, by the towers of the medieval lords that dominate the territory. This situation can evoke a triple-levelled, local Celtic worldview that was reinterpreted and transformed into Christian. In addition, the church of Xinzo and the previous Roman building are oriented towards the sunrise at the beginning of season dates.

Turning to Augas Santas, we have found orientations towards the solstice, Christianized by St. Thomas, and beginning of season dates in February and November in the sauna and the rock shrine. It is important that the orientation of the sauna is similar to that of the Romanesque church dedicated to Santa Mariña in Xinzo: two pre-Christian buildings of similar orientation in the area were Christianized through the worship of Santa Mariña, becoming the places where her birth and martyrdom are commemorated. We have also already commented on the orientation on February 1st and November 1st for other structures from the Iron Age in this area.

These observations lead us to suggest a Christian reinterpretation of a culturally Celtic skyscape, using the hagiography of St. Mariña as a vector for the transformation of religious and cultural semantics of the places that supported the previous conceptions.

5. CONCLUSION: A WORK OF RELIGIOUS ENGINEERING

In conclusion, we believe that we are able to identify the author of this transformation: Hydatius of Chaves (400-469).

He was an important regional figure, known to have been the bishop of *Aquae Flaviae* (Chaves, in Portugal), and author of a historical chronicle. In the preface of his work he is presented as "*Limicus*,"

meaning he came from the territory in question. In his youth he travelled to the Holy Land, and throughout his chronicle mentions events in the eastern Mediterranean (Burgess, 1993). One such item mentions an earthquake in Antioch of Isauria in the year 462, referring to it as God's punishment for failing to listen to the message of Salvation. He writes:

"Greater Antioch in Isauria, paying no heed to the warnings for its salvation, was swallowed up when the earth split open, and all that remained above the ground was the tops of the towers. Only the bishop of this city was saved from death, along with a number of people who followed him in obedience to the fear of the Lord." (Translation by Burgess, 1993)

This news is very similar to the legend of the sunken city in the lagoon of Antela: the name of the city, its sins, its punishment, and even the details of the towers of the churches are the same. In addition, the wordplay of Antela/Antioch present in the traditions of Mariña, is typical of the early Middle Ages (Amsler, 1989). It is interesting to note that Hydatius lists 5 solar and 2 lunar eclipses in his chronicle. These are difficult to study (Tabov, 2013), although they do reflect his interest in celestial phenomena as omens. Finally, datings of mortar from the first transformation of the sauna using Optically Stimulated Luminescence has provided a date of 548 ± 45 (Blanco et al., 2015), close to the lifetime of Hydatius or his successors.

In short, Hydatius has all of the skills and the political and religious knowledge to be considered as the person responsible for introducing the history of Margaret of Antioch into the pagan celestial landscape of his homeland. In this way, he sought to transform the religious orientation of the landscape and, with it, the temporal and spatial coordinates of its inhabitants.

His work can be summed up in four ideas:

1. The three-layered Celtic cosmos becomes Christian. There is a striking similarity between the stories of the sunken cities of Antioch in Asia Minor (Isauria in Hydatius) and Antela (popularly known as "Antioch"). If we also remember that the history of Margarita is located in Antioch of Pisidia, the similarities could not be any closer.
2. To Christianize this cosmic structure, a previously lunisolar landscape was solarized. Hydatius therefore followed the pattern of the Julian solar calendar spread through Christianization.

3. He provides Christian references for monuments with solar orientations related to mid-season festivals; and in particular:
4. He systematically uses the different episodes of the hagiography of Mariña as stories that give new religious and cultural meaning to the existing monuments, landmarks and landscape.

By studying the celestial landscape linked to the hagiography of Santa Mariña, we have studied

one case among many of a local process of Christianization. We have also shown that archaeoastronomical observations are essential in order to correctly understand the process. Finally we found support in "negative", through the footprint in a Christian culture, for the idea of the community of celestial conceptions of the Celts over very large spaces and very long periods.

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