

# ASTRONOMY IN THE ORIGINS OF RELIGION

Cometan provides a full exposition in this Master's Dissertation for his theory of an Astronic tradition existing since the Upper Palaeolithic period of the Stone Age which he then asserts constitutes a new religious tradition based on astronomical belief and practice, distinct from and often acting as a precursor to the Abrahamic, Dharmic and Taoic religions.

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Crescent moon. Free to use image by Michael Starkie.

DO THE INTERACTIONS BETWEEN ASTRONOMY AND  
RELIGION, BEGINNING IN PREHISTORY, FORM A DISTINCT  
RELIGIOUS TRADITION?

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# Abstract

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Astronomy and religion have long been intertwined with their interactions resembling a symbiotic relationship since prehistoric times. Building on existing archaeological research, this study asks: do the interactions between astronomy and religion, beginning from prehistory, form a distinct religious tradition? Prior research exploring the prehistoric origins of religion has unearthed evidence suggesting the influence of star worship and night sky observation in the development of religious sects, beliefs and practices. However, there does not yet exist a historiography dedicated to outlining why astronomy and religion mutually developed, nor has there been a proposal set forth asserting that these interactions constitute a religious tradition; proposed herein as the Astronic tradition, or Astronicism. This paper pursues the objective of arguing for the Astronic tradition to be treated, firstly, as a distinct religious tradition and secondly, as the oldest archaeologically-verifiable religious tradition. To achieve this, the study will adopt a multidisciplinary approach involving archaeology, anthropology, geography, psychology, mythology, archaeoastronomy and comparative religion. After proposing six characteristics inherent to a religious tradition, the paper will assemble a historiography for astronomical religion. As a consequence of the main objective, this study also asserts that astronomical religion, most likely astrolatry, has its origins in the Upper Palaeolithic period of the Stone Age based on specimens from the archaeological record. The assertion is made that astrolatry is the original religion and fulfils the Urreligion theory. To end, the proposed characteristics of a religious tradition will be applied to Astronicism to ultimately determine whether it is a valid tradition that can stand alongside the established Abrahamic, Dharmic and Taoic traditions.

Key words: astral religion, astroanthropology, astroglyph, astrolater, astrolatric, astrolatrous, astrolatry, astromancer, astromancy, astromantic, astromorphism, astronality, Astronic tradition, Astronicism, Astronicity, astronomical religion, cosmocentrism, proto-astronomy, transtellation.

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# Introduction

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Whether emerging from the East or the West, religions and the traditions to which they belong, are structured upon a series of narratives that have developed over time through oral, pictorial, or written means. In this sense, the Astronic tradition is no different, except for the fact that the beliefs and themes belonging to it boast an even longer history than the other three major traditions, namely stretching back to prehistory.

The Cosmic Hunt, a family of cognate myths, holds an important role in the origins of the Astronic body of thought. Although this story may now be best circulated in its Hellenised form as the myth of Callisto, its origins far precede Greek mythology (d'Huy, 2016). The earliest known version of the Cosmic Hunt is the Western Siberian variant which begins with a group of hunter-gathers chasing an animal through the dark, dense forests of the Upper Palaeolithic period of the Stone Age. The animal is most often told to be an elk or, in the American tradition, a bear. Upon wounding the beast<sup>1</sup>, its soul transtellates<sup>2</sup> to the stars where it transforms into the constellation Ursa Major. There are many variants of this myth (Accurat Studio, 2016), but another has the hunters in the constellation with the bear represented by the handle of the Big Dipper (d'Huy, 2013, p93-106). Whichever version is read, it is the prehistoric origins of the original that elevate the myth to relevance in the origins of the proposed Astronic tradition.

The myth must have gained widespread circulation at least 15,000 years ago so that it may have diffused across the Bering land bridge (Berezkin, 2005, p79-100), placing its origins firmly in the Upper Palaeolithic. It may either have developed out of the supposedly widespread Palaeolithic bear cult, or was itself the catalyst for bear worship during the Upper Palaeolithic (Gurshtein, 1997, p264). However it originated, the very fact that this collection of astronomical myths exists is reflective of the concerns of the time. The myth seems to be attempting to answer questions about how constellations formed, the nature and processes involved in death, as well as the need to attach purpose and function to the firmament with a relevance to human life. This astronomical myth reveals to us the likelihood that Upper Palaeolithic peoples, and certainly those in the Neolithic, believed in some capacity that the stars were involved in the affairs of the afterlife, a belief which looks to have permeated further afield by the Bronze Age (see Figure 1)<sup>3</sup>.

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<sup>1</sup> Some variants of the myth says that the animal dies, others simply say wounded.

<sup>2</sup> Transtellation: a term coined in the paper to refer to the belief that upon death, the soul transmigrates to the stars.

<sup>3</sup> From the Nordic Bronze Age (c. 1700-500 BCE), Figure 1 depicts animals floating in the night sky with the stars alongside what look to be vessels. Each vessel seems to be carrying something, perhaps the souls of the figures depicted or animals, but the fact that these vessels are also depicted beside and in one case, above the stars, suggests the belief in transtellation (the idea that souls transmigrate to the stars upon death) was held by some, which is the underlying theme of the Cosmic Hunt myth.

Figure 1 – Bohuslän Stellar Depiction specimen

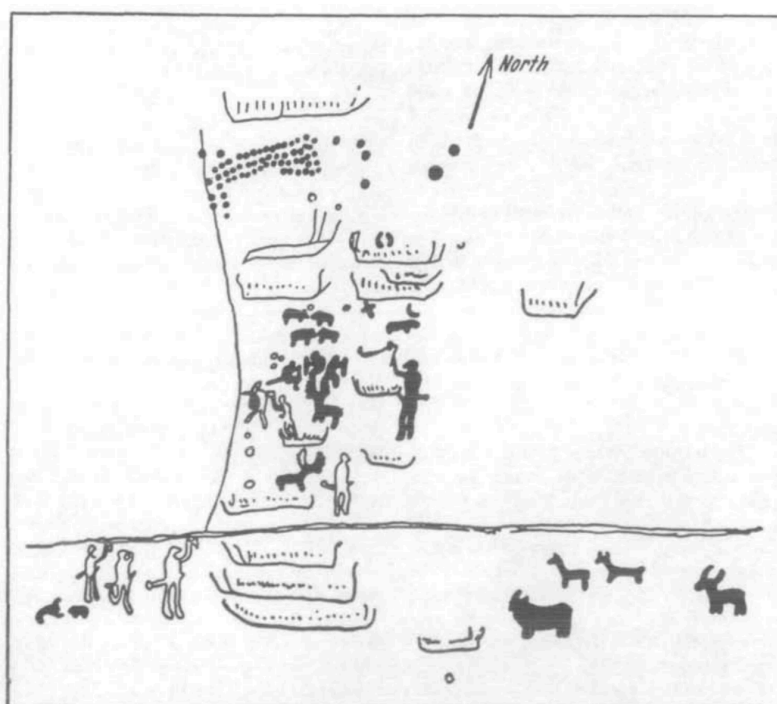


Fig. e. Rock-engraving from Bohuslän showing at right the Big Dipper. This engraving is of a peculiar interest because a number of constellation figures can be identified from the animals and men represented on the drawing. Very interesting is the occurrence of the Scorpion in the left lower corner.

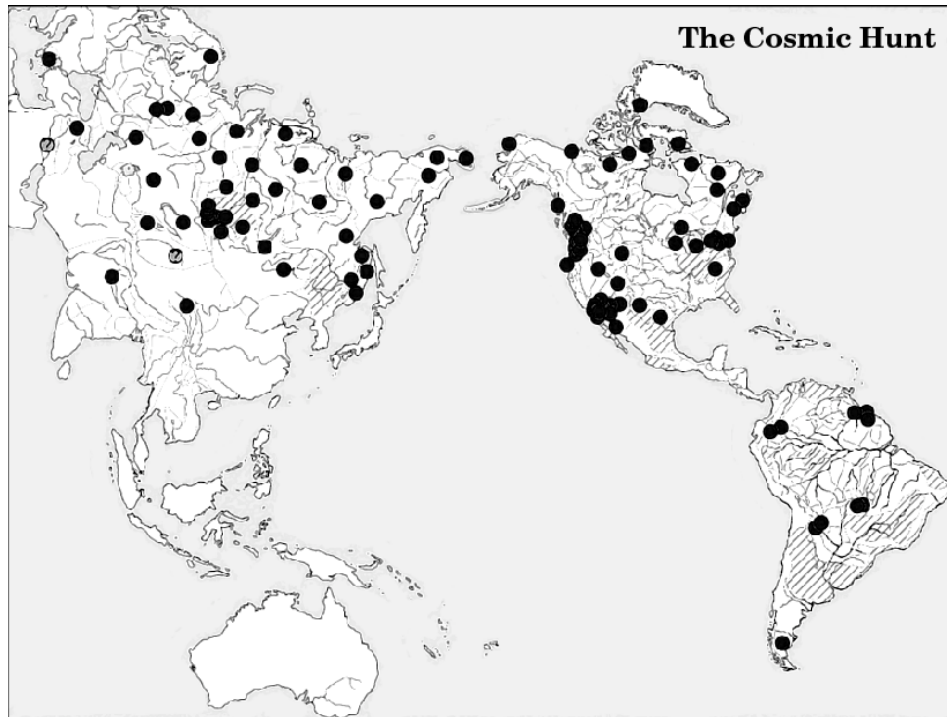
(Makemson, 1954, p163-171)

Ultimately, the existential questions posed by the Cosmic Hunt are clearly religious in nature; what role does the terrestrial play in relation to the cosmic? What involvement does outer space maintain in the process of death, if any? What relevance does the astronomical world have in answering questions about our own human existence? Despite the fact that Palaeolithic peoples likely did not ask these questions directly, their actions, both in the stories they told, the modes of their worship, and the art work they created, suggest that such mysteries were pertinent to them.

The Cosmic Hunt is not only a product of night sky observation, but is evidence of how these observations permeated the prehistoric cultural framework, of which myth-building was a central aspect (Ernits, 2010; Young, 1970, p389-413). Although not a directly religious practice today, storytelling is an important element in the earliest religious expression as it is upon a series of legends that many later, organised religions developed. With the Cosmic Hunt in particular, it is the astronomical content of the myth that make it relevant. This arises by the myth's concern for existential questions that other myths of the time, e.g. Aboriginal cosmology (Clarke, 2014, p2223-2230), are also credited with trying to answer (Upton, 2015). If religion itself is an attempt to comprehend existence, then the Cosmic Hunt signals an important milestone in the astronomical world's involvement in explaining how we as humans came to be and where we expect to go after death. The very fact that the Cosmic Hunt possesses different variants across

continents (see Figure 2) is an indication that many cultures of prehistory enjoyed spiritualising the night sky.

Figure 2 – Area distribution of the Cosmic Hunt myth in the Old and New Worlds. For shaded areas data is not available or is unprocessed.



(Berezkin, 2005, p79–100)

Similarly, the multiple traditions of astromancy around the world, and those of constellation-naming<sup>4</sup>, are further examples of the exoteric and universal nature<sup>5</sup> of night sky religion (Hamacher, 2018). The proposed Astronic tradition is not a simple tradition to delineate; its content is multi-faceted and wide-ranging, pervading different civilisations far separated by both land, sea and time as it saw fluctuations in popularity from era to era in different regions. It is a proposed tradition of religious beliefs, practices and mythology that have embraced inculturation throughout their long history, thus forming a multi-dimensional timeline<sup>6</sup>. As a result, its historical development isn't neatly packaged into a set of easily discernible artificial stories. Instead, its timeline possesses gaps, the nature of some of its beliefs and practices remain clouded, and the archaeological specimens denoting its popularity often present many more questions than answers.

<sup>4</sup> Constellation-naming and myth-building differentiated widely by location, such as the fact that the Aborigines possessed a different set of constellations (Southern Hemisphere) to interpret than those of the Inuits (Northern Hemisphere) (Becchio & Schadé, 2006, p75-77).

<sup>5</sup> Exoteric or open-source: denoting something that is able to be interacted with by many people in different cultures, leading to several different variants of a similar concept or practice e.g. the many traditions of astromancy seen in far-separated civilisations, or the eight-eight known variants of the Cosmic Hunt.

<sup>6</sup> Denoting the fact that the proposed Astronic tradition had developed to higher stages of maturity in some regions over others, for example, astrolatry was still being practiced in the Inca civilisation in the 1530s while it had been made almost extinct for centuries Europe by that time.

Despite this, there is a sense of authenticity found in such realistic incompleteness; an incompleteness that this, and future studies in astronomical religion, serve to demystify. However, no matter how far away these civilisations were from one another or how differently their cultures had developed, their enduring custom of placing outer space as the centrality of their religious and philosophical frameworks is the mesh that connects them together and it is upon this that the Astronic tradition is postulated.

Finally, the Cosmic Hunt can be understood as the precursor of many other astronomical myths<sup>7</sup>. Preceding and developing concurrently to the Cosmic Hunt are the practices of astrolatry and astromancy, both of which are original members of the proposed Astronic tradition. It is from these initial interactions with the night sky that humanity's long affair with the stars began, impacting the faith of many throughout history (Mahon, 2017). This faith manifests in wonderment for the night sky and is perhaps more relevant now than ever before as human space exploration becomes more realistic than fantasy.

### **Structure, aims and hypothesis of the study**

This study embodies a first attempt to delineate a clear prehistory for the interactions between astronomy and religion. Specifically, it endeavours to affirm the following hypothesis: when the history of astronomical beliefs and practices is compiled from both the Upper Palaeolithic and Neolithic periods<sup>8</sup>, this constitutes what is known in modern scholarship as a 'religious tradition'.

Underpinning this hypothesis are four postulations. Firstly, there exists a fourth major world religious tradition characterised by religiosity and spirituality derived from, or directed towards, the astronomical world. Secondly, that this tradition is the oldest archaeologically-verifiable religious tradition, even preceding the Dharmic tradition, which is often cited as the oldest (Das, 2020, p179-186). Thirdly, this tradition of religion began in the Upper Palaeolithic period of the Stone Age some 40,000 years ago and fourthly, this proposed religious tradition should be called the Astronic tradition, or Astronicism, in a similar style to the Abrahamic tradition, or Abrahamism.

Firstly, the study will focus on determining what constitutes a religious tradition and will provide a literature review exploring key authors and their findings which will be followed

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<sup>7</sup> Such as those concerned with the origins and structure of the Milky Way galaxy (Lambert, 1964, p157-158), the Star of Bethlehem (Tester, 1987, p111-112), the Seven Suns of Buddhist eschatology, the star Wormwood from the Book of Revelation, and the use of constellations for navigation (known as astration) (Chadwick & Paviour-Smith, 2017, p1-33, 101-122, 181-196) which gave way to the development of star lore as a branch of mythology (Allen, 2013, p123, 125, 209; Olcott, 2004, p3-20; Stargazers Astronomy, 2000).

<sup>8</sup> Due to the extensive evidence for widespread belief in astrolatry, astromancy and astral religion in recorded history, throughout ancient Egypt, pre-Columbian America, Babylonia (Pizzimenti, 2014, p151-161), Scandinavia (Schütte, 1920, p244-254), China (Kistemaker & Sun, 1997, p17, 74, 83, 96, 102, 157) and others, the exploration of the Astronic tradition in these ancient civilisations is far too extensive a topic for one single study (see Appendix 1). Therefore, this study will focus only on postulating the Palaeolithic and Neolithic origins and developments of the Astronic tradition, perhaps acting as a precursor to future studies that will focus on the ancient dimensions of the same tradition.



by a historiography for the proposed Astronic tradition. The historiography will begin by outlining Palaeolithic forms of astronomical religion, exemplified through specimen like rock art, stone carvings, and grave goods (Murray, 2014, p239-249). How these initial night sky observations developed into mature religious concepts will be explored including how organised manifestations of worship emerged. The study will culminate by justifying why Astronicism should be classified as a religious tradition. An evaluation will explore relevant debates from the philosophy of religion, followed by a final conclusion.

An important characteristic of this study is its interdisciplinary nature. Archaeological, palaeoanthropological and archaeoastronomical research are central to providing the earliest evidence for the proposed Astronic tradition. Joining this evidence together will be a host of philosophical and religious writings regarding the stars, acting as secondary, supplementary evidence. Furthermore, geography, philosophy, the history of astronomy and religious studies itself will be important to the critical analysis.

### **Rationale for the study**

There is a lack of coherence in scholarship for an astronomical religious tradition. This study's aim is to establish a historiography for the proposed tradition with its eventual acceptance in scholarship a central goal. Delivering clarity for what constitutes the proposed Astronic tradition and providing evidence of its prehistoric origins by collating a literature is central to the rationale. For the production of new knowledge to take place, there should be a gap in the existing literature. Although works have been written on the topic of the origins and history of both astronomy and religion, a single work has yet to combine these histories into one account; this lacuna is filled by our study.

Another role for this study is to be an instigator for future research. There is a growing relevance for understanding how astronomy and religion intersect as many questions regarding outer space are directly impacting the doctrines of world religions. These questions include whether there exists intelligent life on other planets as well as the ethics of space exploration. As the space industry grows (Loff, 2019), these questions will become more prominent which reiterates the importance of this study in understanding the relationship between astronomy and religion.

### **Literature Review**

The literature for archaeoastronomy, or astro-archaeology (Aveni, 2019, p2; Brown, 2003), is constantly expanding, therefore only works specifically addressing astronomical religion are reviewed. Identified are ten core authors writing in various academic journals<sup>9</sup> who

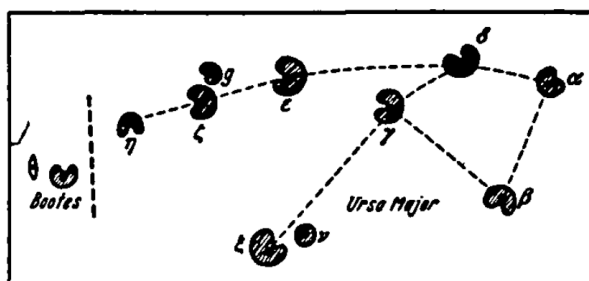
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<sup>9</sup> Alphabetical list of key academic journals for this study: Cambridge Archaeological Journal, Current Anthropology, History of Religions, Human Nature, Irish Astronomical Journal, Journal of Near Eastern Studies, Journal of Religious History, Journal of the American Academy of Religion, Mediterranean Archaeology and Archaeometry, Nature, Popular Astronomy, Quaternary International, Sky & Telescope, The Harvard Theological Review, The Journal of Bible and Religion, The North American Review, Theology and Science, Journal for the History of Astronomy.

explore astronomical religion and it is upon these works that rests the validity of the proposed Astronic tradition beginning in the Upper Palaeolithic. An initial criticism is that four out of the ten authors produced their works on astronomical religion during the 1940s and 50s. This demonstrates how the research pool needs reinvigoration with updated writings on key specimens.

Maud Worcester Makemson's 1954 work *Astronomy in Primitive Religion*, which builds upon previous original research by Marcel Baudouin and Knut Lundmark<sup>10</sup>, demonstrates that astronomical religion has its origins in the Upper Palaeolithic (Bell, 2007; Churchwood, 2000, p160-165; Vassar Encyclopedia, 2008; Wayne, 2011, p650). Makemson's research is distinctive because she directly links her findings to astronomical religion (Makemson, 1954, p163-171). She points out key features of religiosity amongst Upper Palaeolithic peoples and associates these with night sky observation, including the carving of accurate star patterns into fossils and amulets. Makemson is mainly discusses astrolatry as a religion (Tanzella-Nitti, 2002). This is the most likely form of astronomical religion to have existed in the Upper Palaeolithic<sup>11</sup> due to its relative simplicity, whereafter it developed into the more complex systems seen in Babylonia and Ancient Egypt (Grant, 1984, p88-89; Walker, 1993, p59-136). If Makemson's proposition is accurate that the cup marks<sup>12</sup> resembling Ursa Major on a Palaeolithic amulet were completed by religious motivation (see Figure 3), it makes sense that the engraver would spend the time to ensure that each star is assigned its own brightness to achieve accuracy in both position and appearance.

Figure 3 – Great Star Amulet specimen



**Fig. a. Representation of stars in Ursa Major and Bootes on an amulet from the stone-age. The different size of Mizar and Alcor is noteworthy. The form of the Big Dipper suggests a rather high age for the amulet.**

(Makemson, 1954, p163-171)

<sup>10</sup> Swedish astronomer Knut Lundmark produced one of the most comprehensive and original works on prehistoric astronomy. *Luminosities, Colours, Diameters, Densities, Masses of the Stars* (Lundmark, 1932, p210-573) is one of two major works, the other being *La Grande Ourse et le Phallus du Ciel* (Baudouin, 1921, p301-308) upon which Makemson has based her own research.

<sup>11</sup> The concept of "worship" is something that other archaeologists and historians of religion have dated to the Upper Palaeolithic, although disputes continue regarding the validity of the other major form of religion proposed for the time; Palaeolithic bear worship (Hayden, 2018, p118-123).

<sup>12</sup> Cup marks are small circular depressions engraved into stone walls and rocks that are believed by some academics to depict constellations. They have been found throughout Europe and different collections of them are dated to both the Palaeolithic and Neolithic periods (Bednarik & Lewis, 2010, p1-128).

If we place ourselves in the engraver's position, we can understand that if they worshipped what they were engraving, they would be careful not to make any mistakes, nor would they want to upset the stars who were believed to influence the outcome of night-time hunts. For what other purpose would the engraver wish to spend their time carving stars on the amulet so accurately? For decorative purposes perhaps, or as the earliest form of secular astronomy, but it is more likely that a religious motivation was at play here and in those specimen similar to it (see Figure 4) due to religion being closely intertwined with the natural environment (Dhavalala, 2013). The engraver was not careless in their project to depict the constellation which is demonstrative of a deep concern for the stars.

Figure 4 – Cassiopeian Man & Dog specimen

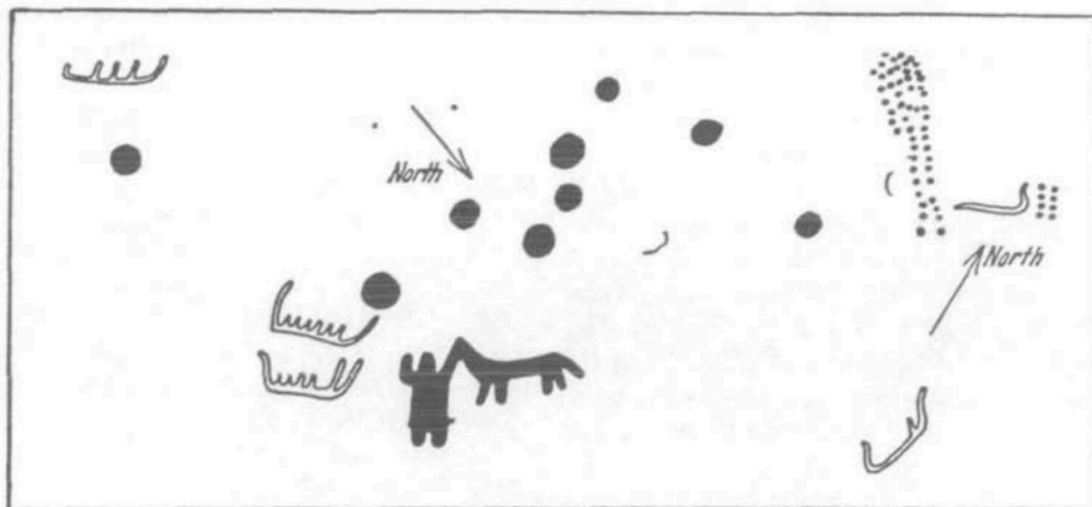


Fig. d. Rock-engraving from Bohuslän, Sweden, showing the constellation Cassiopeia.

(Makemson, 1954, p163-171)

Makemson also writes of a “great wealth of archaeological material having an astronomical basis” (1954, p163). This highlights the need for wider research<sup>13</sup> beyond the scope of this study to interpret further archaeological specimen through an “Astronic” lens to determine whether they possess religious substance. From Makemson’s work, we can deduce that there are three main types of prehistoric objects that were engraved or decorated with star patterns; rock carvings, pictorial depictions on cave walls, and amulet or fossil engravings. Makemson goes on to briefly mention a fossil of a silicified sea-urchin that depicts the Big

<sup>13</sup> Makemson briefly mentions the existence of the oldest cult on archaeological record, which she refers to as the worship of the North Star and which she proposes still existed in the 20th century, although her work in this area seems incomplete. Makemson’s discussion of the North Star cult leads us to consider its medieval descendants; the Sabians (Sabaism) and the Mandaeans (Henninger, 1999, p109-129).

In modern religious scholarship, both the Sabians and the Mandaeans have been classified as part of Gnosticism and have more recently been associated with Theosophy (Blavatsky, 2009, p392, 402, 448; Blavatsky, 2010, p1-16), although they may equally be classified as part of the Astronic tradition due to their clear practice of astrolatry and astromancy (Elukin, 2002, p619-637; Muehleisen, 1849, p424). The Sabians were mentioned in the Quran and are understood to have been pre-Islamic Arabian practitioners of astrolatry who eventually converted to Islam (Buck, 1984, p171-186; Knowles, 2006). Their inclusion as part of the Astronic tradition is an area of research that demands its own separate discussion from that of this study.

Dipper asterism and which she deduces as having served as an amulet during its time to infer a religious motivation for its creation (see Figure 5).

Figure 5 – Echinus Big Dipper specimen

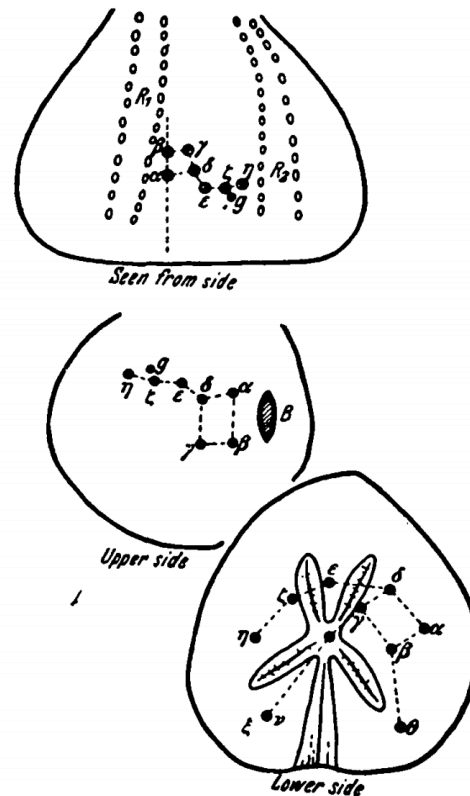


Fig. b. Representation of the Big Dipper on a fossil and silicified sea-urchin (Echinus) from the stone-age (Baudouin).

(Makemson, 1954, p163-171)

Upon their abandonment of nomadic life, early Neolithic peoples settled in permanent villages which prompted their dependence upon agriculture for subsistence, but the ability to anticipate the rainy season for seeding crops became imperative as a result. By a system of trial and error that likely saw many failures in harvest, these peoples learned how to use the annual motion of the Sun by observing the rising of the stars. In this, we see evidence of utilitarian astronomical religion advancing concurrently with the Agricultural Revolution. However, understanding how the stars, the Sun and the Moon can be utilised likely took hundreds of years to perfect. It isn't surprising that as a result of this dependence on the stars, astrology saw increased adoption during the Neolithic<sup>14</sup> which affirms the role of utility as integral to astrology's acceleration. It is a quality of human nature that we worship that which we depend upon and no different was this for the

<sup>14</sup> This gave astrology chance to become deeply entrenched in the religious landscape by the time the early civilisations emerged which offers a solution as to how and why astrology and astromancy had become so widespread in Babylonia, Ancient Egypt and Ancient China.

peoples of prehistory. The stars were their tools for survival so they worshipped in the hope that their astral superiors would not suddenly disappear which would have been fatal for these earliest farmers<sup>15</sup>. As the worship of stars developed out of wonder and utility for the nocturnal sky, it only makes sense that heliolatry (or sun worship) and selenolatry (or moon worship) would soon follow as further dimensions of astronomical religion. Makemson acknowledges this when she writes<sup>16</sup>:

*The usefulness of the moon to early peoples, aside from its welcome illumination, lay in its conspicuous change in size and shape from one night to the next, which provided a way of counting off the days of the month and so formed the basis of the first primitive calendar.*

Makemson continues to elaborate on the development of astronomical religion by describing its role in the origins of esotericism; a class of people that possessed undisclosed knowledge regarding the events of both the diurnal and nocturnal skies. Makemson suggests that such knowledge was “guarded jealously” and was “surrounded with mystery and magic”.

Finally, it is easy in this area of research to fall into the fallacy of presentism; the assumption that prehistoric peoples possessed equal astronomical knowledge and awareness to present times. This is why empathy remains central to such research as the researcher must place themselves into the position of prehistoric people to imagine how they perceived the nocturnal sky. In order to avoid presentist thought, remembering that Palaeolithic peoples viewed the entire astronomical world as supernatural is central (Clottes, 2006, p133-148). When they looked up to the stars, these peoples saw gods and heavens so although we may not today attach religious connotations to activities like navigation or harvesting by the stars, the distinction we make between the mundane and the supernatural didn't exist in prehistory. The line between the religious and the secular likely overlapped as is seen by our postulation that religion developed as a result of astronomical utility. Overall, Makemson's work provides the clearest archaeological evidence for an Astronic tradition in the Upper Palaeolithic while her bibliography highlights

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<sup>15</sup> We see this form of astrolatry in use as a result of agriculture in the Greek poet Aratus' long poem called *Phaenomena*. Extract: "From Zeus let us begin . . . for we are also his offspring; and he in his kindness unto men gives favorable signs . . . he tells what time the soil is best for the labor of the ox and for the mattock, and what time the seasons are favorable both for planting trees and for casting all manner of seeds. For he it was who set the signs in heaven, and marked out the constellations, and for the year devised what stars chiefly should give to men right signs of the seasons, to the end that all things might grow unfaillingly."

Aratus describes the benevolence of the sky god Zeus in placing the stars in the sky for the purpose of guiding mariners and for the tillers of the field. The fact that Aratus was writing about the utility of astronomy integrated with religion in 276 BCE demonstrates that such ideas had been handed down by many generations prior to him, further signifying the prehistoric origins of such beliefs.

<sup>16</sup> There is also another section of her work wherein Makemson writes of the Mesopotamian Moon-god and "how it came to be worshiped as the bestower of counting, numerals, the alphabet, the art of writing, literature and finally all wisdom."

many other people groups and time periods with potential for inclusion into our proposed Astronic tradition<sup>17</sup>.

In *Astronomy and religion*, Louise E. Ballhausen executes her theory of the prehistoric connection between astronomy and religion in a more nuanced way than the directness of Makemson. Ballhausen instead recounts various elements of Christianity and Hinduism to suggest the influence of astronomy on the development of world religion (Ballhausen, 1940, p418-426). Ballhausen also discusses the interactions between astronomy and religion in the context of Western history, including the dilemmas of Copernicus and Galileo with the Catholic Church as well as postulating that the role of the Bible is not to stand against scientific discovery.

Aidan Patrick Fitzgerald, an Irish astronomer whose 1951 work *Some Aspects of Primitive Astronomy*, is instrumental in elaborating on the earlier works of Ballhausen and Makemson (Fitzgerald, 1951, p197-212). In contrast to Makemson, Fitzgerald's work focuses on how astronomy developed in the ancient world, providing this study the opportunity to consider how prehistoric mythologies and religious systems developed following the settlement of Europe and the Levant. Fitzgerald's work is integral to understanding how the developments of religion in prehistory impacted the later ancient world, although that period deserves its own later study.

Alexander Marshack's research into Aurignacian culture is relevant to this study, especially as it revealed the world's oldest lunar calendar (see Figure 6) (Soderman, 2012) and other astronomical symbolism (The Times, 2005). Alongside Makemson's work, Marshack provides further archaeological evidence for the existence of an Astronic tradition during the Upper Palaeolithic. Of importance is Marshack's discovery of the first lunar calendar dated to 32,000 years ago (Holdaway & Johnston, 1989, p3-11).

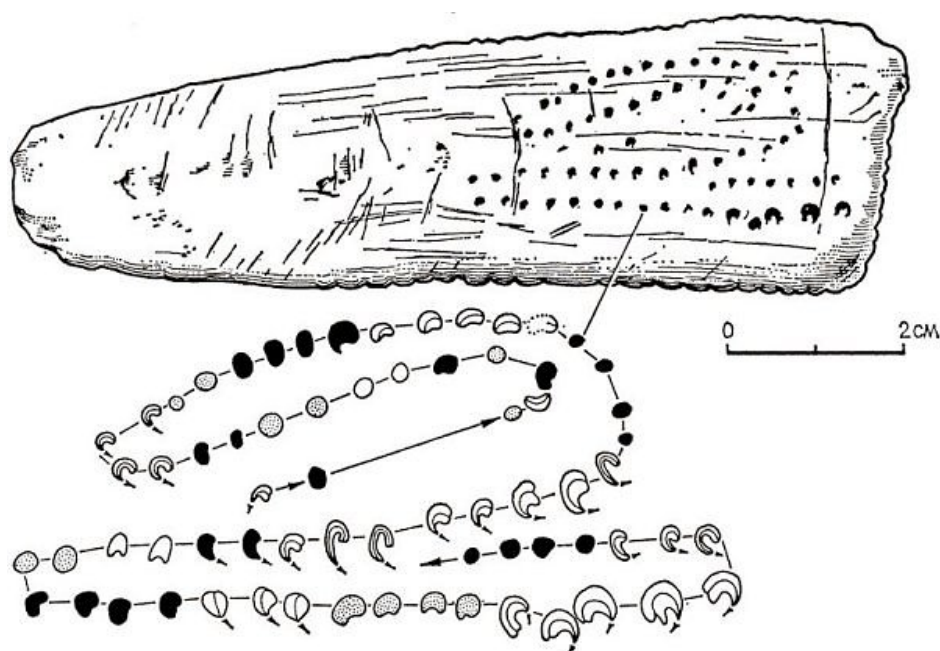
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<sup>17</sup> In her bibliography, Makemson noted the work of Lewis Spence whose focus was the origins of Druidism and whose connection to astronomy to influence their own beliefs about nature worship likely highlights a further dimension of the Astronic tradition (Spence, 2010, p11, 21). Other inclusions in need of further specific studies were the Mandaeans (Drower, 1937), the Egyptians (Lockyer, 1894), and the Mesoamericans (Nuttall, 1901). Sabaism is also understood to have been either a direct precursor to Mandaism or a distant ancestor of it (Lupieri, 2001, p38-45, 73). In his 2015 work, Bauschke (p350-351) suggests that Abraham's confrontation with practitioners of astral religion mirrors that of Muhammad's confrontation with the astral religion of the pre-Islamic Meccans.

We witness an example of this with Zoroastrianism which has been variously categorised as an Iranian religion (a distinct group of religions originating from Ancient Persia) as well as a Middle Eastern religion (an artificial category that classifies both Abrahamic and Iranian religions into one group). In her same work, Makemson briefly mentions Zoroastrians as one of many ancient people groups whose association of the northern stars with darkness, death and the underworld and their belief in Ahriman's demons rushing down from the north has been linked to the influence of stars on Zoroastrian religious activity.

Furthermore, the Roman mystery religion of Mithraism of Persian origin (Beck, 2002; Beck, 2004, p31-54; ReligionForBreakfast, 2017) which centred on the god Mithras (Betz, 1986, p87-89) as well as parts of the Aztec religion, as discussed by Makemson, are further additions to the list of sects showing potential for being classified as Astronic. According to Praet (2011, p285-307), both astrolatry and astrology were widespread throughout the reign of the Roman Empire.

Figure 6 – Aurignacian Lunar Calendar specimen



(Marshack, 1991, p57-80)

William Thynne Lynn's (Royal Astronomical Society, 1912, p249-251; Schmadel, 1911, p374) 1951 work *From Astronomy to Religion* captures a modern reflection on how astronomical religion explores humanity's existential position which links to Karl Jaspers' conception of religion (see Page 47). In this work published posthumously, Lynn describes astronomers as contemplators and characterises their work as putting "them in close communion with their Creator" (Lynn, 1951, p238-239). The religious inferences throughout Lynn's work are emblematic of astronomy's relationship to religion. Lynn's work, like Ballhausen and Fitzgerald, contributes a personal, philosophical encounter between his love for astronomy and his faith. It is this kind of religious astronomy that is central to the identity of the proposed Astronic tradition (Arnold, 1894, p404-415).

Genevieve von Petzinger's specialty in Upper Palaeolithic cave art elevates her work in our study because this period is central to explaining the origins of the proposed Astronic tradition. Her discovery of several sites featuring both accurate constellations and general star patterns has added to the work of Makemson and others<sup>18</sup> (Petzinger, 2016, p37-54, 229-230, 241). Of interest is Petzinger's lecture *The Roots of Religion* in which she explains her findings specific to the Middle and Upper Palaeolithic periods (Petzinger, 2012).

British historian John North published the book *Cosmos: An Illustrated History of Astronomy and Cosmology* as a treasure trove of credible research into the history of

<sup>18</sup> Two further writers whose works will complement the core authors include Zelia Nuttall for her work in Mesoamerican cultural astronomy and Ethel Drower, for her work on the Mandaean (BBC News, 2008), a gnostic sect with connections to ancient astronomical faiths like Sabaism (Knowles, 2005, p623).

astronomy and religious belief ranging from prehistory to the civilisations of Ancient Egypt, Babylonia, and the Maya (Rogers, 1998, p9-28). North is resistant in associating all prehistoric and ancient astronomical activity as possessing religious character. This is despite the fact that North cannot avoid referencing astral religion throughout his work. It is North's skepticism that presents a positive attribute because although at times he writes dismissively of religious belief and practice, the fact that even he couldn't avoid mentioning the integrality of religion with astronomy is a testament to their intertwined origins. North provides a comprehensive historiography for astronomy and like Makemson and Marshack, provides us with further prehistoric archaeological specimens supporting the postulation of an Astronic tradition.

Jonathan Powell's work *From Cave Art to Hubble* explores the history of astronomy with religion extensively addressed (Powell, 2019, p9-16, p17-28). Powell's work focuses on Upper Palaeolithic petroglyphs and is a voice of support for the notion that religiosity was integral to the motivation and early development of astronomy, mentioning specifically the Altamira and Lascaux caves in Spain and France respectively. Meanwhile, Emília Pásztor specialises in late Prehistoric Europe, specifically prehistoric sky lore and cosmological notions; topics that sit within the auspices of the proposed Astronic tradition. Pásztor's recent papers have explored prehistoric rock art and she has interpreted these as possessing religious motivation with connection to the development of a complex Palaeolithic sky lore (Pásztor, 2011, p1-6; Pásztor, 2011, p1-19; Pásztor, 2015, p1-20).

Finally, archaeoastronomer Michael Rappenglück is the key author publishing most frequently on the topic of prehistoric and ancient astronomical religion. He regularly postulates the notion that astronomical observation was closely intertwined with the religious beliefs of Upper Palaeolithic peoples as demonstrable through astroglyphs<sup>19</sup>. His comments on a wide range of archaeological specimens allow this study to compile sufficient evidence for the proposed Astronic tradition having prehistoric origins. Rappenglück publishes papers exploring aspects of prehistoric and ancient astronomy by both theme (contents of the specimen) and geography (addressing prehistoric astronomy in Europe, Mesoamerica, and Asia). His research into astronomical symbolism of the Stone Age is the most diverse and widely published of any academic (Rappenglück, 2014, p466-474; Rappenglück & Vit, 2016, p7-15). Rappenglück has been consistent in his research of prehistoric astronomy and religion and explores an array of topics<sup>20</sup>.

Rappenglück's work expands on the basic necessity of archaeological evidence by exploring astronomical symbolism and related cultural traditions. His work is essential in gaining the elaboration needed to expand Astronicism into a valid tradition that shares the

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<sup>19</sup> Astroglyph: a term coined by this paper to denote a type of petroglyph or prehistoric painting featuring astronomical phenomena.

<sup>20</sup> Including the prehistoric cosmovision (Rappenglück, 2009, p107-115; Rappenglück, 2009, p145-150), the symbolism of celestial deer (Rappenglück, 2008, p62-65), the celestial water world (Rappenglück, 2014, p293-305), and the cosmic symbolism of turtles and tortoises (Rappenglück, 2006, p223-230).



same extent of cultural contents as the other major traditions. However, Rappenglück also explores prehistoric cave art (Rappenglück, 2005, p241-249) and comments on how Palaeolithic and Neolithic peoples perceived and interacted with the nocturnal sky (Rappenglück, 2002, p270-277). Finally, his more recent works (Rappenglück, 2016, p1-10; Rappenglück, 2018, p323-331) have transcended into broader philosophical discussions retrospective of his findings and seem to be calling for the establishment of an astronomical religious tradition which this study seeks to propose.

Overall, each of these core academics work well in providing the basis for this study as each approaches the topic of astronomy and religion using different methods. Makemson, Marshack and Petzinger provide the archaeological evidence while Ballhausen provides a comparison of astronomical religion with other religions and advocates for the notion of affinity between astronomy and religion. Fitzgerald contributes a history of the development of astromancy and Lynn's words on the profound effect of astronomy on his worldview demonstrates the symbiotic nature of astronomy and faith. Rappenglück, Powell and Pásztor offer a rich collection of commentary on prehistoric and ancient specimens while John North's historiography of astronomy further asserts the connection between astronomy and religion.

# Traditions of Religion

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Understanding what a religious tradition constitutes is integral to our proposed theory of an Astronic tradition. However, equally mentioned throughout this study is the term “religion” itself. In proposing an astronomical religious tradition, it is important to give a definition of religion which this study can base its findings upon. Defining religion, however, is notoriously problematic due to the difficulty in devising a concise definition that is able to encompass the contrasting characteristics of different religious traditions (Durkheim, 1915, p23-47; Platvoet & Molendijk, 1999, p3-15, 23). The definition of religion provided by Rodney Stark, however, is the definition used when the term “religion” is invoked in this study (Segal, 2006, p50):

*“Religion consists of explanations of existence based on supernatural assumptions, including statements about the nature of the supernatural and about ultimate meaning.”*

Although this definition may not reflect the Astronic tradition’s entire concept of religion<sup>21</sup>, its broadened nature does allow for a wider set of systems to be classified as “religions”, some of which likely do not assimilate to the Western religious framework. Perhaps the very reason a universal definition of religion does not yet exist is because there are different religious traditions that do not conform to the belief systems of their fellow traditions (Fisher, 1990, p164-165, 174-175; Northrop, 1946, p412).

It is understandable that Western academics would attempt to classify Dharmic and Taoic religions according to an Abrahamic framework of religion. However, problems arise in assuming that religions of one tradition should conform to the definitive framework of another. It is in this instance that we see the importance of religious traditions in religious studies as they allow traditions of religion to exist independently. However, coming to a consensus on what constitutes a religious tradition must be achieved when attempting to establish a new tradition.

## **What is a religious tradition?**

Scholarship of religion attempts to understand the historical and contemporary context of religious belief and practice. An important part of gaining this understanding comes from

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<sup>21</sup> Exploring what an astronomical religion is and how it differs in both characteristics, in practice, and in form from other religions and how the classification of an astronomical religion may conflict with certain definitions of religion itself is an extensive area that this study has identified, but does not have the capacity to address further.

the scholarly classification of religions<sup>22</sup> (Adams, 2018). It is from this need for classification that the term “religious tradition” emerged following the commencement of the Western academic study of religion in the mid-19th century (Gill, 1994, p965-975; ReligionForBreakfast, 2017). A religious tradition is a collection of religions that share a common theological, thematic, geographic, genealogical, or temporal basis.

The three major religious traditions currently accepted by scholarship are the Abrahamic<sup>23</sup> (Mohd Nasir, 2015, p1-17), the Dharmic<sup>24</sup> (van Der Veer, 2001, p7279-7282), and the Taoic<sup>25</sup> traditions (Reader, 2004, p3947-3953). A prominent characteristic of these traditions is that each has developed alongside major civilisations such as the Taoic religions alongside the Chinese civilisation, the Dharmic alongside the Indian civilisation, and the Abrahamic alongside the Western and Islamic civilisations<sup>26</sup>. Beyond these, there are minor traditions which either did not integrate themselves into any major civilisation, are classified as new religious movements, or have now become largely extinct<sup>27</sup>.

There is no authoritative body that decides what a religious tradition consists of<sup>28</sup>. Such a decision is generally made across years of scholarly consensus depending on sufficient evidence and the gradual popularisation of the term ascribed to the tradition. The fact that there does not yet exist a definitive set of characteristics of a religious tradition is likely due to the infancy of the Western academic study of religion relative to the age of religion itself. However, it is part of this study’s objective to clarify such characteristics, but understanding why we need religious traditions is also important.

### **Why are religious traditions important?**

A number of reasons arise as to why religious scholars began focusing on the systematic classification of religions, perhaps the most prominent resembles an attempt to better understand how religions are interconnected. Understanding that certain religions share similar origins, beliefs and histories has real-world benefits, not least of which to

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<sup>22</sup> Another example of religious classification is the category of “world religions” proposed by Ninian Smart (Smart, 1998, p10-29).

<sup>23</sup> Consisting of Judaism, Christianity, Islam, the Baha’i Faith, and other smaller religions like Rastafarianism and Druze.

<sup>24</sup> Consisting of Hinduism, Buddhism, Sikhism, and Jainism.

<sup>25</sup> Consisting of Confucianism, Taoism, Shinto, Chinese folk religion (or Shenism), Korean shamanism, Bon, Vietnamese folk religion, as well as new movements like Tenrikyo, Yiguandao, Weixinism, and Falun Gong.

<sup>26</sup> We also see this characteristic in relation to the Astronic tradition which developed alongside many, now extinct, civilisations, including ancient Egyptian civilisation, the Babylonians, the Mayans, the Aztecs, the Chinese, and the Incas (North, 2008, p3-80).

<sup>27</sup> This section explores the Abrahamic, Dharmic and Taoic religious traditions. Also existent are minor traditions including Iranian/Persian religions (e.g. Zoroastrianism), Traditional African religions, Indigenous religions (Native American religion), Spiritualist religions (e.g. Spiritualism, Spiritism) and new religious movements (e.g. Scientology).

<sup>28</sup> Although there does exist ecumenical organisations such as the World Council of Churches (Smith, 1963, p182-191), each individual Christian denomination is responsible for distinguishing between Christian orthodoxy and heterodoxy.

harmonise a divided world by promoting ecumenism among similar faiths (van der Kooi, 2012, p240-253). Understanding that Christianity, Judaism and Islam are part of the Abrahamic tradition can help to promote religion as a unifying force instead of a divisive one (Blidstein et al., 2015, xiii-xvii). Studying religious traditions provides historical context to beliefs and practices and explains how and why they emerged. This approach is likely the best way of ensuring future mutual respect between religious groups and the irreligious. Religious traditions also allow for an overview of world religion itself; they encompass and acknowledge the histories, beliefs, and practices of multiple religions, yet unite them according to their origins, their shared worldview, and their cultural ties.

Oppositely, religious traditions have garnered some criticism. Berger (2012, xiii) believes that religious traditions oversimplify the complexity and diversity of individual religions by conveniently glossing over the incompatibilities between them. Another argument against religious traditions sees their attempt to unify religions as a false reality, especially in some multi-faith societies where minorities suffer persecution (Hellyer, 2017). According to Hughes (2012, p3-4), the idea that Abrahamic religions are unified theologically reflects neither their contemporary, nor their historical interactions. These critiques highlight the ongoing debate as to the usage of the religious traditions apparatus, but yet, there is no consensus on what a religious tradition constitutes.

### **How are traditions formed and classified?**

By determining a set of characteristics inherent to religious traditions, clarity is given as to what a newly proposed tradition would need to consist of to be acceptable. The classification of religions into different traditions is a recent practice as demonstrated by the fluidity regarding what constitutes a tradition. For example, the use of the collective term Dharmic religions (Frawley, 2002, p107-114) began in the 1990s by Frawley and Malhotra while the classification of Abrahamic religions (Mohd Nasir, 2015, p1-17; Robinson, 1991, p182-205) is thought to have originated in the 1949 work of Louis Massignon (Griffith, 1997, p193-210). The term “Taoic religions” is even more recent in origin and may be used as an alternative to “East Asian religions”. A rise in interest for classifying Eastern religions into the Dharmic and Taoic categories was likely a result of orientalism, signified by people like Alexandra David-Néel who sought to explore these “exotic” Far Eastern faiths (Beisner et al., 1998, p1-98). Each of these terms originated within the last eighty years which affirms the infancy of the religious traditions concept.

Another issue is the word “tradition” itself which is still used by some in reference to a particular religion like Islam or Christianity rather than used exclusively to reference collections of religions. These convolutions not only plague religious traditions, but other areas of religious studies<sup>29</sup>. However, turning back to the proposed Astronic tradition, the fact that the classification of religions remains in its infancy indicates the viability for another tradition to be added to the group. With the Western academic study of religion

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<sup>29</sup> For example, the definition of religion and the origins of religion remain convoluted and without consensus.

only taking up popularity in the 19th century, there exists a gap for the introduction of other distinct traditions that do not fall into the Abrahamic, Dharmic or Taoic categories. This paper identifies six characteristics inherent to all three of these traditions that form a theory for what constitutes a religious tradition.

## **Six characteristics of a religious tradition**

The first and most significant hallmark of a religious tradition is its extensive history<sup>30</sup>. Each of the established religious traditions possess histories millennia in length with the Abrahamic religions roughly 4,000 years beginning with Abraham's covenant with God (United Religions Initiative, 2020), the Dharmic religions began with Vedic religion approximately 4,600 years ago in the Indus Valley civilisation<sup>31</sup> (Wright, 2009, p1), and Taoic religions formed as far back as 4,500 years ago with the inception of the Tao concept (Berling, 2020; Fowler, 2005, p200-201; United Religions Initiative, 2020). What can be identified here is that a religious tradition needs its history to span an extensive period, at least a millennium, as is the case for these established traditions.

Secondly, each tradition of religion seems to be linked together by one or more of five commonalities: genealogical<sup>32</sup>, geographic, temporal, thematic, and theological. A theological commonality is a shared theological position (e.g. monotheism, polytheism); a geographic commonality is a shared origin in a specific region or culture. Thematic commonality arises when religions share concepts, but approaches to those concepts differ between individual religions; temporal commonality is a shared historical lineage or period of origin. Finally, genealogical commonality, the rarest of the five, is the instance in which religions are connected through ancestry wherein founders and figures of religions gain legitimacy through their blood connections. The Abrahamic faiths are mainly united in their monotheism and their common genealogy descending from Abraham. The Dharmic faiths are instead united by theme in that they share beliefs in concepts such as karma and the cycle of samsara, but are also tied geographically as all the Dharmic faiths formed on the Indian subcontinent. Finally, the Taoic faiths are more united by their shared geographic and cultural origins in East Asia than any other factor. For example,

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<sup>30</sup> This characteristic marks distinction between a major religious tradition such as the Abrahamic and the Dharmic from a minor tradition such as Spiritualistic or Iranian.

<sup>31</sup> Astronicism may also have seen some popularity in the Indus Valley (Ashfaque, 1977, p149-193; Parpola, 2020).

<sup>32</sup> Not only are the Abrahamic religions unified by their eponymous patriarch but they also possess a unique characteristic of genealogical commonality. Since establishing his covenant with God, the blood descendants of Abraham have played an important role in this religious tradition with successive religions persistent in their intentions to connect their founders to Abraham genealogically. An example of this is seen by St. Matthew's account of the patrilineal genealogy of Jesus, connecting the son of Joseph to the patriarch Abraham over the course of 41 generations (Fairchild, 2019). Meanwhile, Muhammad is understood to have been a descendant of Abraham through the lineage of Abraham's son Ishmael, thus connecting the founder of Islam to Abraham once more (Geni, 2011; Wheeler, 2019). It seems that connecting the central figure in genealogical terms to Abraham is taken as a sign of legitimacy as this tradition was most recently revived by the Baha'is in their claim that their founder Baha'u'llah was himself a descendant of Abraham (Abdu'l-Baha, 1984, p247).

Shinto shares little in common theologically and thematically with Taoism or Confucianism although it does share a geographic origin with them<sup>33</sup> (Aston, 2019, p4).

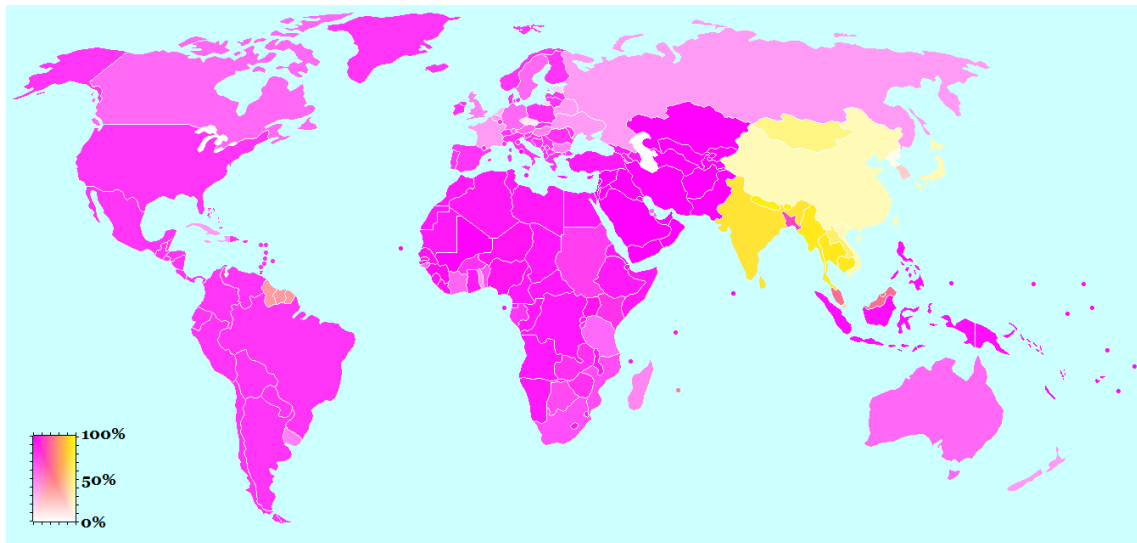
The third characteristic of a religious tradition is a common worldview held by all members that encompasses a diverse mixture of beliefs and practices found across the religions of the tradition. For example, although Judaism, Christianity and Islam hold vastly different beliefs, such as different founders and prophets, different practices, and divergent cultures, they are classified as Abrahamic due to their shared monotheistic worldview (The Maimonides Foundation, 2013). The Dharmic faiths instead possess a worldview based on karma, escaping the cycle of samsara, and the achievement of moksha (Lipner, 1994, p1-26). Therefore, although these Indian religions share different individual beliefs (e.g. Buddhist belief in non-theism and Hindu belief in polytheism), are practiced amongst different ethnic groups (e.g. Sikh ethnic group distinct from the Jains), and have experienced enculturation into non-Dharmic cultures (e.g. Buddhism's transmission into China), they are linked together by their shared concepts (Flood, 2009). However, they each hold different approaches to understanding those concepts such as how Buddhism, Jainism and Hinduism differ in their approaches to achieving moksha. This demonstrates how the Dharmic religions are united thematically. These religions agree that karma, samsara, moksha and reincarnation exist, but they differ on how they are to be approached and achieved (Sharma & Sherma, 2008, p1-8, 96, 108, 239). This shared worldview characteristic is seen in the proposed Astronic body of thought as the astronomical world is given the central focus, referred to as cosmocentrism (Dick, 2018). Similarly, Astronic religions possess varying approaches to the night sky such as astrolatry's worship of the stars and astrology's divination by them.

The fourth characteristic is that each of these traditions stem from a common geographic origin and possess an extensive distribution. All the established traditions originated in the same regions; Abrahamic religions originated in the Middle East, Dharmic religions on the Indian subcontinent and Taoic religions in East Asia. Each of these traditions are transcontinental in scope with the Abrahamic tradition spanning Europe, Asia, the Americas and Africa, the Dharmic tradition spanning much of Asia and the Taoic tradition stretching across East Asia and South East Asia. Widespread transcultural distribution is therefore an integral characteristic; each of the religious traditions identified in this study not only demonstrate histories of extensive length, but also sizeable geographies. In Figure 3 (ChurchPop, 2014), we see the geographic extent of the Abrahamic and Dharmic faiths. From this example, it is deducible that for the proposed Astronicism to be accepted as a religious tradition, there would need to be a demonstration of its transcultural distribution, either in contemporary times or historically.

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<sup>33</sup> Taoism, Confucianism, Shintoism and Chinese folk religion are linked together mainly by their geographic commonality with them having originated in the Sinosphere. The term Taoic religions has been most recently ascribed to these religions, but a broader term is East Asian religions which may be more appropriate due to the fact that the concept of the Tao is not fundamental to all the religions mentioned. However, each of these religions are closely linked by their shared geographic and cultural ties which is what ultimately binds them together.

Figure 3 – Map of the world by Abrahamic and Dharmic Faiths



Pink = Abrahamic, Yellow = Dharmic

The fifth characteristic is the mutual recognition of religious figures across the different religions of the same tradition. These religious figures typically play an important role in the history of one or more of the religions within the tradition, an example of which is the recognition of figures like Jesus, his mother Mary, and Saint John the Baptist across Christianity, Islam, and the Baha'i Faith (Bahá'ís of the United States, 2020; Clooney, 2015). Another example of this characteristic is seen in the Taoic tradition wherein Confucius and Lao-tzu are recognised across Taoism, Confucianism and Chinese folk religion while Siddhartha Gautama is also a recognised figure in Buddhism and Hinduism of the Dharmic tradition (Coulter & Turner, 2012, p109). This characteristic of mutual recognition of religious figures is a prominent example of the bond between religions within the same tradition, both historically and theologically. It allows for religions to take opinions on the validity of different figures. However, religions outside of their tradition simply do not have the inclination to do this which distances them. For example, the fact that Islam, Christianity and Judaism all have opinions on who Jesus Christ was and what he did demonstrates a historical and theological connection between these three different faiths. Instead, Taoism, Hinduism and Confucianism do not have opinions on Jesus Christ because his crucifixion and resurrection simply do not play a role in their histories, nor their belief systems because of their theological, thematic, and geographic separation from the Abrahamic tradition.

The sixth and final characteristic is that religious traditions typically possess at least three distinct members. This suggests that in the proposal for an Astronic tradition, it will be important to present at least three distant Astronic religions in order to present Astronicism as a fully-developed tradition worthy of recognition.

## Introducing the Astronic tradition

Having now understood what constitutes a religious tradition, this section will introduce an Astronic tradition and will determine what can be classified as “Astronic”. This theorised Astronic tradition is structured on thematic commonality; all the proposed members of the Astronic body of thought are united in their placing of the astronomical world as a whole, or individual celestial phenomena, at the centre of their belief systems (TEDx Talks, 2019), whether by worship, divination, or philosophical enquiry.

The proposed Astronic tradition is a collection of thematically-linked religions that possess a shared worldview, beliefs, and practices, and different approaches to fundamental concepts. Specifically, it represents religions sharing an astronomical theme, particularly those which look towards outer space for a sense of spirituality and ultimate meaning. The postulated category of Astronic religions are united by their common focus on the stars and the involvement of astronomical observation in their belief systems. The Astronic tradition developed differently from the other three main traditions as it has manifested in several major civilisations such as India (Lawrence, 2012, p188-209), China (Fang & Thierry; 2016, p69-82; Thornton, 1844, p49-53), civilisations of Mesoamerica, and the West. However, its dominance has waned over time and the civilisations in which it thrived have since become extinct e.g. the Inca, Ancient Egyptians.

Part of our postulation of an Astronic tradition is providing clarity on which belief systems are Astronic. With some debate, proposed members of the Astronic tradition include astrolatry, astrology (and astromancy) (Lewis, 2003, p73), astrotheism<sup>34</sup> (and astrotheology), exotheism (and exotheology) and new religious movements and philosophical schools that possess astronomical themes. The Astronic body of thought holds a diverse terminology which forms its distinct identity, an example of this is the alternative terms for astrolatry which include star worship, celestial worship and astral worship which are synonymous. Astrolatry is the worship of the stars in particular, although there does exist other dimensions to Astronicism which focus on the worship of other celestial phenomena which may be classified as branches of astrolatry<sup>35</sup> rather than terms synonymous to astrolatry. However, also important to clarify are a broader set of terms used in reference to astronomical religion which include cosmic religion<sup>36</sup> (van der

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<sup>34</sup> Astrotheism, and its associated branch of theology Astrotheology, are classified as members of the Astronic tradition for their focus on outer space as part of their belief systems (Dick, 2018, p220-235; Hewlett et al., 2018, p3-26; Wilkinson, 2013, p3-4, 134).

<sup>35</sup> These branches of astrolatry include heliolatry or sun worship (Blavatsky, 2019, p14-22; Kitto, 1855, p593; Loomis, 2005, p40-43), worship of the planet Venus (Venolatry), lunar cults, or moon worship (Becking et al., 1999, p216, 492, 592, 761, 861), astral piety (Lawrence, 2020), and also astral mysticism (Cumont, 2006, p16, 77-91; Cumont, 2010, p1-42).

<sup>36</sup> The term “cosmic religion” is more recent in its origins and is an alternative to the phrase “astronomical religion” while “celestial religion” and “astral religion” have longer histories, likely used to describe the mixture of astrolatry and astromancy amongst the Babylonians (North, 2008, p36-66).



Waerden, 1974, p1-2, 127-204), celestial religion, space religion, stellar religion, and astral religion<sup>37</sup> (New Catholic Encyclopedia, 2020; Ness, 1990).

Arguing for an Astronic tradition also involves the interpretation of history through an Astronic lens; that is, events and time periods perceived only in relation to the proposed Astronic tradition as an area of historiography ignited by this study. An example of perceiving history “Astronically” studying prehistoric settlements and analysing how those peoples perceived and interacted with the night sky and how perceptions of the astronomical world changed across millennia<sup>38</sup> (Dupuis, 1904, p229-241). Establishing a historiography for an Astronic body of thought means reinterpreting history through this lens by placing emphasis on astronomical religions and the writings, figures, events, specimen, movements and locations involved. I will argue that an Astronic tradition can be considered a legitimate religious tradition because it fulfils five out of six of the characteristics outlined with the exception of the mutual recognition of religious figures<sup>39</sup>.

The Astronic tradition is a legitimate religious tradition because, like other traditions, it does not simply refer to one religion or one belief. Instead, it encompasses a plurality of religions while remaining underpinned by a shared worldview and a common spiritual source. This source of religion for the proposed Astronic tradition is the totality of outer space which, from a contemporary perspective, makes the proposed Astronic religions relatively naturalistic compared to the ethereal and spiritualistic sources of the three other religious traditions. Astronomical religions not only stretch back to prehistoric times — making them some of the oldest forms of religion — but their diversity of beliefs and practices, and the widespread adherence to these systems throughout history, does form what religious scholars describe as a religious tradition.

Another important segment to the postulated Astronic tradition involves providing a theory regarding the origins of religion. The origins of religion, like the definition of religion (Streng, 1972, p219-237), is an area in religious studies which scholars have yet to come to a consensus on (Gross, 2019, p426-429). None of the established traditions mentioned are old enough to have played a part in the origins of religion which stretch back to prehistoric times (Duda et al., 2016, p261-282). However, the proposed Astronic tradition possesses prehistoric origins and likely played a role in the origins of religion itself.

Central to Astronicism’s proposed role in the origins of religion is the notion that astrolatry is the Urreligion. Originating from German Romanticism, the theory of the Urreligion is a hypothesised original religion that existed prior to the theocracies of the Ancient Near

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<sup>37</sup> Note that this term seems to be used by some scholars in reference to astrology as a religion and therefore not a separate category of religion as this study posits.

<sup>38</sup> For this area of study, this paper coins the terms astroanthropology; the study of how perceptions of the astronomical world have altered and how they have impacted human evolutionary, cultural, and societal development.

<sup>39</sup> The Astronic tradition falls short in this respect because the religions within the Astronic tradition are generally not mass organised and have not yet developed systems for recognising different individuals.

East and prior to the Big Five world religions (Dayton, 1996). Our historiography of the proposed Astronic tradition affirms this postulation of astrolatry as the Urreligion through the presentation of archaeological evidence suggestive of prehistoric star worship, a postulation also made by the French savant, Charles-François Dupuis (Fisher, 2006, p31, 39, 66, 142, 151). The validity of astrolatry as the Urreligion is challenged only by the two other religious activities to have potentially taken place during the Palaeolithic; burials and bear worship. Although burials do suggest that Palaeolithic peoples were concerned with death and perhaps the afterlife, burials do not constitute a religion alone, instead only inferring a belief. The notion of Palaeolithic bear worship has major archaeological figures disputing its validity due to lack of archaeological evidence. Even if enough credible evidence was brought forward for the existence of a bear cult, it is very possible that this cult developed as a result of the circulation of the Cosmic Hunt myth, thus entangling bear worship with astronomical religion. Astronomical religion, namely astrolatry, is the first form of direct worship with ample evidence that one could reasonably suggest existed during the Upper Palaeolithic, thus it played a central role in the origins of religion.

The term Astronic means the fusion of astronomy and religion and therefore does not encompass all astronomical practices. In fact, as astronomy's gradual detachment from religion occurred, less and less astronomical practice, especially in the medieval and modern periods, can be reasonably described as possessing a religious nature. However, returning to prehistoric and ancient times, the task remains in deciphering which astronomical activities did reasonably possess a religious motivation in order to describe them as Astronic. In establishing any type of system, there must be a framework to decide what does and does not belong to that system; in the context of religion, the concepts of orthodoxy and heterodoxy are used. Astronic orthodoxy, therefore, encompasses those religions, denominations, myths, practices, figures, beliefs, and specimens (such as rock art, fossils, documents etc.) that are classified as part of the proposed Astronic tradition. Astronic heterodoxy are those which do not conform to the proposed characteristics of an Astronic tradition. Establishing this system of orthodoxy and heterodoxy will allow for greater clarity ahead regarding what is and isn't classified as part of the Astronic body of thought. For example, the question of astrology's inclusion will take extensive theological, philosophical, and archaeological investigation to determine its "Astronicity"<sup>40</sup> (see Appendix 2).

Now that an understanding of the Astronic tradition has been reached, the following question arises: why hasn't an astronomical religious tradition already been proposed? There are many possible reasons for the absence of an Astronic tradition from current religious scholarship, many of which will likely stay speculative until a further study can be conducted on that question. However, like other academic studies, especially those in the context of religion, there are a few key external factors, namely that of politics and gatekeeping (Barron & Zeegers, 2010, p1-6; Mason, 2008; Stanley, 2000). Following what

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<sup>40</sup> A term denoting the fact of being part of Astronicism, or the extent to which something, whether an idea or a physical specimen, holds Astronic characteristics.

can be described as the divergence of astronomy from religion after the discoveries of the Age of Enlightenment, particularly the disintegration of astronomy from astrology (Robbins, 1940, p3), there was likely no desire to reattach these two institutions. Astronomers had been forced to curb their research in line with religious dogma for centuries, but then came the opportunity to pursue scientific astronomy independent of religious institutions; an opportunity that was embraced without hesitation.

Perhaps it was only centuries later through the personal reflections of our key authors that a true overview of the history between these two disciplines could take place, hence the reason for the Astronic tradition's proposal today. Additionally, as explained, the classification of religions is a practice of relative infancy which points to another likely reason for the absence of an Astronic tradition until now.

# Historiography of an Astronic tradition

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## Overview

Beginning in the Upper Palaeolithic period of the Stone Age with the depiction of accurate constellations on rock faces and amulets (Piment et al., 2019), the proposed Astronic tradition encompasses all religions whose central focus of belief is the night sky. Astronomical religion developed according to three main pillars; astromorphism, astronomical utility, and astronality. Astromorphism is the attribution of celestial characteristics to a human, animal, god, or object; astronomical utility came in the form of navigation by the stars, the belief in the success of the hunt as dependent on celestial phenomena and later, in the Neolithic period, the use of stars for determining seasons for agricultural purposes; finally, astronality is the theorised emotion of wonderment and concern for existentiality<sup>41</sup> inherent to human beings when perceiving the astronomical world and includes the theory that this emotion played an important role in the evolution of human intelligence, specifically in the Palaeolithic Creative Explosion (Bar-Yosef, 2007, p3-18).

Star worship was likely the first form of astronomical religion to exist; star deification received widespread adherence as a result of early agricultural settler's dependence on the stars to tell the seasons ready for planting and harvesting crops. The diffusion of astronomical myths across continents and the emergence of astral cults thereafter lead the way for the earliest civilisations to explore astromancy and to develop their own distinct traditions of astrotheology. After the condemnation of star worship by other faiths as idolatrous, astrology took centre stage in this postulated tradition and acted as the main outlet for philosophical and religious engagement with the astronomical world<sup>42</sup> (Zarka, 2011, p420-425). Astrological terminology came to dominate discussions of the firmament while secular astronomical observation later rose to play a role in other religions. This role is emblematised in Islam's star and crescent moon, the Star of Bethlehem in the Christian nativity (Melton, 2007, p32, 334), and in how cosmological ideas permeate Western esotericism.

However, with the development of modern scientific astronomy, philosophers and astronomers like Giordano Bruno, Nicolaus Copernicus and Galileo Galilei explored the stars with modern devices and new revolutionary ideas emerged like cosmic pluralism and heliocentrism. Sabaism, the Mandaean, and indigenous groups are the remnants of

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<sup>41</sup> Existentiality: concern for existential purpose and the position of both the self and the collective in relation to an environment, such as outer space.

<sup>42</sup> One of the first examples of philosophical astrology is Marcus Manilius' poem *Astronomica*.

ancient star worshippers today. With the commencement of the Space Age in the mid 20th century, however, modern space-based religions and philosophies are forming as a reaction to the many questions posed by humanity's impending venture into the dark abyss of space (Prisco, 2018).

### **Stargazing and the origins of religion<sup>43</sup>**

Pinpointing the exact moment from which our proposed Astronic tradition originates is not only difficult, it is impossible. It is likely that we will never know the full details of Palaeolithic religion as all we have to theorise upon are the items and pictorial expressions that those prehistoric tribes left behind (Mithen, 1998, p8, 20-21, 171-210; Rossano, 2006, p346-364). As such, whenever we study the early humans of the Palaeolithic, we must place ourselves in the minds of those living without the knowledge and perspective enjoyed today (Hoskin, 1996, p2-49). For our proposed Astronic tradition, there is a wealth of specimens directly supporting the notion that prehistoric peoples were active in astronomical religion following the Creative Explosion<sup>44</sup>. Theories surrounding the origins of religion gravitate towards four main themes or activities (Dickson, 1992, p93-196; ReligionForBreakfast, 2020); human burial, animal worship, matriarchal religion, and astrolatry. This study asserts that the role of astrolatry in religion's origins possesses more direct archaeological evidence than the other three theories.

Firstly, the earliest of these proposed theories are burials from as early as 300,000 years ago. This activity is understood by some as an early indication of concerns regarding the fate of the deceased (Pettitt, 2002). Some Neanderthals buried their dead in shallow graves with stone tools and animal bones (Krklec, 2009) and later, children and adults were buried with ritual goods around 60,000 BCE (Lieberman, 1993, p158-164). Although the activity of burial as the origin of religion has been challenged<sup>45</sup>, the further along the timeline we move, archaeologists have come to a more stable consensus that some Upper Palaeolithic burials, especially the earliest cremations<sup>46</sup>, demonstrate religious beliefs as bodies were buried with objects and were stained with red ochre during the period between 40,000 and 26,000 BCE.

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<sup>43</sup> Astronomy is the natural science of observing and analysing the phenomena of the night sky, however, it is important that we remember not to fall into the trap of presentism in our investigation. Astronomy as we understand it today with telescopic devices and the knowledge we possess did not exist in the Upper Palaeolithic, hence when we discuss the astronomical religious activities of prehistoric peoples, it is perhaps more accurate to use the terms "stargazing" or "night sky observation."

<sup>44</sup> The Creative Explosion is the term given to a period during the Middle to Upper Palaeolithic in which cave paintings, decorated objects and evidence of religious activity first emerged, thus raising questions about the evolution of humankind and the origins of religion during this time (Pfeiffer, 1983, p19-40).

<sup>45</sup> Peter J. Ucko was an English archaeologist who expressed scepticism for the notion that burials signified practice or beliefs relating to religious topics (Ucko, 1969, p262-280).

<sup>46</sup> Such as those found near Lake Mungo in New South Wales, Australia which were likely Australian Aborigines and represent the oldest cremations in human history (Allen et al., 1970, p39-60).

The second theory for the origins of religion is animal worship which is split between two schools of thought. The first focuses on the notion of a Palaeolithic bear cult<sup>47</sup> with origins in at least 50,000 BCE (Shipman & Trinkaus, 1993, p255-256, p336-341; Wunn, 2000, p417-452). Meanwhile, the second school centres around the Löwenmensch figurine (Aubert, 2019, p442-445) as it is the earliest known representation of anthropomorphism (Bailey, 2017). Considerable amounts have been written on bear worship in the Palaeolithic (Clottes & Lewis-Williams, 2009, p7-45; Harrod, 2020; Narr, 2018) with disputes arising over the theory and the religious motivation behind the Löwenmensch figurine remaining speculative at best. The third theory for the origins of religion comes from a feministic perspective. Johann Jakob Bachofen's proto-feminist theory focused on a matriarchal religion as the Urreligion (Bachofen, 1992, p69-85; Smeds, 1990).

However, this study supports the fourth and final origins theory; astrolatry. It is in the Upper Palaeolithic period that the origins of our proposed Astronic tradition can currently be traced to, around 38,000 BCE amongst the Aurignacians<sup>48</sup> (Bourillon, 2018, p46-64; Płonka, 2019). The first peoples to look up to the stars with any kind of religious connection were likely the Aurignacians whose expansion out of Africa caused a decline in the European population of Neanderthals (Ruggles, 1999, p1-17). Although today we understand astronomy as being separate from religion, in Palaeolithic times, the two were deeply intertwined. The stars were indeed divine to these early peoples with separation of the religious from the secular very unlikely.

To prove the emergence of astrolatry from around 38,000 BCE, central are Makemson's specimens<sup>49</sup> titled the Great Star Amulet and the Echinus Big Dipper. Beginning with the Great Star Amulet (see Figure 4), this is a piece of jewellery that was found in Northern Europe<sup>50</sup> that depicts, with accuracy, the constellation Ursa Major which could alone suggest astrolatric<sup>51</sup> motivation. However, further solidifying the notion that these engravings were created for more than just mere aesthetic is the fact that the engraver of the amulet has taken further time to distinguish between brighter and dimmer stars by making the cup marks deeper and wider. Makemson dates this specimen, due to the

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<sup>47</sup> The Palaeolithic bear cult has been directly linked to constellation myths by the works of various scholars including Campion (2012, p44-46), Gurshtein (1997, p46-50), McNamara (2011, p24-26) and Schaefer (2006, p96-101). This directly links the theory of Palaeolithic bear worship to the early Astronic tradition, particularly the worship of the Ursa Major constellation and to the contents of the Cosmic Hunt myth.

<sup>48</sup> European settlement whose remains are scattered throughout Southern Europe (Daley, 2017; Hoffecker, 2009, p16040-16045).

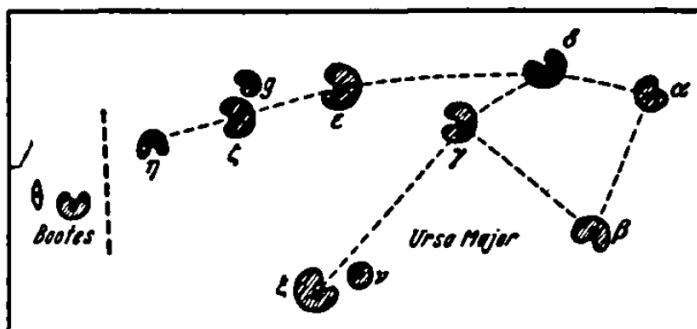
<sup>49</sup> Based on Marcel Baudouin (Baudouin, 1921, p301-308) and Knut Lundmark's (Lundmark, 1932, p210-573) previous work.

<sup>50</sup> There are a number of archaeological sites of importance to discovering more about the Astronic tradition which mainly include La Chapelle-aux-Saints, Le Roc de Marsal, Lascaux Caves, La-Tête-du-Lion, Abri Blanchard, La Ferrassie and Le Moustier in France; Teshik-Tash Cave in Uzbekistan; Kebara in Israel; Shanidar in Iraq.

<sup>51</sup> Relating to astrolatry; star worship.

position of the constellation<sup>52</sup>, particularly the Big Dipper, to between 30,000 and 38,000 years old with Makemson herself commenting on the meticulous effort of the engraver to distinguish between star brightness.

Figure 4 – Great Star Amulet specimen



**Fig. a. Representation of stars in Ursa Major and Bootes on an amulet from the stone-age. The different size of Mizar and Alcor is noteworthy. The form of the Big Dipper suggests a rather high age for the amulet.**

(Makemson, 1954, p163-171)

This specimen highlights how these very early humans were transfixed enough with the stars to spend their time creating amulets to reflect specific star patterns which can be interpreted in three main ways. The first can be considered the skeptical approach in which the gravity of the carvings is reduced to the Aurignacians simply depicting what they saw in the night sky without any religious significance. However, such a reduction falls dangerously close to presentist fallacy. The second approach is to acknowledge that some religious motivation must have been involved in the Aurignacian's intentions to carve out star patterns, but that this shouldn't be attached to a religious tradition. The third approach is the Astronic approach which states that these actions were religious in motivation, were clearly astronomical in theme, and that they exist as the roots of a tradition of similar beliefs and practices that developed from these initial activities.

These carvings are considered as the starting point of our proposed Astronic tradition. This is because the depiction of Ursa Major such in a detailed and accurate way for primitive people not only demonstrates the extent of interest, time and effort involved in carving these star patterns, but that the engravers felt it was important. Neanderthals began burying those they knew because emotions and religious ideas were beginning to form regarding a person's transition into an incorporeal state. So too are these meticulous depictions of star patterns an indication that the Aurignacians were not only visually

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<sup>52</sup> An important factor in dating Astronic specimens is recording relative positions that the stars were depicted in. This has allowed for greater accuracy and as a result, solidified consensus from astronomers and archaeologists on the great antiquities of these specimens which other kinds of Palaeolithic specimen do not share.

concerned with the stars, but that they were emotionally concerned with them<sup>53</sup>. Art is a form of emotional expression and even as early in human history as the Aurignacians, the need and desire to express ideas and emotions through art existed. One of the earliest demonstrations of this is through the depiction of stars along with other natural phenomena like animals and even humans themselves<sup>54</sup>. The amulets and rock carvings currently forming our specimen archive may only represent a small proportion of the total amount created during that time, many of which have likely been lost to history and others are perhaps still to be discovered<sup>55</sup>. This suggests the possibility that even before 40,000 BCE, Neanderthals had been concerned with the stars religiously, but that it was only after the Creative Explosion that they and their successors, the Aurignacians, began to express themselves through artistic endeavours. To become so meticulous with depicting the positions and brightnesses of stars in the night sky suggests that something deeper than trivial concern was afoot. Indeed, a religious nature can quite reasonably be attached to these earliest carvings.

In Figure 5, we see the Echinus Big Dipper which is a fossil of a silicified sea-urchin onto which the Big Dipper has been engraved. Makemson also dates this specimen to the Upper Palaeolithic before describing the depictions as representing the swing of the constellation Ursa Major in three positions around the north pole. Makemson also comments her belief that the specimen was used as an amulet during its time. This specimen presents further evidences of not only the use of the stars for timekeeping, but for the purpose of giving thanks to and worshipping the stars due to their central role in knowing when to cultivate the land. Furthermore, in both this and the previous specimen, we see the popularity of depicting constellations on

Figure 5 – Echinus Big Dipper specimen

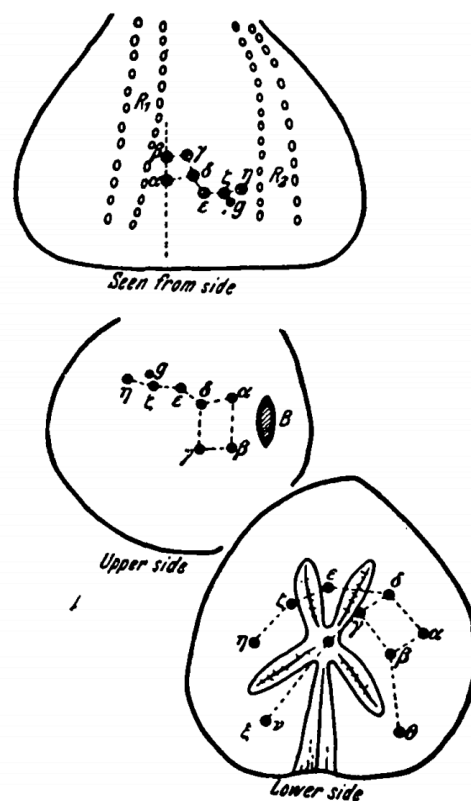


Fig. b. Representation of the Big Dipper on a fossil and silicified sea-urchin (Echinus) from the stone-age (Baudouin).

(Makemson, 1954, p163-171)

<sup>53</sup> From the specimen found at the site named La-Tête-du-Lion in Ardèche, France (Rappenglück, 1999, p391-404), the importance of night sky observation in forming the cosmivision (or worldview) of Palaeolithic cultures is proven, hence providing a further validation to the role of an Astronic tradition of beliefs and ideas during the Palaeolithic.

<sup>54</sup> This kind of self-depiction is often seen through the use of the constellation Orion as we shall witness in our discussion of the Great Star Bull specimen.

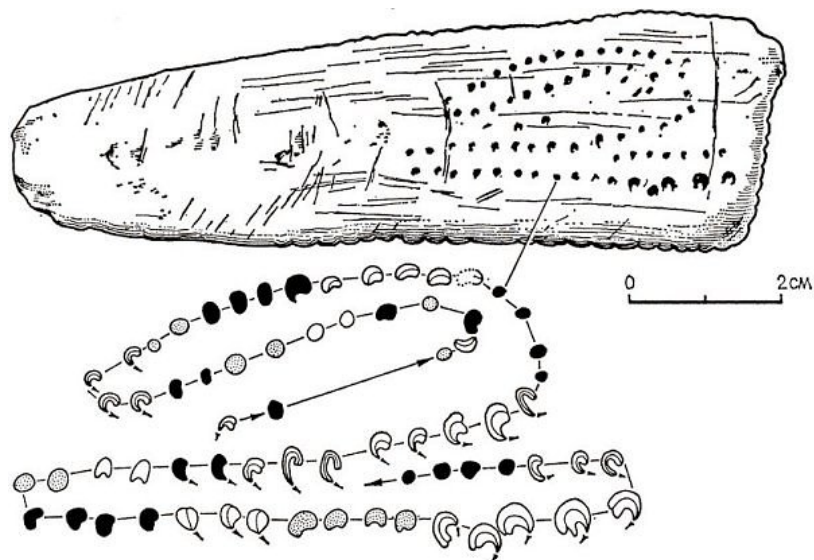
<sup>55</sup> Göbekli Tepe, Turkey and Nabta Playa, Egypt are two such prehistoric archaeological sites that possess astronomical alignments and therefore harbour Astronic specimens (Marta, 2019, p148-160).



amulets. Not only were the stars depicted so as to demonstrate the engraver's devotion to them, but the fact that they were engraved onto items to be worn around the neck also demonstrates significant religious motivation<sup>56</sup>.

Palaeolithic archaeologist Alexander Marshack put forward a theory in 1972 that depictions of Moon phases were evident on bone sticks from locations in Africa and Europe from 32,000 BCE. His interpretation of these cup marks is that they were used to track the lunar cycle (Holdaway & Johnston, 1989, p3-11). Marshack's theory culminated in his discovery of the world's oldest lunar calendar which this study labels as the Aurignacian Lunar Calendar (see Figure 6) and which was found at the Abri Blanchard site in the French Dordogne region (Marshack, 1991, p57-80; Nanos, 2009; Odenwald, 2019, p9). It depicts the phases of the Moon with its date of creation given as 32,000 BCE, making it one of the oldest Astronic specimens and affirms that the Aurignacians were concerned with the movements of both the stars and the Moon (Fawcett, 2011). This serves to add credibility to the notion that the Aurignacians were starting to express their belief in celestials possessing domain over the land which likely was the cause of the development of astrolatry and later, astromancy.

Figure 6 – Aurignacian Lunar Calendar specimen



(Marshack, 1991, p57-80)

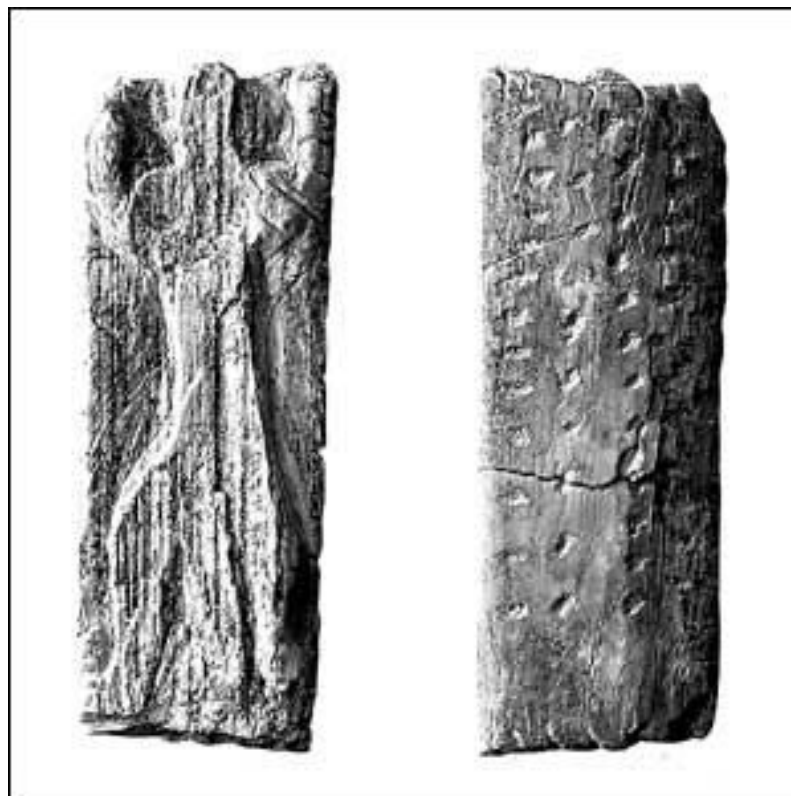
Marshack's discovery signals the beginning of utilitarian astronomical religion; that is, star, Sun and Moon worship developed from or serving a practical purpose. This lunar calendar discovery highlights the meticulousness involved in creating such carvings which signifies religious motivations extending beyond the mere decorative. Whomever created this carving of Moon phases certainly considered what they were doing to be important enough to either carry the plaque around with them to observe the Moon and

<sup>56</sup> Just as many Christians today wear crucifixes around their neck, it seems that the star amulets of prehistory were also used as further signification of the veneration of the celestials above.

then carve each phase as it occurred, or to return to the plaque every time they noticed the Moon had changed shape. Again, we must place ourselves in the engraver's shoes; they wouldn't have known what a calendar was, nor even what the object was that they were carving. If we imagine for a moment what it must have been like to witness the Moon change in shape and position and considering its overbearing physical position from the perspective of hunter-gatherers below, it is likely that Moon worship (Encyclopaedia Britannica, 2017) was just as prevalent as star and Sun worship during the Upper Palaeolithic (Encyclopaedia Britannica, 2020).

In Figure 9, we view the specimen called the Orion Stone Age Star Chart. Although a modest age of 30,500 BCE has been assigned to its origins, radiocarbon dating of the bone ash deposits have found that it could be 38,000 years old. The specimen was found in 1979 in a cave in the Ach Valley in the Alb-Danube region of Germany and was known to have been created by the Aurignacian peoples, the people group that this paper postulates were the first astrolaters<sup>57</sup>. It depicts the constellation Orion on an ivory tablet with cup marks in columns on the specimen's rear which are likely either stars, or tallies of moon phases.

Figure 9 – Orion Stone Age Star Chart specimen



(Rappenglück, 2001, p51-55)

Rappenglück postulates that this sliver of mammoth tusk is one of the earliest star charts in existence. He states that the mysterious notches on the sides of the specimen

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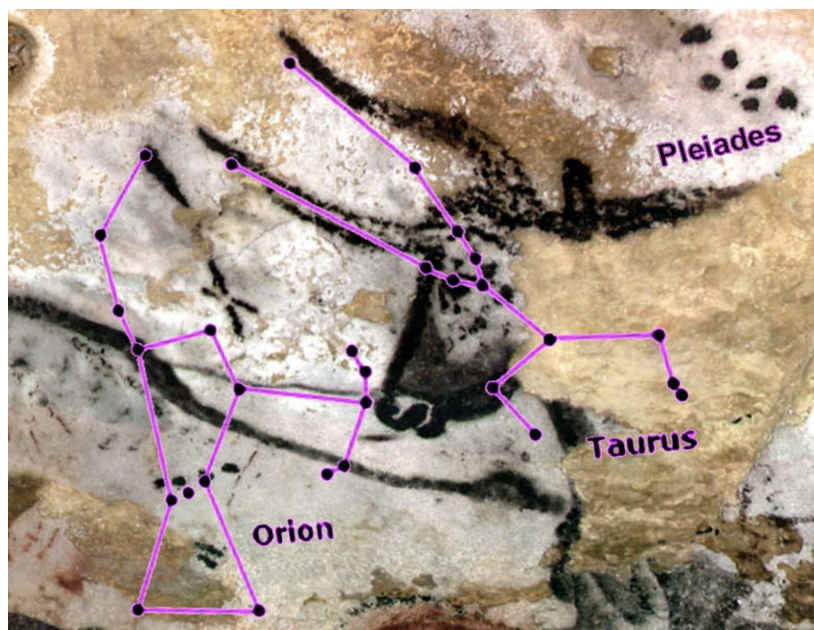
<sup>57</sup> Plural of astrolater: an alternative term for a star worshipper based on the word astrolatry.

demonstrate a primitive pregnancy calendar<sup>58</sup> (Rappenglück, 2001, p51-55). The connection between constellations, human birth, and moon worship are affirmed here; from this and related specimen, it's reasonable to state that the stars and Moon were conceived as possessing divine function, perhaps dictating birth.

Moving towards the end of the Upper Palaeolithic, cave walls have been found carved depicting arrangements of stars in constellations that match their historical positions, specifically circumpolar constellations (Petzinger, 2012). The peoples of the Upper Palaeolithic Stone Age relied on naked eye observation, but due to the lack of pollution, it was likely that the night sky looked more populated with stars than it does today (Hayden & Villeneuve, 2011, p331-355). Carvings on rock walls, sacrificial stones and amulets depicting the northern stars are hallmarks of the earliest forms of our proposed Astronic tradition. These simplistic expressions of astronomical religious ideas and concerns have not dampened in humanity. Despite all the great civilisations of the human species, we still feel the same simple inner concern for the stars as our distant ancestors felt. This human emotion, coined by this paper as astronality, hasn't faded, but has increased as we have come to learn more about the nature, form, and structure of the cosmos (Dhavalala, 2013).

The Lascaux caves in the Dordogne region of France embody the creative and religious minds of Palaeolithic peoples, specifically those from the Magdalenian period<sup>59</sup>. There are multiple depictions in the Lascaux caves which possess astronomical connections and

Figure 10 – Great Star Bull specimen



Annotated version of the Great Star Bull at Lascaux (BBC News, 2000)

<sup>58</sup> The significance of Palaeolithic calendars to prehistoric religious behaviour has been studied thoroughly by Johan De Smedt and Helen De Cruz (2011, p63-76).

<sup>59</sup> A period and culture of the Upper Palaeolithic ranging from 15,000 to 10,000 BCE centred in Western Europe, preceded by the Solutrean culture and succeeded by the Azilian culture.

are classified as specimen in the proposed Astronic tradition. The most pertinent of these specimen is in the Hall of Bulls and is called the Great Star Bull (see Figure 10). Radiocarbon dating has dated this specimen to 15,000 BCE, placing it in the Upper Palaeolithic period. As seen by the annotations given in Figure 9, the constellations Taurus and Orion, as well as the open star cluster Pleiades, are represented. The positions of the two constellations are interesting. Taurus is depicted over the bull while Orion symbolises the hunter themselves with a bow and arrow (Rappenglück, 1997, p217-225). The Pleiades in the sky above the scene likely represented the nighttime setting during which prehistoric hunts took place. It is evident through this specimen alone that the night sky was intimately connected to survival.

The fact that these prehistoric peoples depicted themselves and their prey in the form of constellations is also significant. They perceived the astronomical world as being intertwined with their own identities which denotes evidence the Palaeolithic origins of astromorphism. The Great Star Bull specimen not only demonstrates religious beliefs regarding the night sky, it reaffirms the notion that the stars were indeed closer to the consciousness of many prehistoric peoples than perhaps they are today. The more we have learned about the universe and the distances between ourselves and the stars, it seems the less intimate and personal they have become. In the Upper Palaeolithic, however, it is clear to see from these creations that the stars were understood to have been not only physically closer, but personally so, in the sense that they were believed to possess direct influence over the affairs of the terrestrial (Rappenglück, 2008, p13-39). Another important specimen supporting the notion of Palaeolithic astronomical religion is the Shaft Scene specimen which is given the title Lascaux Comet Strike (see Figure 10).

Figure 10 – Lascaux Comet Strike specimen

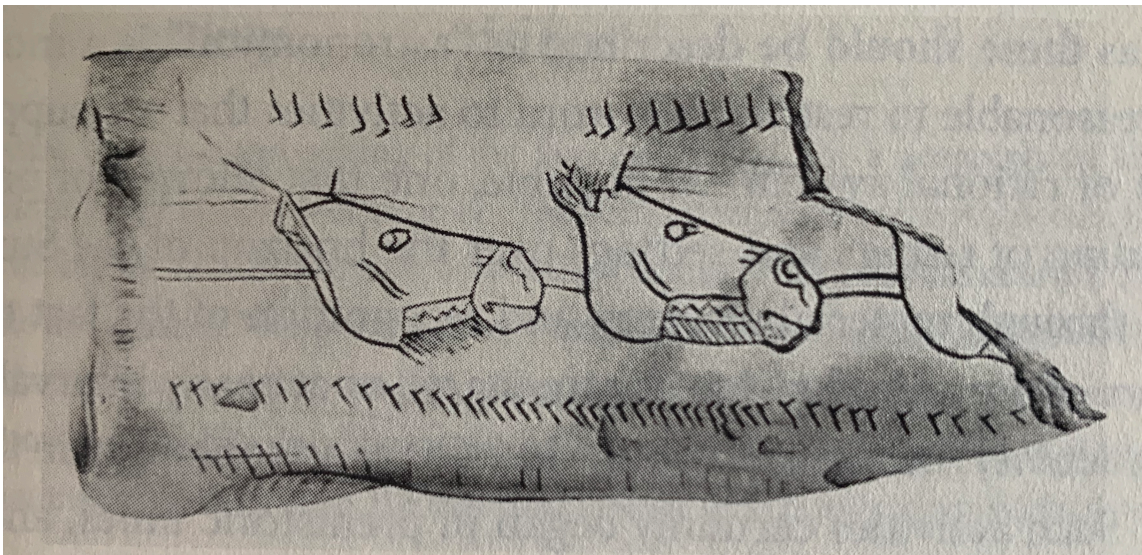


(Coombs & Sweatman, 2019, p1-30)

This cave painting depicts a dying man and several dying animals which researchers suggest is a commemoration of a comet strike that occurred around the time of the painting's creation in 15,200 BCE (Rappenglück, 2015, p1205-1212). According to Rappenglück, the eyes of the bull, the man, and the adjacent bird represent the three prominent stars Vega, Deneb and Altair (BBC, 2000). The astronomical imagery and context of this specimen is explored in Coombs and Sweatman's extensive discussion (2019, p1-30). The specimen's origins in the Upper Palaeolithic highlight once more the religious connection between these peoples and the night sky. The fact that Imster (2018) suggests this cave art is evidence of Palaeolithic people possessing a greater astronomical knowledge than previously thought is demonstrative of archaeoastronomy's infancy<sup>60</sup>. As such, the validity of the proposed Astronic tradition will gather more support concurrently to the expansion of archaeoastronomical study (Baity, 1973, p389-449).

Another important specimen closely related to Moon worship and astronomical utility, as pioneered by Marshack and his colleagues<sup>61</sup>, is the Magdalenian Moon-tracking Bone (see Figure 11). With its origins traced to the Magdalenian culture in the late Upper Palaeolithic, this specimen was found at the site Le Mas-d'Azil in France and depicts two horses with rows of marks which have been interpreted as tracking the phases and movements of the Moon (North, 2008, p5). What can be reasonably deduced is that the

Figure 11 – Magdalenian Moon-tracking Bone specimen



(North, 2008, p5)

<sup>60</sup> Following research on the archaeological scholarship of the Upper Palaeolithic, Mesolithic and Neolithic periods around the world, it is clear that research is still widely ongoing with many papers on this specific subject released this year (2020) alone, including Fabio Silva's upcoming work *Towards Skyscape Archaeology*. This tells us that what is known about these periods in scholarship is still in its infancy, thus opening the opportunity for further evidence to be discovered supporting the legitimacy of an Astronic tradition beginning the Upper Palaeolithic (Aubert, 2019, p442-445).

<sup>61</sup> French researcher Chantal Jègues-Wolkiewiez continues the work of Alexander Marshack and has published numerous papers on the topic of lunar calendar creation in the Upper Palaeolithic (Jègues-Wolkiewiez, 2005, p43-62; Jègues-Wolkiewiez, 2007, p225-239) and more recently has taken part in presentations of her work (see Bibliography).

concern for the phases of the Moon was believed to be intimately connected to the personal lives of early humans. This theory is further supported by the notion that the apparent obsession with counting Moon phases was due to the synchronicity of the lunar cycle and the female menstrual cycle (North, 2008, p5-6).

Remaining in the period towards end of the Upper Palaeolithic, we come to the Pleiades Aurochs specimen (see Figures 13a and 13b) which has been dated to 19,730 BCE, found at the site La-Tête-du-Lion in Ardèche, France<sup>62</sup>.

Figure 13a – Pleiades Aurochs specimen. Sample One.



Depiction of an aurochs with stars above.

Figure 13b – Pleiades Aurochs specimen. Sample Two.



*Figure 3e.* The aurochs in the “abside aux peintures” of the La-Tête-du-Lion grotto with one prominent dot and a group of seven spots on its body – 19, 730 BC.

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<sup>62</sup> In 2011, German film director Werner Herzog directed the film *Cave of Forgotten Dreams* which explored the Chauvet Cave in Ardèche, France (Herzog, 2010).

This specimen entails the depiction of the extinct aurochs alongside the Taurus constellation and the Pleiades star cluster. In their 2013 book *Earth-Moon Relationships*, Barbieri and Rampazzi (2013, p393-395) write that “the eye of the bovine then marks the star Aldebaran and the cluster of dots in the face of the animal relate to the Hyades open cluster.” Like the Great Star Bull, this specimen demonstrates a visual depiction of the Cosmic Hunt myth and adds to the evidence that astronomical religion and astromorphism<sup>63</sup> existed in the Upper Palaeolithic. The fact that constellations are depicted over certain animals and objects to express a narrative indicates the belief that the stars were responsible for events occurring on the land, thus denoting the origins of astromancy. It does seem reasonable to posit that the use constellations for artistic expression is central to a Palaeolithic astronomical religion.

Another specimen from the Magdalenian period is the Malita Bone Plate found in Irkutskaya Oblast, Russia (see Figures 14a and 14b) from 12,800 BCE (Bradshaw Foundation, 2011). With its definitive spiral pattern, it is possible that this specimen possesses astronomical connection, but in what specific capacity, experts are still unsure.

Figure 14a – Malita Bone Plate specimen.  
Sample One.

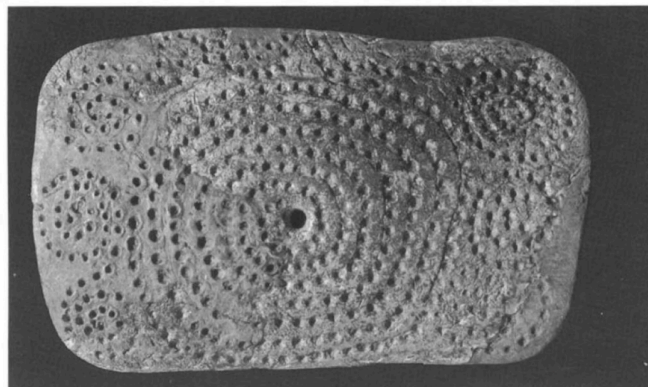


Figure 2b. A bone plate from Malita (Irkutskaya Oblast, Russia). According to Frolov, 1965: 98–100, 1969: 187–190, 1972: 53–54, 1978: 50–53, 1979: 295–298, 1988: 260–263, 1992: 84 shows a lunisolar calendar in serpentiforme style – Magdalenian, 12,800 BC.

Figure 14b – Malita Bone Plate specimen.  
Sample Two.

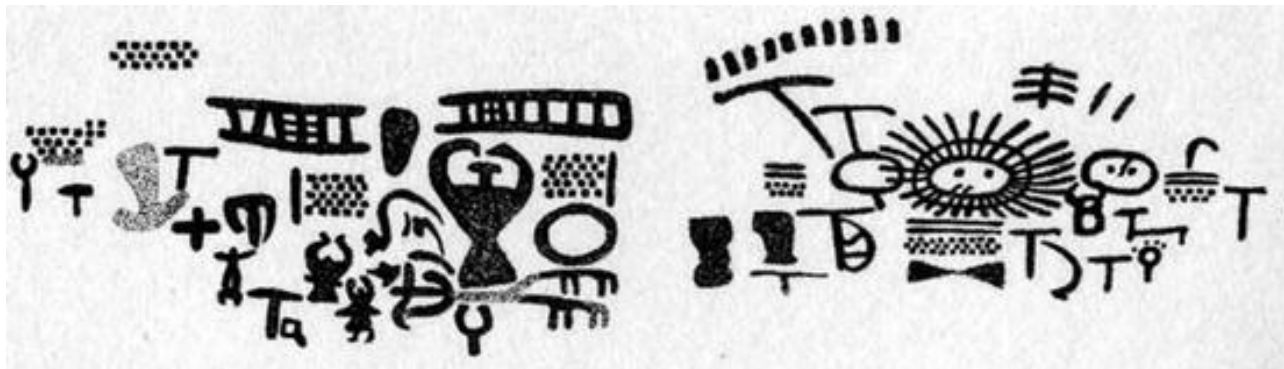


(Bradshaw Foundation, 2011)

<sup>63</sup> Astromorphism: a term coined in this paper denoting the attribution of constellations or asterisms to animals, people, or other objects. For example, the constellation Taurus often depicted over that of bulls and aurochs denoting a connection between the astronomical and the terrestrial.

Upon entering the Neolithic, we see greater volumes of specimen relating to the night sky including the Magura Solar Calendar (see Figure 15), found in Magura, Bulgaria with origins at the latest 3,500 BCE.

Figure 15 – Magura Solar Calendar specimen



Monochrome paintings that may represent a solar calendar from the Late Eneolithic (Chalcolithic), Magura cave (Recording and illustration: Alexey Stoev, Penka Maglova and Todor Stoytchev).

Figure 16 – Tai Lunisolar Rib specimen

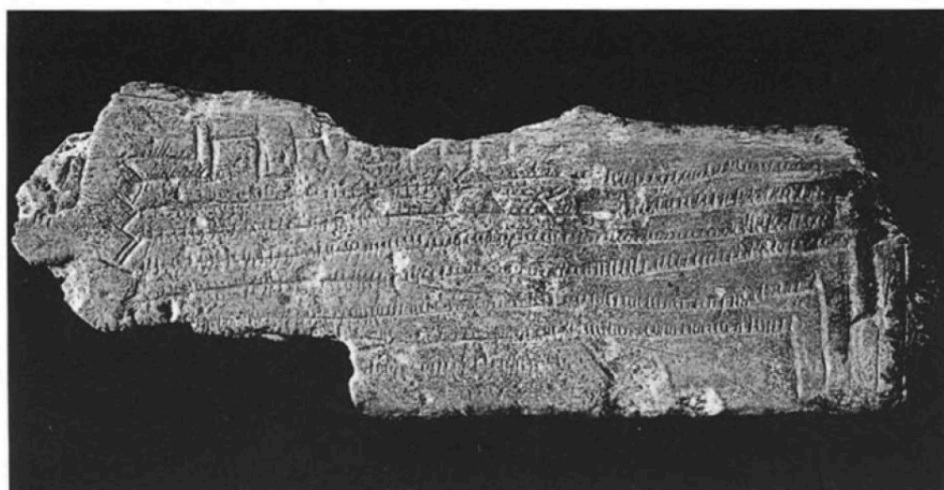


Figure 2a. Engraved rib from the cave of Tai (Drôme, France). According to Marshack, 1973, 1987: 148–149 and Figure 11, 1992 a non-arithmetic form of lunisolar observational recording in boustrophedon mode – Azilian, about 10,000 BC.

Further specimen include the Tai Lunisolar Rib (see Figure 16) found in Drôme, France, dated to 10,000 BCE on the cusp of the Neolithic era. Another specimen is the mural called the Fuxi Star Map (c.4,000 BCE) found in the Neolithic tomb of Xishuipo in Puyang, Henan province, China, which is described as possessing clam shells arranged in the shape of the Big Dipper with five separate stars including the Tiger represented in the West and the Azure Dragon represented in the East. Finally, categorised in this study as “potentially Astronic” is the Tablelands Sky Rock specimen located in California. Although there are astronomical symbols present amongst its array of imagery, the validity of those as being Astronic, and therefore religious in nature, is yet to be determined but this highlights the wide variety of specimen yet to be discovered (SciWorx, 2020).



In a broader discussion, the paleoanthropologists Andre Leroi-Gourhan and Annette Michelson have asserted that religious behaviour emerged at least 30,000 years ago by the Upper Palaeolithic period (Leroi-Gourhan & Michelson, 1986, p6-17; Leroi-Gourhan, 1989, p120, 136-142, 147). This encourages the theory that astronomical observations of the time and their subsequent depiction in rock art and amulets did indeed possess a religious character (Murray, 2014, p239-249; Rappenglueck, 2000, p15-28).

Additionally, during this same Upper Palaeolithic period, another branch of the proposed Astronic tradition was emerging amongst the humans migrating to Australia, the Philippines and New Guinea from the Asian continent between 60,000 to 30,000 BCE (Kelley, 2011, p157-209; O'Brien, 2002, p26). James Winborne (2019, p155-176) writes of these prehistoric mariners using the stars for navigation<sup>64</sup> across long Pacific<sup>65</sup> voyages, yet another early example of utilitarian astronomical religion (Rappenglück, 2015, p18-26; Ricks, 1987). Although today we do not associate navigation by the stars as involving religious connotations, when no other source of navigation had been invented and the stars were regarded as deities, it isn't unreasonable to suggest that astrolatry and later, astromancy, developed amongst Palaeolithic people due to their dependence on the stars as navigational guides.

On reflection, the archaeological evidence demonstrates that there certainly was astrolatric practices taking place in the Upper Palaeolithic period. The deification of the stars followed as a logical subsequence of people's gratitude to these celestial bodies upon which their survival was dependent. Therefore, it is said with confidence that the worship of stars certainly possessed dual utility; firstly, in their gratitude to these stellar gods for granting them the hunt, and secondly, in later periods, these constellations served as a clock-face long before the invention of mechanical timekeepers. The hands of this clock-face resembled the patterns of the stars which pointed out both the hours of the night and the seasons of the year. Whether it's from prehistorian Jean Clottes' identification of astronomical religion in Palaeolithic art (Clottes, 2016, p15, 17, 30, 81, 84), or from astronomy's role in Palaeolithic culture (Overmann, 2013, p19-39), we can deduce that astronomy and religion were one and the same, influencing each other and developing concurrently. The evidence for the origins of our proposed Astronic tradition is significant because it posits Astronicism as the world's oldest religious tradition, tracing back to this prehistoric time and integral to the origins of religion and proto-astronomy<sup>66</sup> (Culotta, 2009, p784-787; Robbins, 2000, p31-52). As an appendage, there exists two

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<sup>64</sup> This paper coins the term astration to refer to navigation by the stars, especially in a prehistoric, religious context.

<sup>65</sup> Evidence has also been found of the Maori's worship of stars which can be considered a branch of the proposed Astronic tradition in the Pacific region (Best, 2016), so too was Native Hawaiian religion based on the animistic notion that stars, the Sun, the Moon, and other celestial phenomena possess spirits (Beckwith, 1970, vii-xxxii; Elbert, 1957, p264-276; University of Hawaii Institute of Astronomy)

<sup>66</sup> Proto-astronomy: a term coined by this paper to denote night sky observation before the invention of telescopes, especially in prehistoric and ancient times as being infused with religious ideas and practices.

additional dimensions to this proposed tradition, namely astronomical omens<sup>67</sup> and constellation myths<sup>68</sup>, which likely also possess prehistoric origins and add to the wider Astronic cultural framework.

### **Utilitarian astronomical religion**

As we consider its origins, the proposed Astronic tradition ultimately originated from astromorphism as a result of the Creative Explosion, from astronality as an innate quality of human psychology, and from astronomical utility. The earliest humans relied upon the stars for navigation (Coolidge & Wynn, 2012, p38) and for determining agricultural seasons. From the archaeological evidence, we see how this utilitarian astronomy ignited the proposed Astronic tradition with astrolatry's adoption by the Aurignacians (Barbieri & Rampazzi, 2013, p393-395; Viegas, 2017).

As we move into the period of the Neolithic Revolution, we see utility as a means of religion in even greater clarity (Bradshaw Foundation, 2015). Around 8,000 BCE, humans began to transition from hunter-gatherer societies to settlers of land. As this move to agriculture continued, likewise did the need for accurate timekeeping emerge<sup>69</sup>, resulting in the careful tracking of the Sun, Moon and stars. These early settlements became so dependent upon celestial tracking for their survival that they gave thanks to the stars by deifying them which further entrenched astrolatry amongst the earliest cultures of Europe and the Near East. Hence, astral observation and religious practices were likely intertwined with utility in prehistoric times (Gray et al., 1908, p56, 63, 84, 754, 758; Hutter,

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<sup>67</sup> The tradition of astronomical omens is another aspect of the Astronic tradition with ancient roots in Mesopotamia (Bottéro, 2001, p212-218, 223; Winitzer, 2011, p77-94). An astronomical omen is a type of omen that incorporates the celestial phenomena into its narrative (Pearson, 2020, p36); in ancient times, this type of omen was commonplace with many emerging in relation to eclipses (Rubio, 2017) and the stars themselves (Hunger & Steele, 2018, p6, 290-342). These astronomical omens are inextricably linked to the development of astromancy and related systems of divination such as traditions of astrology as well as omens related to other astronomical phenomena e.g. meteorites and comets.

The discussion of omens brings about the topic of divination and religion and the extent to which systems of divination can be understood as possessing religious substance, a topic central to the debate surrounding whether astrology is part of the proposed Astronicism (Park, 2001; Silva, 2018, p394). Astronomical omens are products of superstition and they represent a cultural touchstone between the celestial and the terrestrial (Gregersen, 2020). It can be said with confidence that the developments that took place in which attention was directed towards celestial phenomena indicates that night sky observation played an important role in the religious landscape which translated into the development of cultural phenomena like constellation myths and astronomical omens (Sky & Telescope, 2006).

<sup>68</sup> Constellation myths are a category of astronomical myths originally created in prehistoric times for the purpose of explaining why constellations were associated with different terrestrial objects (Hard, 2015, ix, p3, 8; Krupp, 2000, p43). The Cosmic Hunt was likely the first of such constellation myths as it explained why the constellation Ursa Major looks like a bear.

<sup>69</sup> As we continue to explore the Astronic tradition during the Neolithic Revolution, an important site to consider is the Warren Field in the Dee River valley of Aberdeenshire, Scotland (University of Birmingham, 2013). The Warren Field is a calendar, arguably the world's oldest calendar, that has been dated to around 8,000 BCE and thus predates all other developed calendars by some 5,000 years. The twelve identified pits of this Mesolithic monument appear to have been created in order to imitate the phases of the Moon so as to track lunar months (BBC News, 2013).

Additionally, the monument is also aligned to the sunrise at the winter solstice, hence coordinating the lunar cycles with that of the solar year. It also seems that the monument had been maintained over a period of 6,000 years, but through that time, was periodically reshaped to reflect shifting solar and lunar cycles until its uses seem to have run dry around 2,000 BCE (Smith, 2013). Another example of an astronomically-aligned structure is the Goseck Circle located in Germany (McLeod, 2016, p189-192), but there are many other archaeoastronomical sites that will need to be evaluated in future studies to determine whether they possess Astronic character (Ruggles, 2005, p1-448).

2011). These early humans did not simply worship the stars because they had been told to by a religious institution, nor did they worship them because of divine revelation. Instead, they worshipped the stars due to their practical utility in various aspects of life. This kind of worship is logical; it only makes sense that Palaeolithic people would give thanks to the stars for their utility through their depiction and worship (Encyclopaedia Britannica, 2015).

However, the direction of worship eventually changed, specifically in coming closer to Earth when anthropomorphism began to dominate. As dynasties of early civilisations began forming, people were told to worship their rulers instead of the stars themselves. Kings and queens were said to be human manifestations of astronomical objects like the Sun<sup>70</sup>. What seems characteristic of the proposed Astronic tradition throughout its history is that as one form of it declined, others rose. For example, the transition from astrolatry to astrology; worship of the stars shifted to divination by the them, likely caused by the subjugation of astrolaters as Abrahamic faiths emerged<sup>71</sup> (Ladjal, 2018, p202). Although the history and origins of astrology remain in dispute<sup>72</sup> (Gurshtein, 1995, p28), it remains integral to the proposition of Astronicism as a religious tradition, especially following the decline of astrolatry in Europe. However, astrolatry did continue in different forms as astronomical religion persisted for longer in different parts of the world than others. For example, in pre-Columbian America, the Incan civilisation were still practicing astrolatry up until the Spanish conquests of the 16th century (Incarail, 2020; North, 2008, p168).

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<sup>70</sup> As was seen in the ancient Egyptian solar religion whereby the pharaoh was the embodiment of the Sun god Ra (Motz & Weaver, 2013, p1-20).

<sup>71</sup> It is also recorded in the Jewish Encyclopedia that the early Israelites practiced astrolatry (Seligsohn, 1906), particularly in the ancient port city of Ugarit amongst women (Cooley, 2011, p281-287; Smith, 2003, p265-277; Smith, 2010, p187-194) before it became prohibited in the Hebrew Bible, specifically Deuteronomy 4:19 and 17:3. However, it is thought that Babylonian astral religion only made inroads into Israel during the Assyrian period (Holloway, 2000, p138). In addition, it is understood that the Chaldean people were practitioners of astral religion (Collins, 1997, p324-330), especially during their rule of Babylonia from 625-539 BCE.

<sup>72</sup> Max Weber argued that astrology was a consequence of the development of astral religion which opposes Franz Cumont's theory that astral religion's rise in sixth century BCE was instead a consequence of the popularity in astrology (Campion, 2016, p115-126). Meanwhile, Lester Ness referred to astrology as being adjunct to the Mesopotamian religion from the third to second millennia BCE (Ness, 1999, p81).

# Critical analysis of an Astronic tradition

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## Components of the tradition

The earlier section on religious traditions posited that an extensive historical record is a fundamental component of all three major religious traditions. With the origins of the proposed Astronic tradition having roots in the Upper Palaeolithic period in the earliest forms of astronomical art and mythology, the Astronic body of thought possesses an extensive history, namely spanning at least 40,000 years.

The 'common origin' component of a religious tradition is also possessed by our proposed Astronicism, thematically. It is the astronomical theme of the postulated Astronic tradition that binds the tradition together and gives it a unique identity. This astronomical theme leads into the 'shared worldview' aspect of a religious tradition; that the astronomical world is integral to answering religious and philosophical questions regarding existence, purpose, faith, the future, and spirituality. Astronicism demonstrates its unique adaptability in being able to evolve and reshape according to the societal norms, attitudes, and topics of concern for the age. We see this quality in Astronicism through the transfer of dominance from astrolatry to astrology in the ancient and medieval periods and following astrology's decline, its transition to the systems of astrotheism and exotheism seen in the modern and contemporary.

What comprises the proposed Astronic tradition can be roughly split between the Palaeolithic and Neolithic. Hallmarks of Astronicism in the Palaeolithic include myths like the Cosmic Hunt, various instances of astromorphism in cave art, astrolatry based on astronomical utility, the origins of the emotion of astronality as the psychological basis of astronomical cave art, and the beginnings of astromancy. In the Neolithic, we see the astronomical orientation of monuments as a means of astrolatry and astromancy, the acceleration of astrolatry's popularity based on utility (namely harvesting and navigating by the stars), organised traditions of astrology beginning to emerge, as well as astrolatrous<sup>73</sup> theocracies, namely in the form of heliolatry and selenolatry.

Determining astrolatry as the Urreligion is based on archaeological evidence and what is reasonably understood about the development of religion. Perhaps the inability of the academic community to come to a consensus for the origins of religion is based on the fact that there is no established framework for determining what a religion is. If coming to a consensus on the origins of religion is a primary goal of scholarship, it is important to side with the approach that provides the most reasonable solution. The evidence for

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<sup>73</sup> Astrolatrous: a term coined by this paper relating to or practicing astrolatry; star worshipping.

astronomical religion includes Palaeolithic cave and rock art<sup>74</sup> (Violatti, 2015), engravings of accurate constellations into precious items, and the erection of monuments in astronomical alignment during the Neolithic period (Saletta, 2014). This type of evidence of belief and practice<sup>75</sup> is interpretable, but its existence irrefutable due to its physicality. This supports its reliability, especially in comparison to oral traditions which suffer from distortion. In aiming for a consensus on the origins of religion, what can be reasonably said is that astrolatry was the first religion and was integral to the inception of religion.

The postulations of this paper are based on findings from the archaeological record<sup>76</sup> with evidence of Upper Palaeolithic astronomical religion existing independently from other forms of religion. In any discussion of prehistoric times, interpretations of specimen are integral to understanding how the evidence fits into the wider religious landscape. The proof for the Astronic tradition's existence in the Palaeolithic and Neolithic is not only evidential, it is rational to conceive that there has existed a religious tradition based on astronomical observation since prehistoric times. Ultimately, Astronicism's validity is achieved through its archaeological verifiability rather than being entangled in mythology and theology, which is how the origins of the other three traditions remain. Finally, perhaps the most pertinent evidence of an Astronic tradition is not only the archaeological evidence, but humanity's spiritual connection to the stars that has persisted into the contemporary<sup>77</sup> as is reflected in Carl Jung's philosophy of religion.

Jung's approach to religion contrasted heavily with that of Sigmund Freud's (Palmer, 2003, p108-112), but it is the former's conception that is interesting when considering the origins of religion as entangled with astronomical observation. Jung proposed that religiosity was a consequence of individuation (Palmer, 2003, p143-146), meaning religiosity is a powerful force of identity that is central to personality. Jung saw religion as the exploration of the self and as a key part in the journey towards self-acceptance. Astronomical observation and religion are likely to be closely connected to humanity's sense of self-discovery. From the Aurignacian's first depiction of the constellations as a

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<sup>74</sup> John Pfeiffer postulates that cave art was part of carefully planned ritual experience that was used as an initiation ceremony for the young and Henri Breuil postulates that cave art was a symbolic enactment of the hunting process (Shreeve, 1995, p314-318).

<sup>75</sup> Common identified practices in Palaeolithic religion: figurine creation, star worship, burials and cremations, dressing the dead with jewellery, large stones may have acted as grave markers, giving of grave goods for usage and protection in the next life.

<sup>76</sup> The recent article published in *Nature* by Becerra-Valdivia & Higham (2020) proposes humans may have entered the Americas 15,000 years prior to what was previously believed. Although this proposal remains controversial, it ultimately signifies that what we think we know about humanity's early development is likely to continue changing as the archaeological record expands. This fact about scholarship on prehistory possesses direct consequences for the proposed Astronic tradition whose narrative is likely to alter concurrently with continued archaeological study.

<sup>77</sup> To study this cultural, religious and philosophical role of astronomy in contemporary society, the development of two disciplines called cultural astronomy (Holbrook et al., 2008, p83, 112, 121, 217) and archaeoastronomy (or ethnoastronomy) have been established. These disciplines have greatly assisted in the development of the proposed Astronic tradition (Haynes, 2000, p53-90; Magli, 2016, p3-28, 53-99). As more astronomical mysteries begin to unravel, humanity's position, and particularly our origins and early development, are significantly altering with consequential religious impact (Lotzof, 2018), as is seen by the different approaches to understanding religion.

way to comprehend the astronomical world to humanity's race to reach the edge of The Solar System and beyond, we as humans have demonstrated our evolutionary distinction from other mammals through our wonderment for the stars (called astronality). In this, we touch upon the individuation that religion, and especially astronomical religion, brings.

This is further explicated through the physical superiority of the stars and humanity's lifelong inability to physically experience the astronomical world. This physical inferiority of humans is individuating, particularly when peering up to the night sky and accepting one's own insignificance<sup>78</sup>. An embracement of that insignificance takes place and seems always coupled with a hope for the revelation that humanity is somehow important in the universe. However, as our astronomical knowledge has progressed and astronomers have understood the peripheral physical position of humanity in the universe, this culminated in Galileo's trial with the Catholic Church (Feldhay, 1995, p14-15, 26-28; Langford, 1998, p50-78, p79-104). This involved a refusal to accept that geocentrism was untrue in the physical universe in the face of the proposed heliocentrism which also held implications for anthropocentrism. It was Carl Sagan who said "we're made of star stuff. We are a way for the cosmos to know itself," which not only echoes Jung's approach to religion in the sense of individuation and self-discovery, but it also demonstrates to us why humanity has possessed an enduring awe for the stars. This astronality can be traced back all the way to the Upper Palaeolithic (Ancient History Encyclopedia, 2018) and seems to have forged a universal popularity amongst humans from the Americas<sup>79</sup> to Europe and Asia.

Finally, the impact of the proposed Astronic tradition is threefold. The first of these impacts is the tradition's prehistoric origins, making it the oldest archaeologically-verified religious tradition. This is impactful because the Dharmic tradition is often touted as the oldest and it puts into perspective the relative infancy of the other traditions. The second impact is that the proposed Astronic tradition acts as a category for marginalised religions, such as astrolatry, astromancy, astrotheology and other astronomically-themed faiths. Finally, the third impact of Astronicism manifests through its claim of astrolatry being the original religion and thus fulfilling the Urreligion theory (Studach, 1856, p1-20).

### **Comparative analysis of the proposed Astronic tradition**

An important feature of the proposed Astronic tradition is that throughout its history, it has syncretised with other religions via astronomy. One example is the influence of astronomy on the Dharmic tradition at the ancient temple complex of Angkor Wat in Cambodia (Gifford et al., 1976, p281-287). This syncretic nature of the Astronic body of thought through the influence of astronomy demonstrates that although some forms of

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<sup>78</sup> Occhiolism: the awareness of the smallness of one's perspective in relation to the universe (Schwenk, 2019, p1-105).

<sup>79</sup> In his 2008 work *Cosmos*, John North writes that "all the peoples of ancient North America relied upon and revered the celestials in the night sky, both farmers and hunter gatherers alike," which in turn forms a distinct branch of the Astronic tradition for Native Americans. This is something that Chamberlain (2000, p269-301) corroborates in her book *Native American Astronomy: Traditions, Symbols, Ceremonies, Calendars, And Ruins*.

Astronicism may have died out (e.g. astrolatry), the Astronic tradition continues to exist through its permeation into other religions.

Astronomy has been used in the service of various religions throughout history, namely that of the Abrahamic faiths. Astronomy's influence in Christianity is widespread (Bethlehem Star, 2012; McCluskey, 2014, p165-179; Robinson, 2017), such as the role of astronomy in the context of many biblical narratives (Quinton, 1926, p193-197) and in more recent times, the syncretism of astral religion with Christianity in the form of astral Christology (Denzey, 2010, p210-221). Maunder (2018, p1-438) explores all astronomical references in the Bible<sup>80</sup> which when compiled together are extensive and require further study, especially regarding which constitute an Astronic label. However, astrolatry itself was quickly declared as heresy, most prominently by Pope Leo the Great, and by Augustine of Hippo in his *De Vera Religion* and *De civitate Dei*, although more recent condemnations of astrolatry from the Church are scant. Similarly, astrolatry possessed an important role in the development of early Islam as it was practiced amongst the first Muslims (King, 2014, p181-196) while astrology look centre stage in the medieval period (Sardar, 2011). Furthermore, these Abrahamic faiths have used astronomy for their own purposes, such as Islam's use of the lunar calendar to determine dates for Ramadan. In Judaism, an address from Moses infers legitimacy for astral religion while simultaneously commanding the Israelites not to partake in such religion in Deut. 4:19; see 29; 6; 32: 8-9. This was commented upon by O'Collins (2008, p179) who wrote of the ambiguity regarding Jewish attitudes towards astral religion.

With the proposition of an Astronic tradition having been laid out, the question of how this relates to other forms of religion is important. One such aspect is that of nature religion (Durkheim, 2008, p23-70). The astronomical world is part of the natural world, although it is distinct from the terrestrial world. Nature religion itself, as distinct from the concept of natural religion (Fenn, 1911, p460-476), has existed perhaps as early as astrolatry with the worship of animals. If nature religion encompasses beliefs of nature being imbued with spirits or that these natural phenomena are the embodiments of divinity (Overend et al, 1998, p11-21), then surely this possesses a connection to astronomical religion. As such, it is not unreasonable to suggest that many aspects of the proposed Astronic tradition, particularly in their prehistoric and ancient manifestations, constitute branches of nature religion. However, the Astronic tradition does possess a broader array of beliefs and practices than those encompassed by the terms 'nature religion' and 'polytheism'. Furthermore, the postulated Astronic tradition is distinguished by its unique emphasis on the astronomical as a spiritual source; as such, it has a distinct identity from paganism and neopaganism as Astronicism far predates the 'pagan' concept (York, 2003, vii).

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<sup>80</sup> Of particular importance to the Astronic tradition is when a Syrophenician woman is described as engaging in star worship (Petri, 2017, p397-398).

## Final evaluation

To evaluate, it is important to reflect upon what has been proposed and how this relates to a broader discussion on religion, spirituality, and astronomy (Koestler, 1959, p19-42; Sutton, 2020). In his 1927 work *The Future of an Illusion*, Sigmund Freud delineates his views on religion as being a defence against nature as a superior force (Freud, 1927, p21) and signals religion as humanity's attempt to overcome the natural by connecting themselves to artificial concepts of the supernatural. By making themselves central figures in a supernatural framework, the salvation of humanity from the natural world is achieved by the grace of God into an eternal, perfect heaven. Perhaps the origins of religion are discovered in humanity's refusal to succumb to, or to deal with, the laws of nature. Throughout this study, there has been an undertone of this refusal. It could be interpreted that the first human burials were signals of humanity's refusal to accept their mortality, a notion which permeated through the mythologies of prehistory. This gained further establishment in ancient times as the concept of an overarching God bestowing eternal life upon the obedient arrived with the Sumerians into Mesopotamia.

However, the proposed Astronic tradition can be instead understood as an embracement of nature (Byrne, 1989, p1-10; Chignell & Pereboom, 2015) as possessing the answers to humanity's quest for self-understanding. Perhaps this is the catalyst of why our suggested Astronic tradition likely does not fit in with traditional concepts of religion; for example, is natural religion oxymoronic? Nevertheless, the astronomical world has inspired religiosity in much of human history as this study has evidenced with astrolatry posited as the religion preceding all others (Mills, 2015, p728-746). If anything, the astronomical world has always provided humanity with sobering facts about our own importance in the universe, or lack thereof, but the deeply held human need for existential purpose and the comforting knowledge that we are important in the grand scheme of the universe persists, as it likely shall forever.

We see this deep human desire for purpose in Karl Jaspers' philosophy of religion who proposed the importance of individual desire in discovering personal authenticity in the wider human situation (Vogel, 1962, p25-73). Jaspers named this ever-growing horizon of humanity's need for existential purpose and contentment "The Encompassing", which he then split into two halves, called the Transcendence and the World. Jaspers' approach to religion is reflective of the dependent relationship on both astronomy and religion experienced by humanity since our inception (Mullen, 2011). Human perception of our position in relation to the astronomical world has always governed the way we have considered our existential purpose. This kind of self-conception has been instrumental to the development of religion from its outset. This is true for the proposed Astronic tradition, in which prehistoric tribes accepted their inferiority to the astronomical world because of their physical positions below the stars (Robinson, 2007, p7). By using the fundamental principle of Jaspers' philosophy, we can understand why astronomical religion has held such a vast influence over human evolution and societal development.



Whether through navigational guidance (Pimenta, 2014, p43-65) or a search for personal direction, the stars have always possessed the same quality that is true of terrestrial nature; that organic, indestructible bond between humanity and that from which we came, no matter how civilised, or digitised we become.

We can summarise that the Abrahamic tradition affirms that “ultimate self-understanding and authenticity” is achieved through salvation via the One God, the Dharmic tradition achieves this through escaping the samsara cycle, while the Taoic tradition realises this through becoming one with the Tao, or the flow of the universe. For the proposed Astronic tradition, the core human desire for self-understanding and the realisation of our collective existential purpose is believed to be derivable from the astronomical world. Since many mysteries of outer space remain undisclosed, the true nature and extent of this astronomical religious tradition is likely yet to be fully conceived.

Finally, Segal’s suggestion that “new forms of society require new forms of religion; religion will always exist, for it performs an indispensable function,” is profound for our age (2006, p175). As humanity continues to undergo rapid technological, social, and religious change, new forms of religion are emerging and they are spreading, but not through empires or war like religions of the past, instead through the digital sphere (Astronist Institution, 2020; Dinsley, 2020). For Astronicism in particular, it is the advancing space exploration industry that will harbour the most profound impact on the future of religion and spirituality (Crowe, 2001, p209-226; Guessoum, 2018). Mass humanity will soon finally possess the ability to physically explore space. This ultimate moment to physically experience the astronomical world comes after forty-thousand years of mere observation beginning when those first Aurignacians peered up to the night sky and began to illustrate those divine stars above them.

# Conclusion

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In essence, the Astronic tradition is one that has seen various forms of influence in other religions through the science of astronomy and the practices of astrolatry and astromancy. The Astronic tradition preceded all other traditions and as such, influenced the development of its successors. It has seen widespread popularity and dominance throughout all ancient civilisations, the likes of which can only be compared to the world religions of Christianity and Islam today, but as all traditions eventually fade and become replaced, so were the astronomical religions of prehistoric and ancient times. As humans yearned for advanced theologies beyond that of simplistic star worship and star divination, the institutions that had been established to keep astrolatry and astromancy at the forefront began to diminish.

Crucially, the Astronic tradition proposed in this paper fulfils the criteria of a religious tradition as it attains five out of the six established characteristics. It possesses an extensive history, spanning some 40,000 years, making it the oldest religious tradition; it has a thematic commonality amongst all its members in the form of the astronomical; a common worldview of cosmocentrism, as well as the fact that in its peak dominance the Astronic tradition held worldwide distribution amongst all major civilisations. Finally, it encompasses at least three distinct members, including astrolatry, astromancy (the dispute remains regarding the inclusion of astrology – see Appendix 2), astrotheology, and exotheism. Although further studies are required to explore aspects of Astronicism in more detail, the fact that the Astronic tradition fulfils the majority of the characteristics of a religious tradition is demonstrative of its validity and that it should be classified as a religious tradition, thus achieving the goal of this study and affirming its hypothesis.

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# Appendices

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## Appendix 1 – Astronic tradition around the world

The contents of this study have largely focused on the development of the Astronic tradition in the prehistory of the Levant and Europe<sup>81</sup>, however, there is ample evidence of the Astronic tradition reigning Mesoamerica, especially star worship amongst the Inca (Minster, 2019). However, it is the development of Astronicism in China that is interesting especially because Chinese religions as a whole still remain largely clouded in mystery in relation to Western religious studies (Mercer & Trothen, 2014, p149). The history of Astronicism in China is therefore even further undisclosed which a future study will need to explore but the influence of astronomical religion in China is likely widespread with moon worship itself playing an important role in the widely celebrated Mid-Autumn Festival (Beijing Tourism, 2016).

A North Star cult was likely practiced throughout prehistoric and ancient China. In Peking, China, was a shrine devoted to the North Star deity. Such worship of the northern stars was likely associated with time keeping, as the positions of the stars could identify the annual seasons (spring began when the tail of Ursa Major pointed east at nightfall; summer when it was directed toward the south; autumn when it lay to the west; and winter when it pointed north). The stars of Ursa Major were appropriately called the "Seven Directors".

In China, the north polar star was invoked as "great imperial ruler of heaven" and within a sacred inclosure of the temple at Peking was a shrine dedicated to the North Star deity having tablets to the sun, the five bright planets, Ursa Major and the 28 constellations or "lunar mansions" of the Chinese zodiac on its walls. Worship of this deity also travelled to Japan in the form of the Buddhist deity Myōken (Bocking, 2016, p129) and astromancy was also disseminated there as it was integral to rulership (Smith, 2015, p11-12, 14, 21). It is believed that the swastika symbol first originated in China from the four significant positions of the Ursa Major due to its usefulness in predicting the seasons. There exists a vibrant anthology of astronomical myths and evidence of star worship throughout China which suggest a vibrant Astronic tradition there (Sun, 2014, p2043-2049; Werner, 2017, p176-197) as well as the use of astromancy in the Chinese army (Groot, 1912, p263). In addition to this, a three-armed form of the swastika, known as the triskelion, is found with the swastika in such widely separated places as Germany, where it is carved on a spearhead, Sweden, where it appears on a bronze brooch, and Arkansas, where it is

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<sup>81</sup> British historian John North (1934 – 2008) was another important academic whom dedicated his career to establishing a consensus on the historiography of astronomical observation and religion (North, 2008, p3, 24, 68, 80, 136, 164-165, 232-233, 784), particularly regarding the meaning and functionality behind Stonehenge (North, 2007, p10, 20, 527, 583). North's works present a wealth of credibly compiled knowledge directly regarding astronomy and religion during late prehistoric and throughout ancient times, allowing him to serve as a key author in future research.

painted on pottery. It represents three positions of Ursa Major. Meanwhile, a two-armed form of the swastika is frequently found in the Maya and Mexican codices and was probably the hieroglyph for Ursa Major. (Makemson, 1954).

The central premise of this study has been to focus on the prehistoric origins of the Astronic tradition as a means to present it as the oldest religious tradition according to archaeological evidence. However, as we move through to ancient times, the volume of specimen for the Astronic tradition significantly increased. This makes it even more difficult to decipher what is 'Astronic' in nature and character and what isn't. Makemson presents some key findings dated to ancient times found in Europe which have been labelled by this study as the Bohuslän Stellar Depiction (c. 1700 – c. 500 BC) (see Figure 1), Cassiopeian Man & Dog (c. 1700 – c. 500 BC) (see Figure 4), and the Danish Star Stone (c. 1700 BC) (see Figures 8a and 8b). Although these specimen are not directly related to the hypothesis of this study, it remains important to demonstrate the vast amounts of specimen from 3200 BCE onwards that will need to be analysed and classified according to their Astronicity as part of investigations looking into the Astronic tradition in ancient times, including the role of astronomy in various civilisations and periods in antiquity (Hoskin, 1999, p18-47) and the religious purpose and function of archaeoastronomical monuments (Heuvel, 2010, p53-55; Ruggles, 1997, p15-27).

Figure 1 – Bohuslän Stellar Depiction specimen

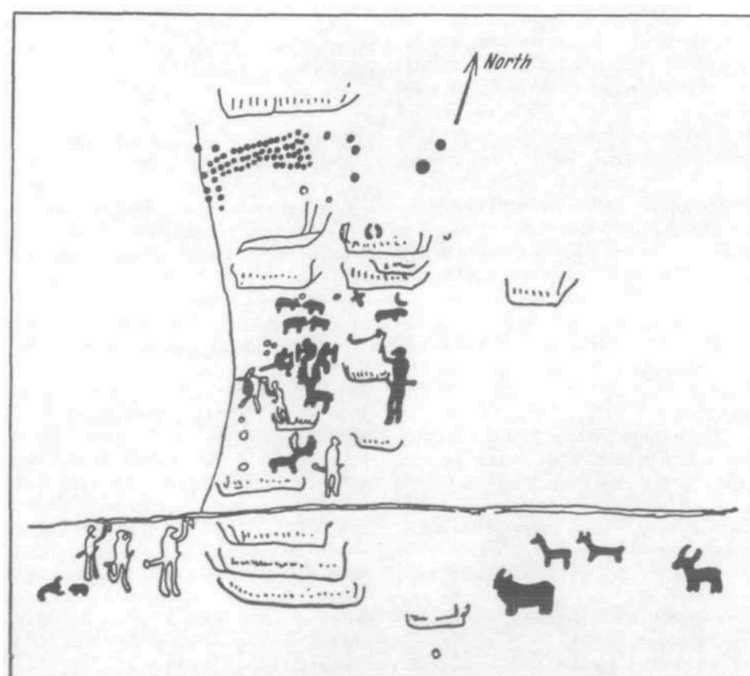


Fig. e. Rock-engraving from Bohuslän showing at right the Big Dipper. This engraving is of a peculiar interest because a number of constellation figures can be identified from the animals and men represented on the drawing. Very interesting is the occurrence of the Scorpion in the left lower corner.

(Makemson, 1954, p163-171)

Figure 4 – Cassiopeian Man & Dog specimen

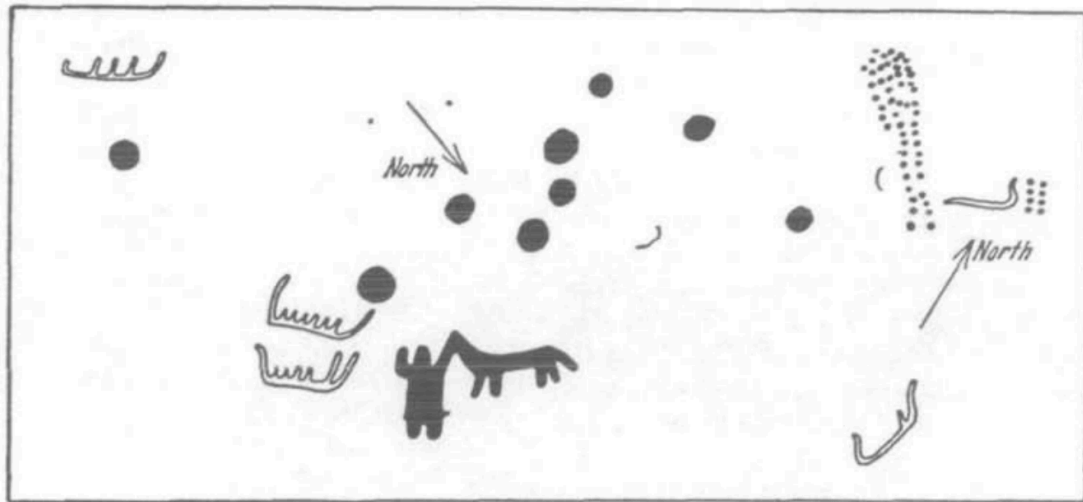


Fig. d. Rock-engraving from Bohuslän, Sweden, showing the constellation Cassiopeia.

(Makemson, 1954, p163-171)

Figure 8a – Danish Star Stone specimen. Sample One.

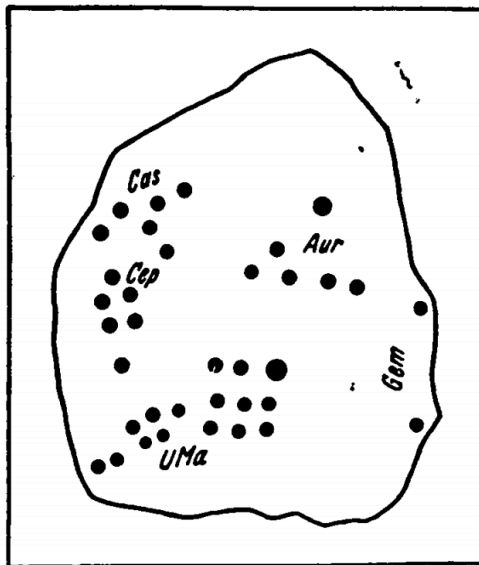


Fig. c. Stone-engraving from Venslev, Denmark, showing a number of northern constellations.

(Makemson, 1954, p163-171)

Figure 8b – Danish Star Stone specimen. Sample Two

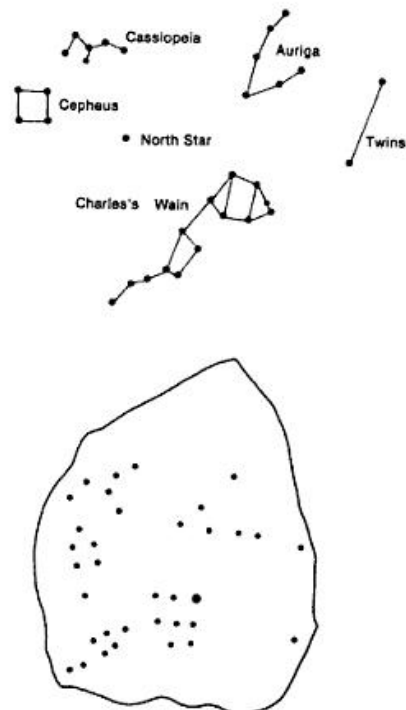


FIG. 4.32. CUP MARKS ON STONES AT VENSLEV, DENMARK. These possibly represent constellations. After Gudmund Schütte, "Primaeval Astronomy in Scandinavia," *Scottish Geographical Magazine* 36, no. 4 (1920): 244-54, figs. 12 and 13.

As the Astronic tradition is established, there remains mysteries regarding aspects of the tradition, namely its timeline. There are discussions already taking place regarding the origins of astral religion in the ancient world, particularly in Mesopotamia, about whether astral religion came from the Orient as Sarton believed (1955, p51-60) or whether astral religion possesses firmly Western origins (Pankenier, 2014, p1-13). From wherever it came, astral religion is understood to have been engaged with by the most pre-eminent Greek philosophers, such as Pythagoras and Plato who possessed influence in the development of later astral religion (Scott, 1994, p3-38).

Indigenous astronomies<sup>82</sup>, such as those of the Aborigines (Johnson, 1998, p21-68), constitute another important dimension to the development of the Astronic tradition all the way from its origins in prehistory to contemporary times. The role of astronomy in the cultural norms and religious beliefs of the Aboriginal peoples of Australia has been well documented (Carswell & Cockburn, 2011; Norris, 2018) with elements like dreamtime, unique constellation myths from the southern hemisphere, and the continuous use of the stars for harvesting and navigation in the same ways as those early humans from prehistory, are all hallmarks of the Astronic tradition's presence amongst the Aborigines (ABC Radio Sydney, 2017; Norris, 2020; Quach, 2017). Studying the development of different indigenous astronomies and how those astronomies influenced the rise of astral religious beliefs, practices, and and myths is fundamental to understanding how the Astronic tradition began in indigenous cultures (López, 2014, p197-212).

The Astronic tradition dominated the world's cultural and religious landscape for thousands of years, from the Upper Palaeolithic to the ancient civilisations of the Near East and North Africa. However, it was with the development of other religions like Zoroastrianism, Judaism, Hinduism and Taoism that more advanced belief systems emerged beyond the prehistoric simplicity that astrolatry emblematised. These and other religions not only came to criticise astrolatry, astromancy etc., but also lead widespread opposition to these major members of the Astronic tradition<sup>83</sup>. Although the practices of astrolatry and astromancy have persisted in various forms into contemporary times, the Astronic tradition has seen advancements in the complexity of the belief systems associated with it. An example of this kind of development is known as cosmic pluralism which was formulated in its modern understanding by the Italian philosopher Giordano Bruno. The religious significance of cosmic pluralism is manifested through the Astronic tradition (Maunder, 2019, p1-172).

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<sup>82</sup> In this context, the term "astronomy" relates to how a particular culture, religion, or people group interpret and perceive the astronomical world.

<sup>83</sup> William of Auvergne is recorded as having been in continuous dispute over star worship which is to have been expected from the Bishop of Paris although the very fact that star worship was even a point of discussion during the 12th and 13th centuries is of curiosity; that star worship was on the minds of those at the time is interesting considering scarcity of records of star worship during the Middle Ages which does suggest that some portions of society must still have been engaging in astrolatry or at least being accommodating towards the practice (Manuel et al., 2012, p45).

## Appendix 2 – Is Astrology “Astronic”?

Astrology encompasses the organised traditions of astromancy; that is, unorganised divination by the movements and positions of the stars (Campion, 2009, p1-3). It is from the prehistoric practice of astromancy that the traditions of organised<sup>84</sup> star divination emerged in ancient times. The question, however, of astrology’s inclusion into the proposed Astronic tradition has haunted this paper from its inception as there are many factors involved that, if not properly evaluated, could undermine what the Astronic tradition is being proposed as.

What must first be understood is that the inclusion of astrology as part of Astronicism does not constitute advocacy for astrology, neither from Astronicism itself, nor from any other proposed members of the Astronic tradition. For example, simply because Judaism, Christianity, Islam and the Baha’i Faith are part of Abrahamism, does not mean that each of those religions accept each other’s beliefs, nor does it mean that the Abrahamic tradition itself advocates for any one of those religions over others. Religious traditions are not created in order to profess acceptance for a religion, but are instead established in order to group religions together that share some key commonalities. As such, astrology should be investigated according to what constitutes a description of “Astronic” which this section of the study aims to achieve.

Firstly, let us recap what constitutes “Astronicity”, or to be described as “Astronic”. An Astronic religion must possess an astronomical theme; that is, its beliefs and practices must revolve around celestial phenomena or outer space generally, in order for it to be considered Astronic. This is the main constitution of an “Astronic” character which demarcates the identity of the proposed Astronic tradition.

The theme that astrology is based upon is doubtlessly celestial in character and its system certainly possesses religious and philosophical elements, although to describe astrology itself as a religion is misleading. Astrologers purport astrology to be a science, which it is not, therefore it has slipped between the gap of religion and science and has ended up a fad of popular culture in contemporary times (Campion, 2014, p103-166). However, for a remarkably long time, astrology was treated with respect and intrigue until the seventeenth century whereafter it saw its categorisation as a pseudoscience (Gregory, 1947, p393-394). As such, organised traditions of astromancy were established the world over, from the West, such as Hellenistic and German astrology, to the East, including Hindu astrology, Chinese, Burmese, and Tibetan, as well as pre-Columbian American traditions, such as seen in the Mayan calendar (Jarus, 2012; Rice, 2019, p25). However, in his 2009 work *A History of Western Astrology*, Nicholas Campion incorrectly attempts to

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<sup>84</sup> It is important to note that the use of “organised” in this context does not mean that an overarching authority was responsible for managing astrology; instead, “organised” means forms of astromancy that are directed into structured systems of symbols, terminology, and patterns for widespread public usage (Kynes, 2020, p2, 7-49, 74-96, 130).

encompass astrolatry, astromancy, astral religion, astrotheology, astronomical omens, constellation myths and others as all part of astrology which they are not<sup>85</sup>.

There are a number of concerns, however, with the inclusion of astrology as part of Astronicism, the main one of which is that by including astrology, it could taint our proposed Astronic tradition due to its negative connotations. Astrologers do not believe in astrology through their faith, but instead, they claim to know that astrology is true because of the knowledge they have and the practices they participate in, hence why they themselves consider it to be scientific (Curry & Willis, 2020, p22, 26, 43, 47, 52, 81, 93). Although astrology has more recently be adopted by the New Age movement for its alternative beliefs (Hanegraaff, 1996, p445; Strohmer, 2005, p97-111), the theme upon which astrology is based is more accurately defined as part of the Astronic body of thought due to its astral theme and its origins in astromancy (star divination).

It seems again that with the discussion on astrology, we return to the question of what constitutes a religion (Johnston, 2009, p6-10, 21-25, 41-45). Although astrology is neither considered by its practitioners, nor its critics to be a religion, this does not mean that it cannot be classified as part of the proposed Astronic tradition. Some could argue that astrolatry itself cannot be classified as a religion like Christianity because in many cases, it didn't have a fully formed theology due to the prehistoric times in which it developed, therefore its practitioners neither had the capacity to develop advanced theologies, nor the need to do so.

Ultimately, denying astrology to be classified as part of the Astronic tradition only undermines what the Astronic tradition has been proposed as and also brings into question the validity of its other members. If astrolatry, astrotheism and others are classified as Astronic due to them being based on an astronomical theme, then is it correct to exclude astrology? Essentially, by excluding astrology from Astronicism, the question of what constitutes Astronic character is raised. As a concession, it may be best to classify not astrology itself as part of the proposed Astronic tradition, but astromancy instead<sup>86</sup>, in order to recognise star divination and its immense historical impact on astronomical religion without involving the controversies of contemporary astrology.<sup>87</sup> However, this topic itself deserves a separate study if the postulated Astronic tradition is established.

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<sup>85</sup> The refutation of Campion's theory has been clearly asserted by this paper for instead these systems belong to what has been proposed as the Astronic tradition as they are independent of each other and are not encompassed by astrology (Campion, 2009, ix-x). Here, we see an example of an attempt to incorrectly include non-astrological entities as part of astrology which is a historical distortion and a common tactic amongst some astrologers.

<sup>86</sup> Astromancy has been characterised as deterministic by Koch (1965, p95-97).

<sup>87</sup> According to Harrison (2000, p25), in the Middle Ages, astrology and astromancy were separate disciplines; the former was the science of planets and stars while the latter was the practice of soothsaying by means of celestial configurations. This was before the two merged together following the Age of Enlightenment. Astrology is also described as anthropocentric because it directly connects humanity to the affairs of the astronomical world.

## Appendix 3 – Contemporary and future astronomical religion

Although the presence of the Astronic tradition was seen most dominantly in prehistoric and ancient societies, it has persisted in various forms up to the present with its likelihood to return, particularly as impending mass space travel will likely ignite philosophers and writers to turn their attentions towards the stars once more (Young, 2012, p46-144). This study considers the philosophical movement called Russian cosmism to be part of the Astronic tradition, namely because of its astronomical theme which stimulated the Soviet Union's cultural focus on space travel, thereafter igniting the Space Race (Nekrasova & Soshnina, 2016, p46-51). Russian cosmism was ignited in the 19th century by thinkers such as Nikolai Fyodorov (1828– 1903) and Konstantin Tsiolkovsky (1857 – 1935). Its central premise revolved around the future existence of humanity in the cosmos and incorporated elements of both religion and ethics to form its natural philosophy, thus pioneered by a group of thinkers called the cosmists (Gacheva, 2018). The Russian cosmists are herein classified as part of the Astronic tradition due primarily to the space-based theme of their philosophical school (Gerashchenko, 2017, p1-13; Markova & Markova, 2016, p11-18).

In prehistoric, ancient and medieval forms of the Astronic tradition, the emphasis was placed on the deification, observation, and divination of the stars. Following entry into modern and contemporary times, the focus of Astronicism has turned to exploration of space and the creation of more advanced theological and philosophical systems to deal with the complex questions that have been raised as a result of the disclosure of further astronomical facts (Lieberman, 2017, p53-59; Smith, 2014, p409). These have manifested into form of contemporary astrotheology and the rise of Astronism (Peters, 2014, p443-457; Peters, 2019; Peters, 2019, p363-367) in addition to discussions regarding ethics of space exploration (Arnould, 2018, p380-381; Pryor, 2018, p471-483). As advancements in astrobiology continue, questions regarding the existence of intelligent life in the galaxy are central to astrotheological debates (Dunér, 2016, p450-479; Pryor, 2018, p5-11), a major aspect of which are the religious and philosophical implications of finding extraterrestrial life (Krebs & Losch, 2015, p230-244).

Beyond this, astrobiology is seeing influence amongst Christian theology in the form of the development of “astrochristology” (Peters, 2016, p480-496). The Astronic tradition, directly through the spiritual and existential benefits of astronomy, is seeing a revival in contemporary times (Hickman, 2020), such as through spiritual stargazing (Salazar, 2007) and through the popularisation of astronomy by celebrities like Brian May. Astrotheology was built upon the discussions which took place in the field during the 18th and 19th centuries by Derham (1721, p1-246) and Higginson (1855, p1-96) respectively. Writers Tokoro and the Wickramasinghe's pointed out in their 2019 book *Our Cosmic Ancestry in the Stars*, the upcoming change in human religion and worldview to be oriented towards the stars or The Cosmos in the form of cosmocentrism (Tokoro et al., 2019, p102) which



demarcates that history may well once more be repeating itself in the form of a return to astronomical religion, thus echoing Palaeolithic, Neolithic and ancient religion.

In the contemporary context, of further importance is the Astronic tradition's concerns for environmentalism as other religious movements, such as dark green religion (Taylor, 2009, p1-25), are predicated upon. As deep space exploration nears our capability, the concern for protecting the environment of space and other worlds will be of the highest importance. As the source of spirituality and religious significance for the Astronic tradition is the astronomical world, its preservation will likely become an important aspect of astronomical theologies and philosophies of future times.