

Número 4 | Julho 2024

Instituto Politécnico de Tomar

Monografia | Monograph

# Antrope

## Is there Shamanism occurring within the ritual of neolithic monuments?

A welsh perspective

Rufus Malim



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*Bachwen megalithic monument. Photograph by the author.*

ISSN 2183- 1386

LATINDEX folio nº 23611 | REGISTADA NA ERC nº 127735 | REGISTADA NA INPI

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## **Acknowledgements**

I would like to thank Dr George Nash and Dr Luiz Oosterbeek for their feedback and advice on this monograph as well as Dr Sara Garcês for her help on preparing this work for publication. I would also like to thank Brian Thomas from Cadw who let us visit the archaeological monument of Barclodiad y Gawres and last but not least my thanks to Jane and Tom Evans for allowing us to see the archaeological finds at Esgob Farm.

# Abstract

Shamanism, in one form or another, exists around the globe in many different cultures. It has existed for thousands of years and is considered one of the earliest forms of religiosity. It has been studied with varying degrees of intensity however the research continues to develop as it remains incomplete. A wider more solid context is still required for disciplines such as archaeology for identifying it in various landscapes. My thesis intends to supply such context and explore the presence and importance of Shamanism in the landscape for prehistoric societies. I will do this by analysing several burials that feature some shamanic characteristics.

What I will do is apply current ethnographic knowledge to a selection of sites in Northwest Wales as there is good empiricist archaeological evidence in these sites. As I am coming from an Anthropological background and what I want to do is inject some humanities-based theories that involve Shamanism as part of these enigmatic monuments, the histories of which extend back some 5000 years. It is important I extend the functionality of these monuments beyond merely the archaeological evidence. The sites in Wales include Bachwen, Barclodiad y Gawres, Bryn Celli Ddu, Llwydiarth Esgob, Maen Catwg, Trefael, and Trelyffaint.

# Resumo

O xamanismo, de uma forma ou de outra, existe em todo o mundo em muitas culturas diferentes. É um fenómeno que existe há milhares de anos e é considerado uma das primeiras formas de religiosidade. Foi estudado com vários graus de intensidade, no entanto, a investigação continua a desenvolver-se, pois permanece incompleta. Um contexto mais amplo e mais sólido ainda é necessário para disciplinas como a Arqueologia para identificar este fenómeno em várias vertentes. O trabalho aqui apresentado pretende fornecer esse contexto e explorar a presença e a importância do xamanismo na paisagem para as sociedades pré-históricas. O processo passou por analisar vários enterramentos que apresentam algumas características xamânicas.

O conhecimento etnográfico atual será aplicado a uma seleção de locais no noroeste do País de Gales, tendo em conta que há boas evidências arqueológicas empiristas nestes locais. Tendo em conta a formação antropológica do signatário deste trabalho, a intenção será aplicar algumas teorias baseadas nas Humanidades que envolvem o xamanismo como parte desses monumentos enigmáticos, cujas histórias remontam a cerca de 5000 anos. É importante que se entenda a funcionalidade desses monumentos além das evidências arqueológicas. Os sítios considerados neste trabalho incluem: Bachwen, Barclodiad y Gawres, Bryn Celli Ddu, Llwydiarth Esgob, Maen Catwg, Trefael e Trelyffaint (todos no País de Gales).

# Introduction

This thesis will be investigating whether shamanism is occurring within the ritual of Neolithic monuments. The Neolithic monuments in question are located in Wales and include Bachwen, Barclodiad y Gawres, Bryn Celli Ddu, Llwydiarth Esgob, Maen Catwg, Trefael, and Trelyffaint. To determine the presence of shamanism occurring within the ritual of these monuments I will be approaching the evidence supplied by these sites from an anthropological perspective, including archaeological data where possible and including data taken from these sites in a holistic view to come to a conclusion.

These monuments, originally built within the Neolithic contain rock art and evidence of ritualistic behaviour, many of which are used for the burial of the dead (Nash 2006). The kind of ritual that was performed at these sites remains difficult to determine due to the lack of material evidence. This is in part due to the poor quality of the soil which is acidic thus leading to the degradation of remains and, in such cases as Barclodiad Y Gawres and Bryn Celli Ddu, there has been extensive intrusion, damage and interference at these sites by both archaeologists and peoples of the past (Nash 2006).

During the 18th and 19th Centuries many great megalithic monuments were taken to pieces partly due to a policy of maintaining roads, briefly mentioned in Skinner's tour around Anglesey (1802, 13 & 45), and partly due to the changing attitudes of people at the time. This change was away from superstition, which had played a role in protecting these sites (Skinner 1802, 66), and towards the scientific thinking of the enlightenment.

Additionally, to further confound the aforementioned issues, if these sites contained artefacts of any value many may have been removed before archaeologists could excavate them. Due to these issues, a clear conclusion as to what was precisely happening at these sites and what their overall purpose was will likely

remain inconclusive. However, based on the evidence and data that is available to us we can ascertain greater or lesser possibilities on what was happening at these monuments and why they were built. This includes whether shamanism or elements of shamanism were used as part of the ritual at these sites.

This is done by outlining a methodology used to identify if this is the case. However, to understand if these Neolithic dolmens did indeed involve shamanism or aspects thereof the terms Shaman and shamanism will need to be clarified for this thesis.

The term Shaman comes from the Tungus 'Saman' and this comes to us from the Tungusic peoples of Siberia (Eliade 1989, 4). Generally, this term has been applied to individuals in a given community who are considered ritual specialists (Lewis Williams 2014, 133) and engage in altered states of consciousness (ASC) to do their work. During this altered state of consciousness, a shaman visits and interacts with other plains of existence as well as with spirits and entities whether benevolent, neutral or malevolent (Lewis Williams 2014, 133). A shaman can act as a medical practitioner/healer, priest, poet, psychopomp, magician, mystic and/ or wield political power in a given community but is neither limited to nor necessarily fulfills all these roles (Lewis Williams 2014, 133; Eliade 1989, 4). Eliade defines shamanism as a 'technique of ecstasy' and the shaman the 'master of ecstasy' (Eliade 1989, 4). Equally the methods for attaining ASC are highly varied ranging from the ingestion of hallucinogenic substances or psychotropic plants to acoustics (such as a continuous and monotonous drumbeat), to sensory deprivation, to imagination guided visions, to dance or a mixture of some, all or more than the above (Eliade 1989; Lewis Williams 2014, 134; Lee et al. 2016; Harner 1990).

Often when referring to shamanism in given cultural contexts it is hunter gatherer societies and pastoralist societies that feature strongest among those that have

shamanic practitioners (Lewis Williams 2014, 133) but the presence of shamans is not limited to such societies.

The reason for the vast array of different roles a shaman may have and the many approaches a shaman may employ to reach altered states of consciousness is due to two key things: The first is that this reflects the practices of different shamans across an array of different cultures from around the globe which place the shaman in a multitude of similar yet differing roles. The second is that shamanism, when the term is understood in this way, must be understood as a holistic concept that has many variations but is part of a greater whole (Gheorghiu et al. 2017, 3). Other beliefs that often feature in a shamanic tradition may include but are not limited to animism, totemism, and fetishism.

There is some debate whether the term Shaman has been overused, too generalized and/or misapplied (Bahn 2010; Rydving 2011). This is because the term shaman ultimately refers to the Tungusic word and title 'saman' but is not necessarily applicable outside this context. Other communities have different names that apply to such ritual specialists such as *bügä*, *b gä* in Mongolian and *kam* in Turko-Tatar (Eliade 1989, 4). This source of debate and controversy continues to complicate matters, however in this thesis I will be using the terms Shaman and Shamanism to refer to the ritual specialist/ practitioner in a given community based on the above previous definitions; that Shamanism uses altered states of consciousness to achieve their ends and that it is a holistic concept that involves a great degree of variability between different cultural contexts around the globe, often applied by, but not limited to, hunter-gatherer societies and other small scale societies.

In this thesis I sometimes refer to those who may have engaged with altered states of consciousness as either shamans, ritual specialists, or practitioners. The reason I use the term practitioners or ritual specialists in this sense is to reflect the many cultural nuances, whether great or small, between shamans of different times and societies.

I am not claiming that the dolmens, any potential rituals surrounding them, ritual taking place in them or those ritualistic practitioners who carried out such operations are outright shamanic or shamans. What I am exploring is whether these sites and those who 'worked' (sic) at them in the Neolithic included

elements of what we understand as shamanism in the ritual of these sites and whether such elements were used by those who 'worked' (sic) at them. This is important to consider given shamanism, in its many varying cultural forms, continues to be practiced today in cultures from around the globe and is suspected to have been a possible origin point for religion (Peoples, Duda & Marlowe 2016). As such, similar such practices may probably have taken place at these sites.

The elements that could denote shamanic influences include: Rock Art, Soundscapes & Acoustics, Animal remains, Celestial alignments, Myths & Legends, its position in the Landscape, its architectural design, the geology of the monument and archaeological remains such as relevant artefacts, animals and human remains. Cultural nuances could be a cause for confusion which is one of several reasons why one cannot say these sites are shamanic. However, there are instances where shamanic influences do shine through which shall be analysed and discussed in this thesis.

## 2 Literature Review

The analysis the author has taken of these megalithic chamber tombs has been approached from a predominantly anthropological perspective looking in on the archaeological record. The literature in this section outlines some of the main arguments surrounding shamanism, shamans and rock art. Rock art is important as the monuments analysed in this thesis all possess varying types of art and rock art has been studied in detail as has its connection to shamanism. This makes rock art an ideal starting point and connecting element in this thesis when investigating shamanism in the ritual of these sites.

Further reasons for the focus on rock art and additionally animals in some cases is that many different cultures use rock art and animals in their shamanic and ritualistic practices. The archaeologist Whitley states 'The anthropological accounts, carefully applied, are our best guides to understanding the potential range of variability in prehistoric cases if only to avoid the imposition of our contemporary western biases on the archaeological past' (Whitley 2012, 307) and it is vital that this is understood if we are to conclude that the megalithic chamber tombs contain evidence of shamanism in Wales.

### LEWIS-WILLIAMS & DOWSON ENTOPTIC PHENOMENA 1988

The paper by Lewis Williams and Dowson on Entoptic Phenomena in Upper Palaeolithic art (1988) uses important ethnographic data and neuropsychological research to show how the use of altered states of consciousness and shamans were heavily involved in the production of Rock art from around the world often through experiences of Entoptic Phenomena.

The issue Williams and Dowson (1988) address when interpreting rock art (at their time of writing) is that the focus of interpretation shifted away from ethnography to internal analysis. Those who used

internal analysis hoped to make interpretations without the complex in-depth data of ethnography (Lewis-Williams & Dowson 1988, 201). This led to gaps in our knowledge and the paper by Williams and Dowson amends this by analysing rock art with the ethnographic data and also much needed neuropsychological research (Lewis-Williams & Dowson. 1988).

Williams and Dowson refer to the importance of Entoptic Phenomena as being part of the process of Altered States of Consciousness and in rock art. Entoptic Phenomena are 'visual sensations derived from the optic system anywhere from the eyeball to the cortex' (Ibid, 202). These visual sensations are induced by a selection of different stimuli that affect the body and the nervous system such as; auditory driving, fatigue, psychoactive drugs, intense focus, hyperventilation, rhythmic movement etc (Ibid, 202). This visual phenomenon comes in the form of geometric patterns. The response to this stimulus appears to be universal among human beings and is believed to be part of the response found in the human nervous system as well as in other mammalian nervous systems (Ibid). This suggests that it is very likely that whatever people saw in altered states of consciousness in the Upper Palaeolithic and more recently would more than likely be the same or similar to what we would see today when we enter such states (Ibid). To clarify further Williams and Dowson explain that entoptic phenomena is a separate phenomenon to hallucinations, but it can be part of the process of entering into a hallucinatory state. Entoptic phenomena can be divided into two types: Phosphenes and Form Constants (Ibid, 202). Phosphenes are created by stimuli directly affecting the eyeball itself whereas Form Constants are created by stimuli affecting the optic network outside of just the eyeball (Ibid, 202). Hallucinations form iconic visions which are, in part, affected by one's cultural background, so the visions

may take visual forms of culturally inspired ideas (Ibid, 202). Entoptic Phenomena involves Geometric patterns seen in the eye whereas the hallucinations are the more vivid and iconic imagery. This overall and somewhat complex division of experience helps to better explain and define the rock art we may find so one may categorise it more clearly as well as relating it to different kinds of altered states of consciousness (ASC). Williams and Dowson then reflect on the anthropological record and the shaman. They explain that altered states of consciousness is often the focus of the shaman in a given community who specializes in techniques to attain such states (Ibid). This is echoed by Eliade who states the shaman to be a master of ecstasy and shamanism as techniques of ecstasy (Eliade 1989, 4). The shamans and their corresponding cultures Williams and Dowson use in their paper include; the San shamans in southern Africa and to a lesser extent the Coso shamans of North America. Both San and Coso art using what is defined as entoptic phenomena and iconic imagery experienced in altered states of consciousness in their rock art. This ultimately reflects relatively clear and concentric stages experienced in altered states of consciousness as well as the use of shamanic activities in the process of its production (Lewis-Williams & Dowson, 1988, 213).

When entering into altered states of consciousness a shaman would experience a series of imagery including entoptic imagery. Entoptic imagery involves lines, grids, spots, lights, spirals and other geometric patterns often caused by phosphenes and nerve reactions to certain stimuli (such as meditation, sensory deprivation, or hallucinogens) before moving on to experience iconic imagery. The iconic imagery involves the hallucinations and more vivid forms of imagery (characteristic of some hallucinations) that shamans proceed to work with (Ibid).

This entoptic imagery often features in rock art in the form of geometric patterns (particularly engravings but not limited to them) and parietal art. Based on the paper by Williams and Dowson, it is postulated that the production of this type of rock art is directly linked to these altered states of consciousness and therefore forms of shamanism. This is especially the case with the San peoples of southern Africa as there is clear evidence of paintings being produced by shamans (Ibid, 204) (often) after they have gone through altered states of consciousness.

A second key feature is that the paper explains

that San dancers would face the wall with rock paintings believed to have been painted by shamans and sometimes place their hands on them in the hope of gaining power (Ibid, 214). The Shoshone peoples in North America will sometimes meditate in the presence of rock art in the hope of gaining a vision (Ibid, 214).

Williams and Dowson also argue that 3rd party production of rock art and artistic realism is also not incompatible with the use of altered states of consciousness, therefore even if a third party that had not had a direct experience with altered states of consciousness, they may well still be producing art depicting animals, events and phenomena experienced by someone who had except at their direction (Ibid, 216).

This article helps set the stage for the content of this thesis. It clearly shows that rock art is produced by shamans or through what can be defined as shamanic methods and processes. The article shows that the advent of Entoptic Phenomena is based on the process of inducing altered states (whether intentional or not) and that this is found in the human nervous system which has altered very little since the Upper Palaeolithic (Ibid). Given the age and perseverance of shamanic practice and the universal reaction of entoptic phenomena with the human nervous system, this would suggest that at least a fair portion of historical rock art may well have been the product of shamanism or elements of shamanic practice. Based on the ethnography the art is then subsequently used by shamans or such related practitioners after creation for future ritual practice. This is done through the use of; altered states of consciousness, dance, ritual performance or meditation, etc. in the contexts of the San and Shoshone Coso (Ibid). The entoptic phenomena and the stages of the production of rock art presented in the paper show how altered states of consciousness may be used to produce rock art and lend credence to the theory that rock art is closely tied to shamanic and/ or related ritualistic activity of which elements of shamanism may have likely been a part of.

In the context of the monuments in Wales outlined in this thesis the sites chosen all contain rock art. Much of this art fits the category of Entoptic Phenomena such as in Barclodiad y Gawres which feature spirals, lines and zigzags on certain stones in and around the chamber (Nash, 2006). This may well suggest that shamanism or elements thereof were

present in the ritual and construction of these Welsh monuments. In addition, there is evidence that some of these sites continued to see some amount of use after initial construction (Nash, 2006) which fits with the ethnographic data of indigenous societies today and how they continue to use such sites for various purposes including ritual and/ or shamanic purposes (this is in a similar fashion to the way the San and Coso use their rock art and respective sites after creation).

#### WHITLEY: ROCK ART, RELIGION AND RITUAL 2012

Whitley develops further on the use of rock art in the ethnographic record by giving multiple examples of different groups whose shamans produce and use rock art. Such shamans include; San who create their art after they have experienced altered states of consciousness (ASC), The Po'hage of the Shoshonean Coso of Native California who would produce visionary rock art, The shamans of the Wishram tribe (native California) who paint the rock art as they undergo altered states of consciousness, the numic speaking peoples including the Yokuts of California and Paiute of the Great basin where only the shamans made the visionary rock art (Whitley, 2012). Interestingly in such tribal communities, Whitley states that even if the shamans did not produce the art, the tribe members who did still produce art that is shamanistic as it is still created within the scope of shamanic beliefs and understandings (Whitley, 2012). This would further support the argument previously outlined by the author with Lewis-Williams and Dowson's paper that the monuments in Wales that feature rock art more than likely incorporated aspects of shamanism in their ritual.

#### THE CULTURAL CONTEXT OF HUNTER-GATHERER ROCK ART: LAYTON: NASH AND MAZEL 2018

However, the ethnographic record reveals that Rock art also possesses meanings beyond shamanism alone as a more polysemic nature is evident in many societies. The aborigines of Australia for instance and the select tribes found in Layton's 2018 paper (Nash & Mazel 2018, 110) adds to this understanding. Rock art for the aborigines is used as part of a holistic understanding of the world including totemic belief systems which can be crucial to understanding and interpreting aspects of shamanism and its relation to rock art. The rock art, used by the Warlpiri people,

is described by Munn in Layton's paper to have 'discontinuous meaning ranges' (Layton 2018, 110). What this means is that rock art has potentially many meanings and thus can serve many functions. In this way a piece of rock art whether geometric or silhouette can act as a mark in the landscape that delineates a territory boundary and sometimes it shows a sacred space. At other times the rock art is seen to have totemic qualities as this is the case for many of the aboriginal tribes in central to north Australia; each clan area/ territory is related to a heroic ancestor that made a journey across the land thus laying down dream tracks during the time of creation. For these tribes there are certain dances, songs and paintings that relate to that totemic ancestor and certain artistic motifs may relate to a specific clan (Layton 2018). During some of the dances and rituals art is used (including 'natural art') at such mythological and totemic sites to lend or release 'power'; this is done in one such instance by the Alawa where they beat the site with green leaves to release the creative power of an ancestor (Layton 2018, 114). This article shows the complex and polysemic use of rock art for these people and it demonstrates the amount of meaning that can be invested in such art forms. This may well be the same with the monuments in Wales as the functions of these sites would likely include other aspects of belief and cosmology aside from shamanic ideas.

#### 12000-YEAR-OLD SHAMAN BURIAL IN THE LEVANT: GROSMAN ET AL. 2008

There is archaeological evidence to support the existence of shamanism as far back as 12 kya in sites such as the Natufian Shaman burial in the Levant. Grosman et al. refer to the burial as a Shaman Burial (Grosman et al., 2008). This site does not feature rock art; however, the arrangement, assemblage, and animal remains are very important in terms of shamanic understanding and world-view. This is especially important when considering the often-close relationships totems and fetishes or power objects can have with shamanism. The use of animal spirits and animal parts in different shamanic practices can be seen from many places around the world (Eliade 1989; Harner 1990).

This burial featured an assemblage of; two Marten skulls (Martes Foina), around fifty tortoise carapaces (Testudo Graeca), the tip of an eagle wing (Aquila Chrysaetos), the forearm of a wild boar (Sus scrofa), the tail of an Auroch (Bos Primigenesis) and

the pelvis of a leopard (*Panthera Pardus*) (Grosman et al. 2008). The shaman is positioned in a foetal like position, the remains are that of an elderly female. She was buried in an oval-shaped grave with a human foot and a basalt bowl and covered by a large capstone (Grosman et al., 2008). These animal remains are vital when investigating shamanism as there is plenty of evidence of therianthropic figures in rock art (a mixture of human and animal hybrids) and the costumes worn by shamans when doing their work. As part of an outfit or used by the shaman in a number of ways these animal remains would be seen to have totemic qualities (possessing certain strengths, powers and associations of the animal it was once a part of that can be imparted on the owner) (Insoll 2012, 1007; Elkin 1964; Winkelman, 2015, 8) or the qualities of a fetish or power object (objects containing certain supernatural, religious and/or spiritual power) (Haddon, 1906, 64).

This Shaman burial, its assemblage, and interpretations can be helpful in relating to megalithic monuments such as Barclodiad y Gawres which features a 'stew' comprised of an assortment of animal remains (Powell & Daniel, 1956, 17). These animal remains and relevant totemic qualities can be analysed from historic culturally appropriate literature and ethnographic data from different parts of the world to give an idea for why these animals may have been selected and what they may have been used for at these sites. This type of analysis adds further context to the interpretation of the Welsh monuments and determining whether shamanism was incorporated in the ritual as the analysis of animals in this manner appears to often be overlooked in the literature. The same can be said to a lesser extent for the names and legends of the various sites which may also give further context.

#### PREHISTORIC ROCK ART, POLEMICS AND PROGRESS: BAHN 2010

Paul Bahn's work on the topic of rock art is an important aspect to consider. Bahn generally refutes the shamanic and ritualistic interpretation of rock art generally in favour of other interpretations such as symbolisms, stories, initiations, humour, and passing the time (Bahn, 2010). Bahn's concern is that there is too big of a focus on ritualistic and shamanic interpretation of rock art and that this perspective has some erroneous interpretations associated with it as well as diluting the literature.

Bahn states 'The only person who can really tell us what a particular image or set of images in rock art means is the artist himself or herself' (2010). This is quite true as there may be any number of nuances, meaning, and cultural specifics embodied in the art that we will never know that may or may not include ritualistic or shamanic behaviour or meanings. Fortunately thanks to ethnography sometimes the artist can tell us what a specific image or set of images means such as in the aforementioned cases of San & Coso (Lewis-Williams & Dowson, 1988) and some Aboriginal rock art as examples (Nash & Mazel 2018, 110). In these ethnographic examples, these groups do clearly use shamanism or elements thereof in their rock art both during its production and later. Additionally, the ethnography tells us that on many occasions rock art contains many meanings relating to Munn's 'discontinuous meaning ranges' (Nash & Mazel 2018, 110) something Bahn somewhat echoes when he states that rock art 'is truly an art for all reasons' (Bahn 2010, 201) however these different 'ranges' and meanings seem to include a mix of symbolism, stories, ritualism, totemism, shamanism, and more, such an example is the way the aborigines use rock art in Laytons article (Nash & Mazel 2018, 110). The importance of the ethnographic record cannot be understated in the understanding and interpretation of rock art as Whitley has already explained that the careful application of anthropology is among our best guides to understanding the prehistoric past (Whitley, 2012).

Interestingly Bahn also echoes the importance of the ethnographic record and uses it to give several examples where rock art was not done for ritualistic or shamanic purposes such as the painting done in the Largun shelter (though does not elaborate on what kind of shelter this is) in the North Territories. Bahn explains that this painting depicting a man and a snake came from a funny story of a dead snake being placed on a man whilst he slept where he leapt up in fright when he saw it, this was recorded for pure humour (Bahn 2010, 200). He goes on to explain that this painting could be misinterpreted as shamanistic without the ethnographic background, and this does make sense given the existence of therianthropic figures featured in rock art. However, when this context is not known, this is when phenomena such as location, associated archaeological & art assemblages, soundscapes, etc. need to be taken into consideration. The paper by

Collado explains that there are seemingly different kinds of environments for different and somewhat specific kinds of art (Collado 2016), this reinforces the importance of 'place' when it comes to the setting and use of rock art. Similarly, another ethnographic account, this time to do with native American Indian family groups meeting at a prominent location in Montana saw the children peck or draw pictures on the rock merely to pass the time (Bahn 2010, 198). Using Collado's paper this sounds as if this key meeting site is on a routeway and therefore the related art may well be created by travellers or traders etc (2016) – again the importance of 'place' is key. That being said, Shamanism cannot be ruled out in the same way that certain other symbolic or comical interpretations cannot be ruled out either. Neither can the other options as rock art, whether it is geometric, figurative or parietal, etc. can have any number of meanings including shamanic and ritualistic, and especially in certain kinds of environments where the associated assemblages suggest as much. Rock art is, in many ways, polysemic but the art depicted, and its location can give us an idea of meaning. For instance, rock art featured at a shelter where many people live together may be more likely to incorporate elements of storytelling and comical effect among other meanings whereas rock art found in a place of burial is more likely to contain ritualistic or even shamanic meanings. Ultimately Bahn's book serves as a caution against interpreting all rock art as shamanic or ritualistic as not all rock art is shamanic or ritualistic. In light of this it is essential that the rock art is analysed in conjunction with its surrounding features and associated assemblages (place) to give further and greater context to the data. This allows us a better and more accurate interpretation of the site and corresponding rock art. With a holistic collection of data based on both archaeological and ethnographic records it is possible to establish ritualistic activity, that can be described as shamanism, shamanic or bearing aspects of shamanic activity took place.

In the case of the dolmens in Wales there are many aspects to be considered including their positioning, architecture, alignments, the art, the fact they are places of the dead, the remains (if any) and artefacts (if any). It is unlikely that art done at such sites would not have special, culturally charged symbolic qualities. Such qualities relating to the dead and the otherworld specifically which again lends itself towards the incorporation of shamanic elements and cosmologies

given the age of these sites and the literature already reviewed here. Therefore, the importance of 'place' (Monument position in the landscape, orientation, architecture, alignments, place of burial) will also be analysed to give supporting context and detail to the rock art and also in discerning shamanic elements in the ritual of the site.

#### STONE AGE SOUNDTRACKS: PAUL DEVEREUX 2001

Adding more context is discerning the use or creation of an acoustic environment in and/ or around the monuments as this can be particularly significant for discerning the use of shamanism in the ritual elements of these sites.

Paul Devereux has investigated the acoustic qualities of many megalithic monuments and concluded that many of these monuments had been built with acoustics in mind (Devereux 2001). During the Neolithic (and earlier) the human ear would have likely been more sensitive to the environment around it and would have been utilized for hunting and survival. Sound and acoustics play an equally important role in rituals, festivals, rites, etc. and after some intriguing finds this discipline has also begun to be applied to rock art. In some caves, the rock art can be found on walls with particular acoustic significance (Devereux 2001). Devereux and his team measured and experimented with the acoustics in the megalithic monument of Wayland Smithy in the Berkshire downs amidst other megalithic monuments. They found that within the chambers of the monument there was a strong resonance which, at a particular frequency, would produce a standing wave (a standing wave amplifies sound and adds to it) (Devereux 2001, 79). In the two chambers tested at Wayland Smithy one had a resonance frequency at 112 Hz whilst the other had a resonance frequency at 95 Hz both of which are comfortably within the lower end of the male baritone (Devereux 2001, 80). From the testing of other megalithic monuments such as Chun Quoit (110 Hz) and Carn Euny Fogou (99 Hz) which turned up similar results it seems that many megalithic monuments were built with acoustics in mind (Devereux 2001, 81-82).

The acoustic elements are incredibly important as these can influence a person's psychological activity up to the point of inducing altered states of consciousness. This is especially useful for ritualistic

activity. Nowhere is this seen in a clearer view than in the creation of infrasound which is inaudible to the human ear but bypasses the normal methods of processing in the brain which can alter someone's emotions and senses (Devereux 2001, 43-45). This is still done in many indigenous societies as part of various ritualistic processes.

Using acoustics and sound in this way; to induce different emotions and altered states of consciousness is termed as Auditory and Photic driving. This creates what is called a disassociate effect and can create visual and auditory hallucinations (Devereux 2001, 47-49).

If these Welsh monuments have acoustic qualities, this can tell us something about the megalithic monuments and their relation to shamanic activity as part of the ritual process. This would depend on the resonance frequency ranges or sounds of various stones. If these sites have such qualities, then this may suggest that they used such sounds to attain altered states of consciousness which may have been a part of their ritual process thus suggesting shamanic involvement in the ritual of these sites.

However, in the cases of Barclodiad y Gawres and Bryn Celli Ddu these sites have been heavily modified due to restoration work and earlier archaeological investigation as well as past natural and human-caused degradation. These factors may well have complicated or severely damaged some or most elements constituting the acoustic qualities of these monuments. In the case of many of the other monuments on this list acoustics are difficult to study due to long-term degradation however some do still feature acoustic qualities such as Bryn Celli Ddu.

ENTERING ALTERNATIVE REALITIES: COGNITION, ART, AND ARCHITECTURE IN IRISH PASSAGE-TOMBS: DRONFIELD 1996

Dronfield offers a very interesting study in his paper on Entering Alternative Realities. This study investigated Irish passage tombs, the placement of art within these tombs and how these relate to the human psyche and cosmological contexts of different ethnographic groups (Dronfield 1996).

What Dronfield found was that the highest concentration of rock art was almost always placed in correspondence to the passage itself (Dronfield 1996). Factors such as passage length, tomb size or increased surface area did not seem to interfere with this (Dronfield 1996, 45). The art would depict

vortices, spirals, concentric circles, lines, etc. all of which Dronfield suggests could be seen as symbolic gateways or portals to other worlds (Dronfield 1996). These images are often seen in altered states of consciousness (as we have seen from Lewis-Williams & Dowson 1988 as entoptic phenomena) and are then added as part of the monument to places that relate to such imagery (Dronfield 1996). The most iconic and important part of these monuments in this study, especially when related to the art, are the passageways. In this paper Dronfield interprets these as representing the 'tunnel' seen in altered states of consciousness as a shaman or a practitioner journeys from one world to another (Dronfield 1996). If this is correct, then the very design of a passage tomb would suggest the incorporation of shamanism into the ritual of the site. For instance, a Sami Shaman can traverse the Axis Mundi down through the 'spirit hole' from the upper world into the realm of the dead (Dronfield 1996, 39). Interestingly in Hopi cosmology the Sipapu is seen as a gateway to the realm of the dead sometimes represented by a hole in the ground (Fergusson 1931, 155). This hole is comparable to a passage or a vortex in some contexts (Dronfield 1996) (after the Entoptic phenomena has taken place) which also features in the work of Micheal Harner (1990). The 'passageway' or 'tunnel' itself is often seen in near-death experiences regardless of culture, belief system or religion albeit with slight variations depending on one's beliefs such as the appearance of angels in the Christian tradition. Dronfield uses the Sami, Christianity and the Bwiti as examples of these phenomena, where individuals sometimes end up meeting dead relatives after or as they go down these tunnels or passageways (Dronfield 1996, 45).

In the context of the passage tombs the passageway leads from the living outer world into the chamber of the dead, thus symbolically representing the journey from the living world to the world of the dead, this being the same or similar journey that the shaman or practitioner may take in altered states of consciousness (Dronfield 1996). In addition, Dronfield suggests the practitioner may then enter altered states of consciousness inside the chamber tomb and travel to these other worlds (Dronfield 1996).

During these altered states (ASC) subjects will often encounter images, visions or experiences such as vortices, passages, or similar spaces. 'Passage tombs are exclusively associated in Ireland with art derived

from a subjective vision' (Dronfield 1996, 40). Vortices and other abstract geometric art correlate with Lewis-Williams & Dowson (1988) and the entoptic phenomena one experiences when entering into altered states of consciousness. This may be one explanation as to why this art is placed on these monuments if practitioners are entering such states (ASC) in these locations. We can see from the ethnographic record that groups such as the San, Native Americans and some Aboriginal groups use the pre-existing rock art at sacred sites for their work (Layton 2018 | Whitley 2012 | Lewis-Williams & Dowson 1988). It is quite possible based on this ethnography that ritualistic practitioners may have similarly used rock art at these passage tombs in Ireland as Dronfield is suggesting and therefore quite possibly at the dolmens in Wales even accounting for variables such as cultural nuances. Dronfield's analysis draws on wider ethnography and field data at the passage tombs in Ireland. This analysis is helpful in its application to the monuments in Wales as the sites bear similarities (some very close if not identical similarities) to the passage tombs in Dronfield's study and would again suggest possible shamanic or elements of shamanism incorporated into the ritual of these sites in Wales. This also shows the importance of place and architecture explored when reviewing Bahn's work and why 'place' is so important when analysing these sites and considering phenomena such as Rock art and Shamanism.

CHRISTOPHER TILLEY: CONSTRUCTING A RITUAL LANDSCAPE 1991

As an example of the interaction of landscape, monument and culture Tilley gives a layered analysis of passage grave monuments similar to those in Wales which reflects the benefits and need for a more holistic understanding of such sites taking into account multiple elements of its composition.

Tilley studies the passage graves of Vastergotland in southern Sweden. In this paper Tilley approaches the situation from a post-processual perspective and argues that the monuments represent the landscape in miniature and that these sites were part of a network of social areas and operations. The tombs are aligned in north-south rows with the entrance often facing east (Tilley 1991). Apart from the dimensions the tombs all share a regular uniformity in their construction and the chambers themselves aligned roughly along a north-south axis (Tilley 1991). In addition, these tombs show a clear standardization in their construction

with Igneous keystones and capstones (rarely interchangeable with sedimentary capstones) and sedimentary uprights (Tilley 1991, p 74). Tilley goes on to interpret the sites as the landscape in miniature, the igneous capstones and keystones representing the surrounding igneous mountains and the sedimentary uprights representing the surrounding sedimentary rock in the earth (Tilley 1991, p 74). Even the artefacts in the tombs are sometimes miniature (Tilley 1991, p 74). Tilley also describes how one enters the tomb from the east (where the entrances face) where the sun rises, the land of the living, and goes west, in the direction of the setting sun to the world of the dead (Tilley 1991, p 75). He describes this as a 'liminal space' and an 'axis of transition between life and death' (Tilley 1991, p 75). Tilley believes that the north-south axis represents 'an ancestral track' and that the igneous capstone may very well represent the igneous mountains surrounding the monument where-in many cultures spirits are believed to live (Tilley 1991, p 75). Additionally, Tilley shows that due to the spatial restrictions of the tomb the experience of entering this space was likely limited to a few select and important individuals whom Tilley describes as elders (Tilley 1991, p 78). This experience would be considered exclusive and those who went into the tomb possessed the mythic knowledge necessary (Tilley 1991, p 78). Such individuals who possess specialist knowledge such as this would include elders of a community, key leaders of that community but also the ritual specialist, which in a good deal of indigenous communities would be considered as a shaman. These ideas are quite fitting when compared to the anthropological record though these tombs may have more culturally nuanced symbolic and possibly ritualistic associations with them that we are not able to deduce.

In the case of the monuments and their north-south alignment, it is a possibility they are aligned to the axis mundi. This might suggest an interesting cross-cultural idea associated with the axis mundi however the entrances aligned with the sunrise may have more to do with ritualistic and cultural nuances of those past cultures in Vastergotland pertaining to rebirth rather than overtly shamanic traits.

The miniaturization of the outside world may also be interpreted as an attempt to create a reflection of it, but that reflection is the underworld. Tilley's work can be used to help us analyse the Welsh dolmens from both an interpretative perspective

and a geological perspective. These Welsh dolmens, including Barclodiad y Gawres and Bryn Celli Ddu are built amidst a dramatic landscape with the Snowdonia mountains in the background. The ideas on liminal space and an axis of transition are equally applicable to the Welsh dolmens due to their design and so can help us interpret them in a clearer fashion when looking for shamanic elements. Tilley's 'liminal space' fits well with Dronfield's idea on the 'passageway' to the other world, the 'axis of transition' and perhaps more importantly the 'ancestor track' along with the north-south alignment also fits well with the Sami concept of the axis mundi and as a way to travel between worlds (Dronfield 1996| Tilley 1991). Despite Tilley and Dronfield coming at monuments from different kinds of perspectives both perspectives have similarities that link well to shamanic elements involved in the ritual of such sites.

This literature review shows many of the current ideas surrounding the use of shamanism in the ritual of past sites and what needs to be done to build a better model to discern the use of shamanism in the ritual of such sites. The use of Rock art is one of the best indicators of shamanic involvement and it is well researched, but it is also hotly contested by Bahn's critique of rock art and ritual. It is critiques such as this that reflect the need for a more holistic approach incorporating the research and approaches of the aforementioned literature and the addition of the author's approach.

Rock art can suggest the use of entoptic phenomena and therefore shamanic activity in its own right and there is ethnography to support this as Whitely and Layton demonstrate but additional context is required. Hence the importance of any archaeological assemblages such as in Grosman et al.'s Natufian burial, the author's exploration of the ethnographical interpretation of animals, Tilley's holistic analysis of landscape, architecture and monument, Dronfield's analysis on the position, architecture and style of art in relation to the architecture of the tomb, the acoustic resonance and the varying ethnographic detail such as the site name, legends and interpretations. All are important as to discerning the presence of shamanism in the ritual of a monument. This more holistic approach will be taken when analysing these Welsh sites.

# 3

## Approach and Methods

### AIMS AND OBJECTIVES

The aims of this thesis are to discern whether Shamanism is occurring within the ritual behind Neolithic monuments, specifically, select monuments in Wales. To do this the author will outline a holistic approach using a selection of different approaches explored by different authors in the literature review into an analytical method and tool.

### WHY?

Wales features a selection of enigmatic megalithic monuments that date from around 3200 BCE onwards. Some of these have been destroyed whilst others survive. Out of the 240 proposed monuments suggested by Nash's research (2021) around 15% of them possess rock art and specifically mentions 18 key sites (2021, 18). This indicates that only certain sites were being chosen. Half of this assemblage is located in north Wales whilst the other half is located in south Wales (Nash 2006). Both locations had year-round agricultural potential during the Neolithic (Nash 2006, 19). The engraved form of art featured at these sites was placed on monuments to do with burials, death and ritual; the most common artistic motif being the cupmark often found on walls or capstones (Nash 2021).

Interpretations on the meaning and function of these sites beyond the burials themselves have been postulated by Tilley (1991) and Nash (2021) using a mixture of anthropology and interpretative post-processual analysis in their approaches. The architecture and its close relationship to the landscape was one of the key analytical points (Tilley 1991| Nash 2021) this will be analysed further in the following pages. The rock art made at these sites also holds a great deal of importance especially where ritual comes into play as rock art is seen as integral to Neolithic ritual behaviour (Nash 2021). Nash concludes that the

rock art and these sites are part of the performance surrounding death, ritual and burial (Nash 2021).

The empiricist data surrounding these monuments is excellent to build on as there is more to be garnered from the data available about these sites. More context can be given to these sites by anthropological and ethnographic data based and built on the archaeological data already available to us. This is especially true when applying data concerning shamanism into the ritualistic aspects of these monuments in a holistic way which has not been done in this way before. The reason behind applying this approach is to further enrich our understanding of these monuments and what thoughts, purposes and ideas may have been behind their creation and (perhaps more interestingly) their continued use by learning how other societies approach rituals and by understanding their cosmologies. Clearly the spread of megalithic monuments found throughout areas of Europe (Tilley 1991; Nash 2021; Nash & Garces 2017) shows a spread of ideas concerning these monuments and likely the reasons behind building them. It is equally possible when one considers the global spread and vast cultural nuances yet similarities of shamanism that such elements of this practice, or ideas like it, may have been incorporated into the ritual of these sites.

Such explanations behind why the spread of these ideas and subsequent nuances is a bit different but could be placed to down to syncretic approaches by past communities thus allowing for the combination of other beliefs and ideas in conjunction with their own. Jean Piaget's theory of developmental stages of intelligence may help us understand why such ritualistic and even shamanic ideas spread. The underlying intelligence developmental phases present in all humans, leading up to and including operational thinking are key in the organisation, planning and psychology of people and society from around the world (Wynn 1985). Similarly, the

physiological and psychological reaction to stimuli that produce altered states as explored with Entoptic Phenomena with Lewis-Williams and Dowson (1988) are equally universal. Combining the syncretic factor (a combination of beliefs and ideas similar or in conjunction with their own beliefs and ideas) in the way Neolithic societies may have viewed the world, with these two innate psychological traits, it would therefore make sense that past civilisations would find ways to organize themselves (Piaget's operational thinking) around phenomena associated with altered states of consciousness (the innate optic sensory system found in all human beings) which were often times associated with religious or shamanic experience. Such structures, especially where shamanism, spirituality or religion are concerned, can be seen from the ethnographic record. One such example can be seen in Northern Sakha Republic in the 1990s where a young man showed all the signs of 'shamanic sickness' which would have led him on to become a shaman. This young man was instead committed to a psychiatric ward by the soviets (Balzer 1996, 305). This example shows the importance of psychological factors in shamans and also how this would have led this young man to a predestined place within the community as the shamanic spiritual leader (Balzer 1996, 305). This then links us back to the universal optic system and its natural response to certain stimuli inducing varying degrees of altered states of consciousness (Lewis-Williams and Dowson 1988) and the organizational thinking of past societies and how they may have managed this and such people. These underlying psychological and cultural factors gives an explanation as to why shamanism would have spread and elements of it were incorporated into the ritual of sites such as those seen in Wales. Identifying such factors in the ritual of this site also helps us grow knowledge and understanding of our heritage and how the peoples of the past approached ritual aspects of their lives and what cultural nuances that may have entailed.

#### WHAT?

In order to identify if shamanism is occurring in the ritual of these Welsh sites the author will create a synthesis of various archaeological, anthropological and other related material to come to a conclusion. This will include refining previously used methodologies and ideas utilized by previous authors covered in the literature review and additional approaches to the

methodology of the author's own design to approach aspects of these monuments that have not yet been studied. The author will review and analyse various aspects that are indicative of shamanic elements of each of the sites: Bachwen, Barclodiad y Gawres, Bryn Celli Ddu, Llwydiarth Esgob, Maen Catwg, Trefael, and Trelyffaint all of which contain rock art. This includes the name, legends, type of site, acoustics, its architectural aspects and positioning. Such variables are important as these may present clues as to the ritual and cosmological ideas behind the communities that built them, the communities that used them and compare these findings with the archaeological and ethnographic record to interpret these findings.

#### WHAT GENERALLY IS A BURIAL-RITUAL MONUMENT?

Archaeological evidence suggests that as part of what it is to be human, there has been a need to dispose of the dead in a respectful and ritualistic way since modern humans dispersed themselves around the earth, between 70 kya and 100 kya years ago. During the European Neolithic, the way of burying dead had become a sophisticated practice that involved the construction of stone chambered monuments. Depending on what part of Europe, many different types of architecture was used for the disposing of the dead, ranging from simple discrete cists to large and elaborate monuments such as Newgrange in Ireland and La Hougue Biv in Jersey (Channel Islands). However, irrespective of what type of monument was being constructed, five generic construction components were being used: mound, entrance/façade, passage, chamber and landscape position. At some point during the 2-3000 years of the European Neolithic, communities began to decorate the internal and external areas of a small percentage of monuments, either through applying strategically placed engravings or paint. The potential reasons for applying this creative element to the monument is unclear, however, through the Atlantic façade where most Neolithic monuments are located, archaeologists have noted distribution patterns. For examples, cupmarks usually occur on capstones, while more elaborate artistic endeavour occurs within the chamber and inner passage areas (Shee-Twohig 1981). In determining whether shamanism was utilized in the ritual of a site the author will be looking at the following phenomena, then analysing it and comparing it to relevant data for analysis:

- **Site Name:** The site may possess a name with unique, atypical and/or unrevealed meaning behind it. This may give clues to its past and history and maybe comparable to other data.

- **Location of Site:** Where is it located? Is it isolated or near to (past) communities? Is it easy to reach? Why has this location been chosen? This aspect has been inspired by a combination of various aforementioned articles in the literature review.

- **Its Surrounding Landscape:** Does the site feature streams, rivers, bogs, lowlands, highlands, forests (present and/ or historical). What role might the landscape play in the creation or meaning of the monument if any? This follows on from Tilley's (1991) analysis of the ritual landscapes surrounding the passage tombs in Västergötland. This also relates to Layton's article (2018, 110) on the aborigines who use art to delineate special places of symbolic and political significance in a territory.

- **The Architecture of the Site:** The overall design. The geology of its stones. Its orientation and alignments; includes celestial alignments and associated dates. The interior layout and design. This aspect is also inspired by Tilley's (1991) analysis of the landscapes and the passage tombs in Västergötland.

- **Type of Site:** These are all monuments for burial but also other contemporary (at time of construction) and later activities possibly surrounding ritual. If so, ideas behind what kind of ritual activities will be investigated.

- **Archaeological Assemblage:** Depending on findings we will be looking at animal remains. Tool remains. The rarity of such remains. Human remains and how are they buried. This aspect follows on from Grosman et al.'s (2008) finding of the Natufian shaman burial and the author's intention to analyse the findings including animals in closer ethnographic detail.

- **Local Legends Surrounding the Site:** Where relevant local legends about or surrounding the site may give some interpretive context to add to the data of the site. The author believes this is an important aspect to add as such legends can give greater context to interpretation, something Powell and Daniel did when analysing Barclodiad y Gawres and its name (1956, 76).

- **Rock Art:** What rock art is featured at the site? For the most part the author will be looking at Geometric art and a significant amount of cupmarks

at these sites. Where they are located and what they may depict will be of importance. This aspect follows on from the studies analysed in the literature review by Dronfield (1996) and Williams and Dowson (1988).

- **Acoustic Qualities:** Coming from the perspectives of Devereux (2001) and Goldhahn (2002) the acoustics of the monuments and their surrounding environments will be analysed as best as possible. Was the site altered to accommodate acoustics? Would standing waves be possible to produce? Does the site have 'singing stones'?

- **Conclusions on the site in question.**

This methodology and its more holistic approach should help elucidate shamanic aspects of the ritual at these Welsh sites. However, some of these analytical aspects will have limited or even no data due to damages, lack of relevant research and degradation to the sites.

## The sites

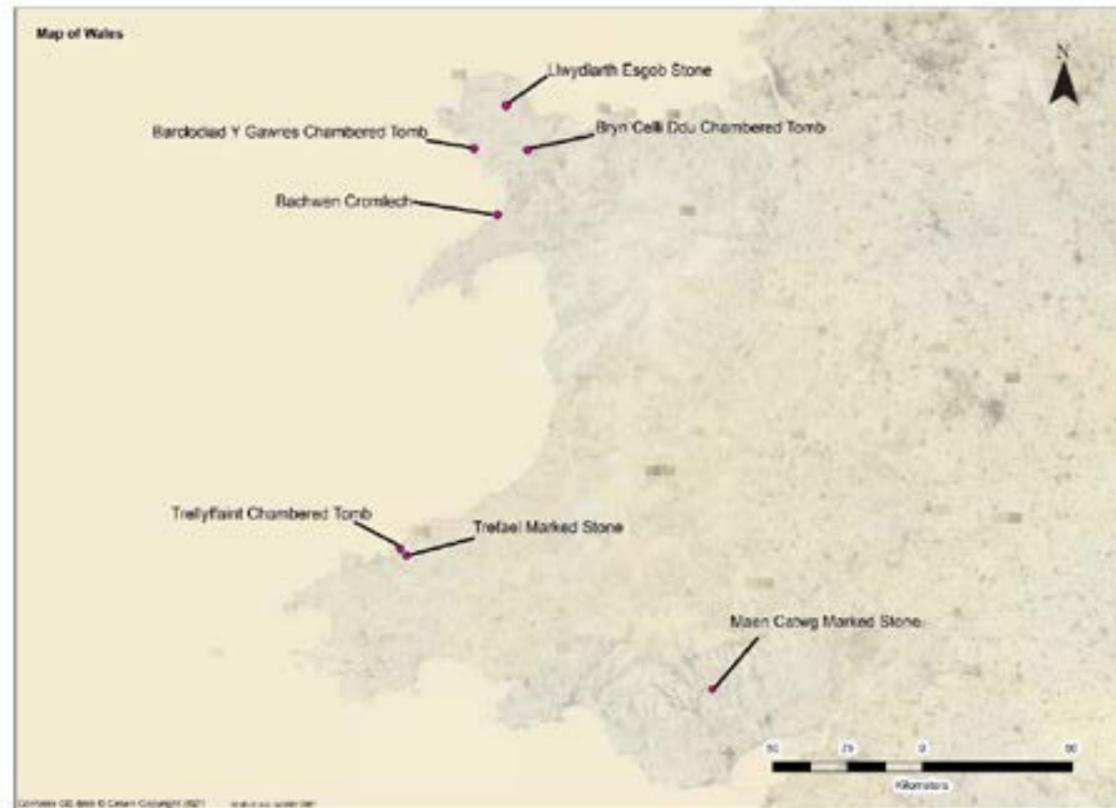


Figure 1: 1888 Map of Wales detailing the location of the sites discussed in this thesis. Reproduced with the permission of the National Library of Scotland.



Figure 2: Modern map of Wales detailing the location of the sites discussed in this thesis.

The sites in Wales discussed in this thesis includes: Bachwen, Bardodiad y Gawres, Bryn Celli Ddu, Llywdiarth Esgob, Maen Catwg, Trefael, and Trellyffaint. Each of these sites contains rock art.

### BACHWEN

#### Site Name:

Bachwen; this translates as small-white (or small pure – authors translation) and it is a dolmen found near the village of Clynnog Fawr in the county of Gwynedd near to the sea (Nash 2006, 157).

#### Location of site:

Bachwen is located 200 meters east of the sea, at 24m AOD and is found near the Clynnog settlement on the lower north-western slopes of Bwlch Mawr (Nash 2006, 157) at 53°01'08.1"N 4°22'31.0"W (OS National Grid Reference SH4077149487).

#### The surrounding landscape:

Around 200 meters away westward, is the sea and eastwards, are hills and mountains. To the south are also mountains and hills including Mynydd Gwaith and Tre'r Ceiri Hillfort (Nash 2006, 157). Around 500 meters East is St Beuno's Well (figure 4). Around 650 meters East Northeast is the Church of St Bueno, whilst around 750 meters southeast is a prehistoric circle hut settlement (figure 4).

#### The architecture of the site:

Bachwen is a portal dolmen supported by four orthostats over 1 meter high each that may have once contained dry stone walling (Nash 2006, 157). The sedimentary capstone measuring 2.4 x 2.7 meters is aligned east west angled down towards the sea (Nash 2006, 157). The mound would have been around 14 x 7.5 meters in diameter, and it has been suggested that it may have once been a multi chambered cairn (Nash 2006, 157). The geology of the orthostats and the

capstone is Sandstone which comprises the geology of the local area (Nash 2021 Personal Communication). Quartz is also present at the site however an excavation would be needed to determine if it is in any significant quantity.

#### Type of Site:

This site is a Portal Dolmen burial chamber that would have once been covered by a cairn mound.

#### Archaeological Assemblage:

As far as the author is aware, no excavation work at Bachwen has been conducted, and therefore no known archaeological assemblages have been found.

#### Local legends surrounding the site:

The site of Bachwen itself appears to have no legends directly associated with it. Its name however – small white - may relate to something of cosmological significance to past communities. Nearby Legends such as that of St Beuno may or may not have some relevance given the way local communities interacted with the landscape.

#### Rock Art:

The capstone features 110 cupmarks roughly 5cm in diameter and 2cm in depth with two shallow grooves linking three cupmarks together (Nash 2006, 157). All cupmarks are positioned on the southern side (Nash 2021 Personal Communication). It is believed these cupmarks were made during the bronze age and may have been exposed for some time due to the evidence of weathering on the capstone (Nash 2006, 157). This art may have been hidden for a time or be the result of graffiti (Nash 2006, 157). They may have held significance if we take Dronfield (1996) and Lewis-Williams & Dowson (1988) into consideration and, much like the other examples, they are mainly if near exclusively made on burial chambers then they may have held significant ritualistic significance perhaps representing gateways or are the product of entoptic phenomena.

**Acoustic qualities:**

The acoustic qualities have not been tested at Bachwen.

**Conclusions:**

Bachwen remains a well standing monument with an interesting local area. The rock art is similar to several other sites listed in this thesis such as Trelyffaint, Trefael and Maen Catwg where it has been engraved into the capstone or former capstone of a dolmen. Due to the markings on the capstone and its position in the landscape it likely did maintain an important place in people's memories and given that it remains as one of a few monuments in Wales that exclusively feature cupmarks it may well have had an important significance to past peoples.

Bachwen likely held ritual or folkloric significance to local peoples during its use however to date there is not enough data to substantiate shamanic activity for

this site on its own other than through interpretation of the rock art, the name of the site and surrounding local legends about the community.



Figure 3: Bachwen. Photograph by the author.



Figure 4: OS map of 1888 showing the location of Bachwen and the surrounding landscape. Map and photos made and taken by the author. Reproduced with the permission of the National Library of Scotland.



Figure 5: Bachwen. Image taken in 2021 by the author.

## BARCLOIDIAD Y GAWRES

### Site Name:

Barclodiad y Gawres is believed to have been constructed in the Neolithic (Powell & Daniel 1956| Nash 2006). The name translates as 'The Apronful of the Giantess' (Powell & Daniel 1956, 1) the thought behind the name may relate to the ideas behind such sites as the Wrekin where a large being came along and dumped a load of rocks or earth at the site. Barclodiad y Gawres is also known as Mynydd y Cnwc which roughly translates as Fleck Mountain or Knuck Mountain (authors own translation). In its own right the main name (Barclodiad y Gawres) holds debatable significance in determining shamanism. The Giantess may well be linked to a pre-Christian female deity which may or may not extend back to the Neolithic. However, if the apron is that of a smith a possible

option is that the deity could be the triple goddess Brigid who is associated with Smithcraft (and given the close links between Anglesey and Ireland this is even more plausible). Smithcraft was considered a magical art in its own right, such examples include the Irish druid smiths (who would enact some comparably shamanic rites), the right of kingship (Malim 2020, 122) and legends of supernatural smiths and smithcraft have been linked to other Neolithic sites such as the long barrow megalithic structure of Wayland Smithy in the Berkshire Downs (which has significant acoustic properties of its own) (Devereux 2001, 79). If Fleck is the correct translation of the second name this can mean light which (given it is a tomb that never sees the light of the sun or moon due to the orientation of its entrance) may also be associated with the same goddess.

The aspect of smithcraft only takes us to the iron age at best. It is possible then that, provided the

giantess leads back to a pre-Christian female deity and given some aspects of the assemblage, it is debateable that Barclodiad is associated with a goddess of some kind. The smithcraft and its early reverence as a magical art arguably bear similarities to aspects of shamanism especially in some legends about smiths though this is a tentative link in this instance but intriguing.

The Apronful may also be interpreted as representing pregnancy and therefore relate the site with fertility or a place of future rebirth.

### Location of site:

Barclodiad y Gawres is located on the western coast of Anglesey on the north headland of the inlet of Porth Tre-Castell (Powell & Daniel 1956, 1). Its coordinates are 53°12'26.2"N 4°30'13.1"W and its grid reference is 23/329708 (OS National Grid Reference SH3289370727)(Powell & Daniel 1956, 1).

### Its Surrounding Landscape:

It is positioned on a cliffside at the edge of the sea. Water runs by it through the cove to the south after emerging from a small stream to the east. This could be comparable to potential symbolisms of rivers or streams such as at sites like Bryn celli Ddu (seen

below) and at Melangell (Malim 2018, 108) where in some contexts the site can be viewed as a fertility symbol like an egg. A few hundred meters to the north there is the Mynydd Bach Tumulus, a former cairn but with no evidence of bone or fragments suggesting cremation, which lies just a few meters north of a small stream (Powell & Daniel 1956, 71). To the West is the Irish sea, to the northwest is Holyhead, far North and visible from the entrance way of Barclodiad are two hills in the area of Cylch-y-Garn, far Northeast is Parys Mountain and to the far south is Snowdonia.

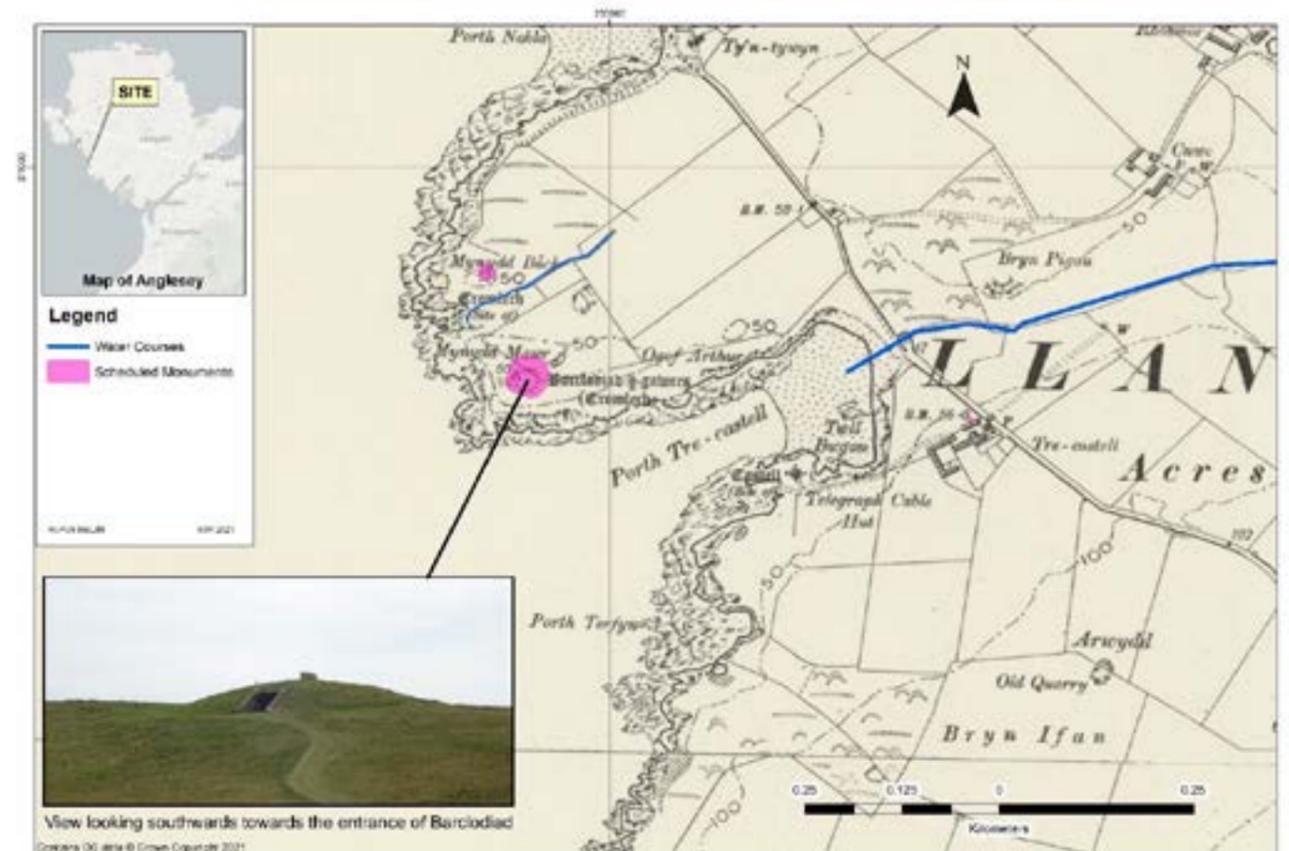
### The Architecture of the site:

Barclodiad y Gawres is a cruciform Neolithic passage grave and has a similar schematic to the Irish chamber tombs of the Boyne group (Powell and Daniel 1956, 31) including the same five key designs of architectural designs in its construction found in other chamber tombs such as in Ireland; Circular mound, wide entrance, an elongated passage, a cruciform chamber

Figure 6: Barclodiad y Gawres. Photo taken by the author in 2021.



Figure 7: Barclodiad y Gawres 1888 location map. Map and photos made and taken by the author. Reproduced with the permission of the National Library of Scotland.



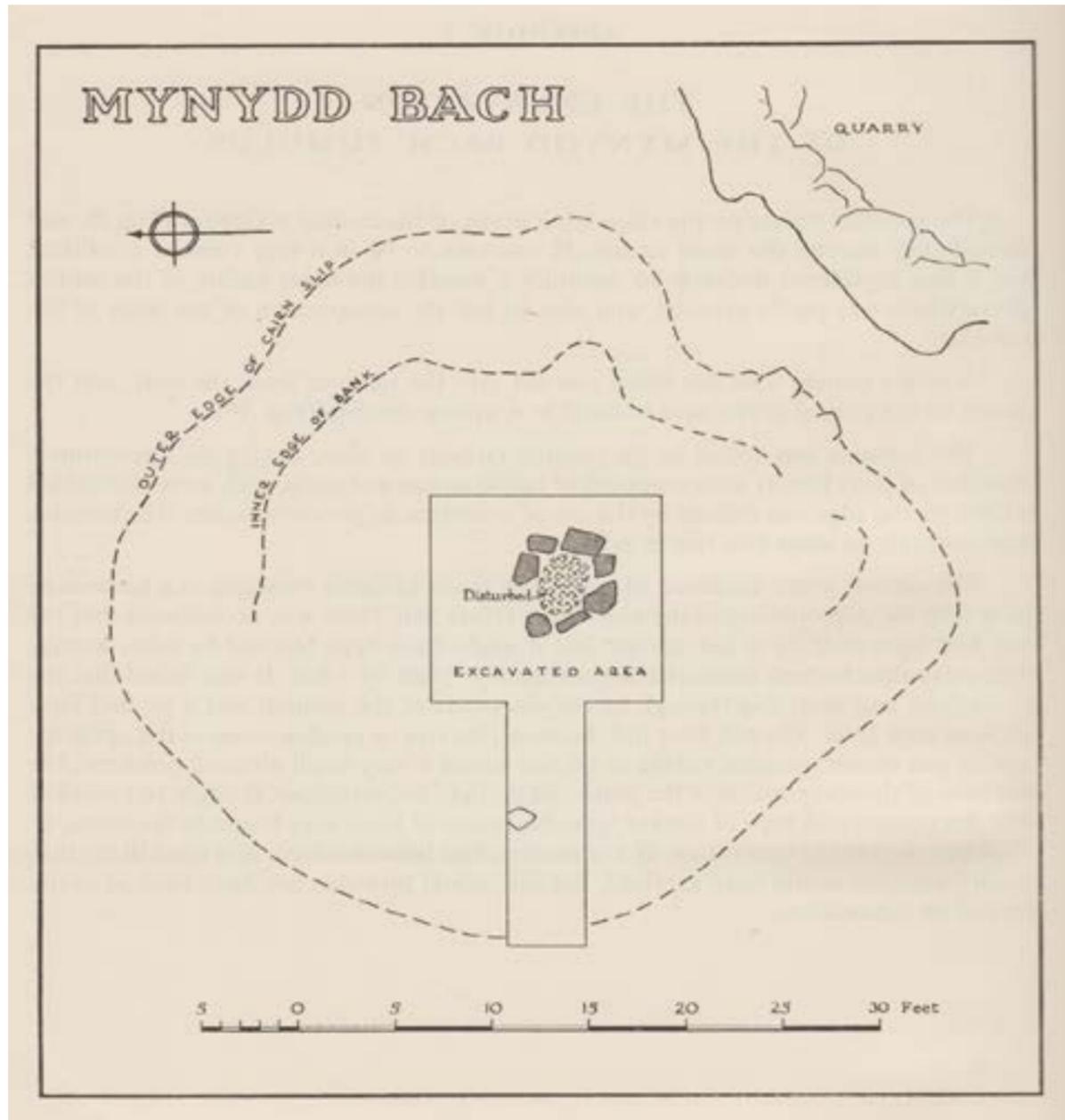


Figure 8: Plan of the Mynydd Bach Tumulus (Powell and Daniel, 1956, 72).

(Nash 2021, 19) also seen in Dronfield (1996) and it is believed that it is from Ireland that the monument of Barclodiad y Gawres most likely takes its inspiration (Nash 2021, 19). The capstone at Barclodiad is a sedimentary stone whilst the orthostats are of igneous origin (Nash & Weston Forthcoming). These stones likely originated in Cumbria and were transported by glaciers during the last ice age (Nash 2021). The entrance of Barclodiad y Gawres is orientated to face north, this is different as most megalithic tombs are

generally orientated on a south easterly alignment which captures the sun during the solstices. Barclodiad may be orientated to face the pole star and axis mundi rather than align with the Sun and/or Moon like Newgrange or the Summer Solstice in the case of Bryn Celli Ddu.

As the monument faces north it is not possible for it to be on either solar alignments or lunar alignments, instead it is likely looking at the night sky

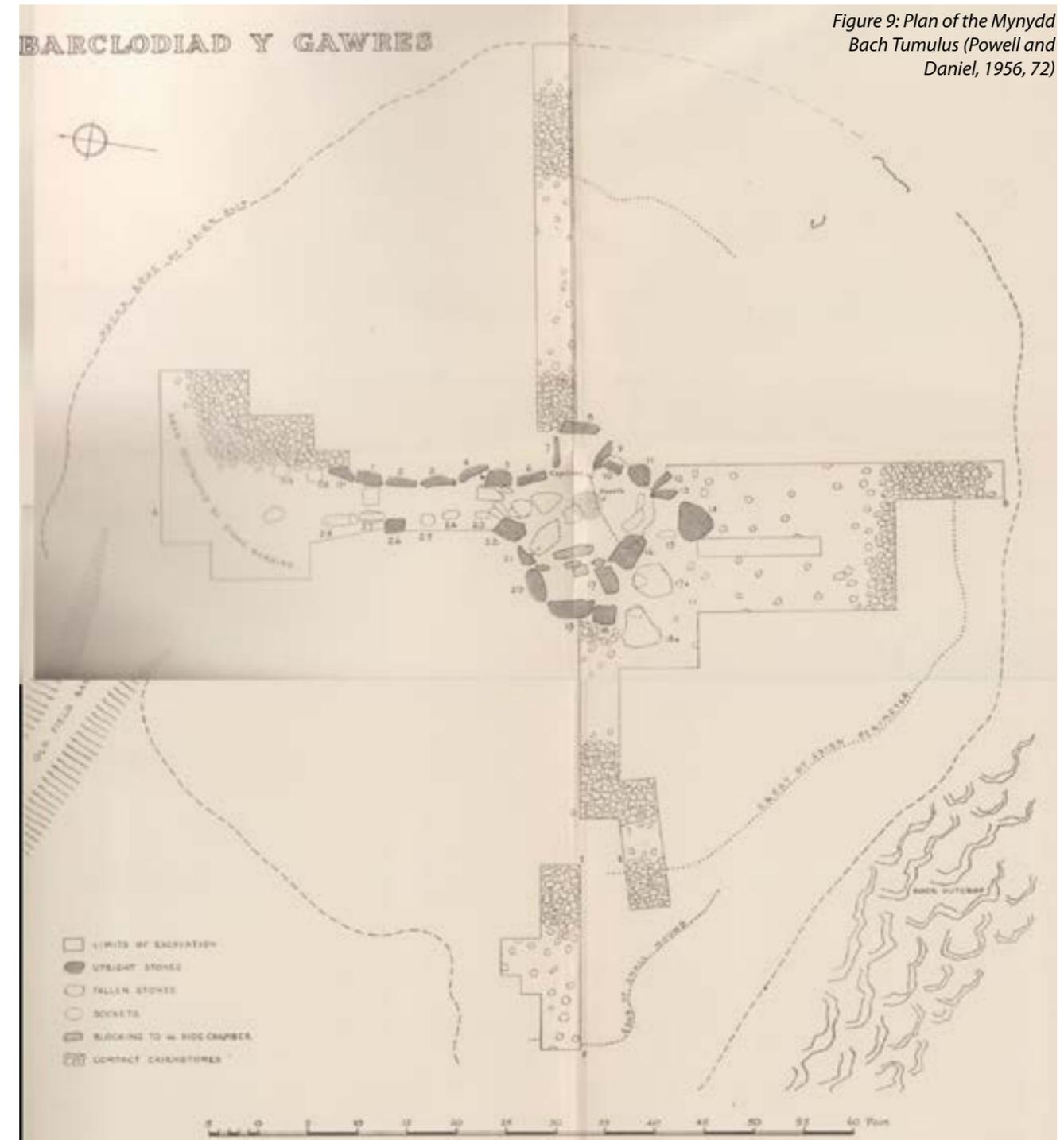


Figure 9: Plan of the Mynydd Bach Tumulus (Powell and Daniel, 1956, 72)

and North is specifically important for the pole star which in 5000BP during the Neolithic was Thuban in the constellation of Draco. The pole star is on the axis mundi which is of immense significance to shamanic cosmology from around the world but especially in the Northern hemisphere. One such example is the Sami

people from Siberia (Dronfield 1996, 39). With this interpretation Barclodiad y Gawres can be interpreted as a sacred site where heaven meets earth in light of its orientation and ethnographic comparisons.

The northern alignment at Barclodiad y Gawres would have resulted in no direct light from either the

sun or the moon because both of them rise in a North Easterly direction for both the summer solstice and for the major lunar standstill but never directly in the North. From a ritualistic point of view light, whether the sun or the moon, is key in a process of spectacle at many megalithic monuments such as Newgrange, Bryn Celli Ddu and Stonehenge. At Barclodiad y Gawres this is not the case. It is designed to be kept in darkness unless there is human intervention, such as the lighting of fire which allows the light to flicker over the art and images seen within the monument. This indicates that the potential intention of the builders of Barclodiad y Gawres was that the monument was not meant to be lit up by the sun or the moon at any point during the year. The alignment of this site is different from other monuments as they only align at set times of the year such as Newgrange with the Winter Solstice, whereas Barclodiad y Gawres is correctly aligned with the Axis Mundi every night.

Because of the many shamanic cosmological associations, the axis mundi and the rather unique orientation of the site, this may well be indicative of shamanic cosmology having been incorporated into the design and overall ritual of this site from an architectural cosmological point of view. It is arguable that given its design that the concepts behind it may suggest that it has little to do with the mortal world, it is a dark and quiet place situated at the edge of the land (or world depending on one's interpretation) as a metaphorical gateway to another.

#### Type of Site:

Barclodiad y Gawres is a cruciform passage tomb built in the Megalithic (Powell and Daniel 1956, 1). This tomb does appear to have a second more ritualistic function as can be seen from the assemblage of the Hearth, its unusual northerly alignment and arguably based on its architectural similarities to the Boyne tradition. This would suggest that both burials and ritualistic performances took place at Barclodiad y Gawres, arguably (based on the Hearth assemblage), with strong shamanic aspects.

#### Archaeological Assemblage:

Barclodiad y Gawres features a highly detailed archaeological assemblage:

#### The Hearth and its contents:

This includes the hearth in the centre of the central chamber and its contents (Powell & Daniel 1956, 16-18). The hearth was three feet in diameter and the

deposit was six inches thick at the centre composed of ashes, charcoal lumps and sticky grey earth. There was a concentration of limpet and oyster shells pressed on top of this deposit, the highest concentration to the southern end and overlaying this covering and the whole hearth were many flat stones and (often quartzite) smooth pebbles. A single fragment of bone was found in the turf line below the centre of the hearth (Powell & Daniel 1956, 16).

The hearth material was analysed, and the archaeologists found an assortment of bone that had comprised a kind of 'stew' (Powell & Daniel 1956, 17). The bones belonged to:

The bone found beneath the hearth was the first/ atlas vertebrae of a pig (Powell & Daniel 1956, 17). The animal listed as rabbit is more than likely a hare given, they were not introduced to the UK until at least the Roman Period and the site of Barclodiad y Gawres is Neolithic in age.

These animals are of interest from a shamanic and a related totemic point of view certainly given the ritualistic nature of the 'stew'. Each animal may bear certain traits and characteristics that were of importance to the ritual practitioners which can be seen in other contemporary ethnographic contexts such as the Shona peoples and various indigenous communities in the Americas. Such use of animals in burials has been found such as in the Natufian shaman burial in the southern Levant (Grosman et al., cxv 2008). I will review each animal in question and comment on their various natural traits and then ethnographic applications and see what this might entail for a potential interpretation of this 'stew'.

Fish	Wrasse, Eel ( <i>Anguilla</i> ), Whiting
Amphibia	Frog, Common Toad, Natterjack
Reptiles	Grass Snake
Mammals	Mouse, Shrew, Rabbit

Table 1: Barclodiad y Gawres animal remains from Hearth (Powell & Daniel 1956, 17).

#### LIMPETS

Limpets otherwise known as (most likely) *Patella Vulgata* are a species of gastropod, an aquatic snail in this case (Davis & Fleure 1903, 3| Fog city press 2004, 525). Limpets live in intertidal zones consuming algae



Figure 10: The position of the Hearth was at the Centre of the Monument. Photo taken by the author in 2021.

and can create scars on the rocks in the form of an oval depression where they reside (Davis & Fleure 1903, 4). They measure a few centimeters in size and possess a greyish shell that covers them. They are edible. Limpets also possess numerous incredibly powerful teeth, their material and tensile strength can range between 3.0 to 6.5 GPa thus outperforming spiders' silk and is on a par with some of the strongest manmade fibres (Barber, Lu & Pugno 2015). Shells have been used for personal adornment and/or symbolic activities for millennia. Examples of this include; the perforated Nassarius Kraussianus shells from the Middle Stone Age found in Blombos cave dated to around c. 75-78 ka (the same cave as a piece of rock art; an etched piece of red ochre) (d'Errico et al. 2005). Then the shells found at Skhul in Israel and Oued Djebbana in Algeria which had been specifically selected and transported long distances likely for symbolic use dated between 100-135 ka (Vanhaeren et al. 2006). Furthermore, a conch

shell was found in the decorated cave of Marsoulas dated to 18 ka. It was used for producing music and is also associated with symbolic properties potentially relating to the art in the cave and maybe even ritual performance (Fritz et al. 2021). These examples show well the ancient historic use of shells in symbolic behaviour and its relation to music and rock art. The shells of limpets, oysters and a winkle likely serve different symbolic and/ or functional purposes to the aforementioned examples but they do continue the historic tradition of their use. They may have represented a symbolic shell for the hearth given their position in the assemblage along with the oysters and the winkle.

#### OYSTERS

Oysters are a species of bivalve molluscs though the specific species is unknown to the author (Fog

City Press 2004, 525 & 527). Oysters are filter feeders consuming plankton and other biological particulates present in the water and a single oyster can filter around 190 litres of water a day (Jud & Layman 2011). This does give Oysters an important role in cleaning water (especially for freshwater species) though most species of Oysters live in saltwater. Oysters are a keystone species and are also edible (Bruno et al. 2003).

Its ritualistic or symbolic purpose in Barclodiad is more than likely similar if not the same as the limpet, perhaps acting as a protective shell for the interior hearth contents.

#### WRASSE

The Wrasse are a set of saltwater marine species (Riley et al. 2017). There are around six species of Wrasse in UK waters; Goldsinny *Ctenolabrus rupestris*, Rock Cook *Centrolabrus exoletus*, Baillons Wrasse *Symphodus bailloni* C, Corkwing Wrasse *Symphodus Melops*, Ballan Wrasse *Labrus bergylta*, Cuckoo Wrasse *Labrus Mixtus* (Riley et al. 2017, 13). These tend to eat limpets, small fish, crustaceans and small parasites that have attached themselves to other fish (Ibid, 3). The Ballan species being the largest among them, the Cuckoo Wrasse (which is very colourful) exists deeper underwater and the smaller species include Goldsinny, Rock cook and Corkwing which live in inshore habitats (Ibid, 3). Some species of Wrasse are protogynous hermaphrodites meaning that they are all born female but during life their sex changes to that of a male (Ibid, 6). They tend to live around the rocky shores and coasts as well as in brackish waters (Ibid, 1). The Wrasse have a life expectancy from around 10 to 20 years with the Ballan Wrasse living the longest (Ibid, 6). The Wrasse's preferred method of reproduction employs an r strategy though in some species the males will defend the nest as the eggs develop (Ibid, 6). In the case of the Ballan Wrasse it has an annual reproduction cycle (Muncaster et al. 2010). From this biological description we can see that some species of these fish are protogynous hermaphrodites which, symbolically and totemically, would relate well to the ideas behind transformation.

As far as the author has found little to no known mythology can be found about the wrasse specifically. It is therefore likely that, depending on the species of wrasse that was found in the hearth, that the transformative ability of the wrasse from female

to male and vice versa was probably the trait most likely sought after by the practitioners at Barclodiad y Gawres. It should be noted that several species of wrasse are considered too small to be a viable food source for humans especially given there are larger, more nutritious and more easily caught fish.

#### EEL (ANGUILLA)

The European Eel (*Anguilla Anguilla*) is a marine species that begin their life in the sargasso sea out in the Atlantic. There do remain some discrepancies surrounding its lifecycle as the species is difficult to track when in saltwater. It is also difficult to track due to natural camouflage. For three years they drift on the northeast gulf stream current as larvae and can be described as leaflike (Fog City Press 2004, 477). They then grow and change to juveniles described as glass eels, at this stage their life cycles reach the European coastline and proceed to become elvers with the accumulation of pigment where they then make their way into freshwater rivers and lakes (Ibid, 477). The eels will then begin to grow again to yellow eels where they can live between six to twenty years in freshwater before maturing into a silver eel (Ibid, 477). This mature silver eel will then make its way downstream back into the Atlantic returning to its place of birth where it will reproduce and then die (Ibid, 477). The European Eels are also nocturnal and burrow into the mud or below stones during the day (National Geographic 2021).

From this biological description the ability of long-distance travel and the idea that the Eel comes from the unknown and returns to the unknown is likely symbolically, shamanic and arguably totemically significant (for the people in the Neolithic it is highly unlikely they knew where the Eel began and ended its lifecycle). In addition, Eel's growth and colour change may have represented transformation and stages of symbolic rebirth. Finally, the ability of the Eel to travel between saltwater and freshwater (like some other marine animals) could bear symbolic, totemic and shamanic meanings as an ability to travel between different worlds.

The ethnographic and folkloric background to the Eel is not as prolific as some of the other animals on this list and first-hand sources are hard to find. However, the Eel does occur in the Egyptian tradition and according to the British Museum (2017) the Eel was associated with the God Atum of Heliopolis and

the creation of the world. They would be offered and mummified alongside snakes at Atum's temples (British Museum 2017). The Egyptian bronze statue of the eel from the British museum's collection also features a human head which hints at therianthropism- a feature commonly found in the Egyptian tradition and in shamanism.

In Polynesia mythology a being called Tuna in two separate stories can shapeshift into an Eel and in both stories his death leads to the creation of a new kind of life (Dixon 1916, 55-56). In Melanesia mythology (which comprises a vast collection of different cultures) a myth on the origins of death describes the possibility of flaying a human like an eel and for humans to grow new skin like snakes forever renewing themselves and attaining immortality (Dixon 1916, 118). Another myth includes Abaia, a magic eel that lives at the bottom of a lake and protects it and its inhabitants. When it was disturbed as people came to fish it proceeded to call a deluge which killed everyone (Dixon 1916, 120). The Eel also acts as a messenger for the creator god Na Reau in the Pelews (Dixon 1916, 254). In Irish mythology one of the forms the shapeshifting goddess of death and war - the Morrighu/ Morrigan shifts in to is that of an eel as she fights Cuchulain (Gregory 1903, 213). In a 13th century fairytale type concerning Midwives and Fairy births eel fat is used to see the fairies 'One day the Drac gave her an eel pasty to eat. Her fingers became greasy with the fat; and she happened put them to one of her eyes. Forthwith she acquired a clear and distinct vision under the water' (Hartland 1891, 65). Later the individual sees the Drac that pulled her below the water and it sticks its finger into her eye destroying her ability to see him (Hartland 1891, 65). This story was considered to be the earliest of its type at the time Hartland wrote and was recorded from Arles in France (Hartland 1891, 64-65). Other fairy stories of this type are echoed in Ireland and Wales but do not mention any specific ingredient or substance, but instead referenced an ambiguous ointment used to see fairies that is placed onto the eyes and later a fairy removes this sight often by attacking the eyes (Hartland 1891, 59-67| Madden 2015, 111-114| Curtin 1895, 42-45).

From this ethnographic and folkloric analysis, we can see that the Eel has links to shapeshifting and creation - particularly of new life in the Polynesian cultures. In the case of the Morrigan the Eel is associated with the goddess of death and war, this being an Irish legend and given the past potential ties and

communication between Ireland and Anglesey may suggest the most likely associations. Given these traits and taken in conjunction with its biological traits this would be an excellent creature for a ritual practitioner or, in some cultures a shaman, to utilize and embody its qualities particularly in areas of rebirth, creation and ultimately transformation. The use of such traits would suggest a shamanic element to this creature.

#### WHITING

The whiting (*Merlangius Merlangus*) is a small saltwater fish reaching an average size of around 23.5 cm and a maximum length of up to 70 cm (Nedreaas et al. 2014, 6). Whiting adults live in depths from 30m to 100m and scavenges the seabed for food feeding on shrimps, crabs, mollusca, small fish, polychaetes and cephalopods (Nedreaas et al. 2014, 6). Sexual maturity is reached at around age 2.2 and a Whiting migrates to the ocean after the first year of its life with its life span expected to be around 20 years (Nedreaas et al. 2014, 6). The whiting employs an r strategy in reproductive strategies leading to vast numbers of fish. It is a common fish that is often used as a food source (Nedreaas et al. 2014, 6). The Whiting prefers to come closer to the surface during the evening (British Sea Fishing N.d)

There is little to be deduced from this description, especially without ethnographic support. However, a totemic or symbolic quality that may be desirable from the whiting is its strength in numbers or perceived fertility and reproductive cycles.

In the case of the Whiting and the Wrasse we will analyse the ethnographic mythologies concerned with fish in general as specific ethnographic descriptions concerned with the Whiting and the Wrasse are lacking even though the specific fish may have had important qualities known to the ritual practitioners that are unknown to us.

#### FROG

The frog remains found at Barclodiad likely refer to the European common frog (*Rana Temporaria*) (Fog City Press 2004, 445). They are a freshwater amphibious species distributed throughout most of Europe (Kuzmin 2009). Male frogs will sing to attract females (who are slightly larger than the males) and during a mating season which takes place for around 3 nights these amphibians can lay hundreds to over

one thousand fertilized eggs (Fog City Press 2004, 428-429| Haapanen 1982). The European Common frog also possesses a transformative life cycle like that of other frogs transitioning from egg to tadpole and eventually to an adult. Its breeding habits would constitute an R strategy. These frogs consume insects and are nocturnal (Duellman & Trueb 1986).

Similar to the eel the frog is a transformative creature that is nocturnal and lays a significant number of offspring. From this description the reproductive aspect of the frog would be of great interest to ritual practitioners especially if rebirth in one form or another is of importance. The transformative life cycle of the frog indicating transformation would also be shamanically and totemically significant. Its nocturnal activity and its ability to transition between land and water, possibly being symbolic of going between different worlds may also bear symbolic, shamanic and totemic meanings as an ability to transition between different worlds.

Ethnographically the frog features in most cultures from around the world. In Egypt the Ancient Egyptian Frog goddess was called Heket or Heqet and was worshiped as a symbol of generation, fertility and birth (Budge 1904, 378). The cult of the frog in Egypt is also one of the oldest with the frog gods and goddesses having played a part in creation including the four primeval Egyptian frog-headed gods Heh, Kek, Nau and Amen and the female counterpart has a head of a serpent according to Budge (1904, 378). The Russian folktale The Frog Princess tells how the frog, who comes to be betrothed and married to prince Ivan, can shapeshift from the form of a frog into Elena the fair (Afanas'ev 1975, 119-123). Each time she shapeshifts she does this at night (which may be a nod to the frog's nocturnal behaviour) and can accomplish the tasks set before her with great capability, such as baking, weaving and dancing (Afanas'ev 1975, 119-123). With bones and wine she places in her sleeve she is capable to summon lakes, woods and birds whilst she dances which disappears when she stops (Afanas'ev 1975, 121). This shows her ability to shapeshift, have command over animals and her ability to create whether that be bread, weaving, animals or landscapes which go far beyond the capabilities of ordinary humans. A selection of Neolithic artwork including pottery depicts the therianthrope figure of a frog with a human head associated with fertility and regeneration such as the Neolithic frog goddess figurine dated to the mid-sixth

millennium BC from Hacilar (Gimbutas 2001, 27). Many old European symbols of regeneration include frogs and fish thus showing an ancient tradition surrounding these animals and what they represented (Gimbutas 2001, 42).

The frog also appears in South America Cosmologies. In a legend of the Mudurucu a woman and child who are fleeing monkeys (who intend on eating them) and other animals are helped by a frog sorcerer, the only being that decides to help them. This sorcerer kills the pursuers and orders the mother to cure the meat and skin the bodies then wash herself in the river. As she washes the poison dirt flows downstream killing the fish which the frog intended to harvest however, she looked around which she was instructed not to do and they came back to life. The frog explained that had she not done this then the fish would have been easier to catch for her people (Levi-Strauss 1964, 260).

The frog here is seen as helpful and a source of both magic and abundance. The magic in its capability to dispatch so many opponents by 'making a bulwark of its body' (Levi-Strauss 1964, 260) (Perhaps representing its ability to transform) and help the mother gain access to more fish (this may have a symbolic relationship to the frog's own toxicity in these regions). The abundance has also to do with the fish as it is through its instruction that the Mudurucu would have gained an easier harvest of fish than the wild timbo in the forest (Levi-Strauss 1964, 260). The frog is also seen as a cook (even though it instructs the heroine to do the cooking for it) and its methods of cooking are unconventional as Levi Strauss explains that normally one would cure game in its skin not skin it beforehand and then burn the skins (Levi-Strauss 1964, 275). It is worth pointing out that the hearth contents, described as a stew by Powell and Daniel (1956, 17) is equally unconventional though this may have nothing to do with ideas surrounding the frog alone.

From the ethnographic, archaeological and folkloric record we can see that the frog has several key and highly important traits associated with it that would be useful not only for totemic reasons but for ritualistic and shamanic purposes. The ability to transform, the ability to regenerate, its fertility properties, its creative capabilities and even its association with the otherworld. Given these ethnographic traits across cultures, including those in and around Europe

particularly during the Neolithic, taken in conjunction with the biological traits the frog would likely be a potent symbol, totem and creature. This would be the case for shamans and ritual practitioners alike including those formerly at Barclodiad y Gawres and may well indicate shamanic elements.

Interestingly the rock art found on stone 22 in Barclodiad y Gawres (Powell & Daniel 1956, 27) does bear some abstract resemblance to the abstract depictions of the frog goddess found in Gimbutas's book (Gimbutas 2001, 34) the positioning of the diamonds and the overall pattern schematic outline may also be comparable to the schematic design of the later Sheela na gig (Gimbutas 2001, 29). The Sheela na gig still occupies a place of significance in sacred and religious contexts such as over early church entrances though also still bears a similar morphology to the frog goddesses of earlier times (Gimbutas 2001, 29) and some depictions of the Sheela na gigs incorporate abstract chevrons and lozenges which can be seen on the Barclodiad y Gawres stone 22. Equally, though speculative, the design on rock 22 may even depict a stylized and abstract frog. The spiral at the top right could be an eye, the chevrons could represent the arms, bent legs of the frog, and the body whilst the lozenges may represent the body and the vulva.

#### COMMON TOAD

The Common Toad or *Bufo Bufo* is a toad of the family *Bufo* (The Woodland Trust 2021). The Common toad is nocturnal, living a more terrestrial existence than frogs further away from the water preferring to live in grasslands, woodlands and hedgerows (The Woodland Trust 2021). The common toad consumes invertebrates but also harvest mice and other smaller toads on some occasions (The Woodland Trust 2021). These toads return to the same pool they spawned into mate. Females can lay around 1500 eggs or more in double strings, these eggs then undergo a process of metamorphosis; after ten days the eggs develop into tadpoles and after sixteen weeks these tadpoles develop into toadlets (The Woodland Trust 2021). During winter the common toad hibernates burrowed in mud or compost (The Woodland Trust 2021).

The Common toad also produces natural toxins in its skin called Bufotoxins to defend itself against predators (Bókony et al. 2019). The parotoids (Toxin

glands) produce this poison to secrete onto the skin when the toad feels threatened (Bókony et al. 2019). These toxins can induce serious toxicity in humans as Postma explains: 'When *Bufo* species are ingested toxicity ensues, including, hemiparesis, muscle jerking and twitching, convulsions, altered mental status, slurred speech, headache, nausea, vomiting, severe dyspnea, and death' (Postma 2009, 484). However, Postma also explains that 'Bufo toads contain bufotenine (5-OH-DMT) and an alkaloid tryptamine (5-MeO-DMT) a potent hallucinogenic' (Postma 2009, 483). Postma continues and states 'Auditory and visual hallucinations without toxicity are reported when *Bufo* venom is dried and smoked' (Postma 2009, 484). This specific *Bufo* venom Postma is referring to is derived from *Bufo Alvarius* as this is the most conducive for inducing altered states of consciousness but is only found in Colorado which is different from the common toad *Bufo Bufo*. However, as Peterson and Roberts explain 'The biologically active substances produced by *Bufo* toads include dopamine, epinephrine, norepinephrine, serotonin, bufotenine, bufagenins, bufotoxins, and idolealkylamines. All *Bufo* species produce these substances, but there is variation in the quantity of each substance produced by different toads' the common toad does contain chemical elements, most notably bufotenine, capable of inducing some level of hallucinations (Peterson & Roberts 2013, 834-835).

From this biological description totemic and symbolic qualities may again include fertility due to its strategy for reproduction. Its ability to go between different environments and its nocturnal activities may indicate symbolic and totemic qualities of the otherworld. Its metamorphosis makes for a good symbolic and totemic quality for shapeshifting. However, the most important biological quality is likely its toxins which could poison the human body and/or (perhaps under some unknown procedure) induce altered states of consciousness.

The ethnographic qualities of the toad are sometimes mixed with the qualities of the frog however there are plenty of cases where this differs. In the UK toads have often been associated with witches, quite often as their familiars (Mitchelle and Dicke 1839, 222| Burns 1959, 7). They have also been associated with an array of folk medicine, some poisons and poisoners due to their inherited toxicity but have often been associated with magical properties (Burns 1959,

7| Gimbutas 2001, 207| Davis & Weil 1992, 52). In the Baltic regions the goddess Ragana sometimes takes the form of a toad and is associated with the moon, death, destruction but also regeneration (Gimbutas 2001, 206). This regeneration comes in the form of new life, the knowledge of healing herbs and corresponding magic though Ragana can be depicted as both a hag and a beautiful young woman (Gimbutas 2001, 206). Baba yaga in Russian folktales can also transform into a toad and she too is often associated with magic, death and destruction but also regeneration and helpful aid in some stories (Gimbutas 2001, 206).

The Ge peoples of eastern Timbira in South America have a legend on the origin of fire where people stole the fire from the jaguar and as the jaguar pleaded with them to leave some embers a toad spat on these final embers extinguishing the flames (Levi-Strauss, 1964, 71). In a story for the Tereno peoples the toad acts as the origin of language (Levi-Strauss, 1964 123). For the Native Americans of Colorado the toxins of the Bufo Alvarius can be extracted dried and smoked to induce altered states of consciousness (Postma 2009, 484).

The toad is also featured in Mesoamerican art supposedly from around 2000 BC (Postma 2009, 483). In Olmec, Mayan and Aztec civilisations the toad and enlarged portrayal of the parotid glands are commonly depicted in artwork (Davis & Weil 1992, 52). Additionally, there are numerous finds of Bufo Marinus bones in ritual contexts in these civilisations (Davis & Weil 1992, 52). Davis and Weil explain that such depictions of toads in these contexts may have more to do with reproduction, fertility and the rains rather than hallucinogenic activity (Davis & Weil 1992, 52).

The toad features in Chinese cosmology where the hero Ch'ang O or Heng O transformed into a toad and whose outline is traceable on the surface of the moon (another outline seen on the surface of the moon in Chinese cosmology is the hare) (Werner 2005). Toad venom was also used quite often in Chinese medicine though the specific species used is unspecified (Davis & Weil 1992, 52).

From these ethnographic descriptions we can see the toad has totemic, symbolic and sometimes utilitarian qualities to do with death, destruction, poison, magic and, at times, healing and regeneration from multiple different cultures. Its associations with witchcraft in folklore likely relate to much earlier pre-Christian beliefs and traditions as the Baltic

belief systems suggest. Its toxicity and potential for inducing altered states/ hallucinations potentially gives this creature a more utilitarian aspect. This creature provides the most compelling (or obvious) evidence for achieving some manner of altered states of consciousness at the site.

#### NATTERJACK

The Natterjack toad or *Epidalea Calamita* is a toad of the family *Bufo* and is capable of releasing toxic milky-looking secretions on its skin (Stawikowski & Lüddecke 2019). These toxins, like those found in the rest of the family of *Bufo*, are cardiotoxic steroids secreted from poison glands within the skin. This technique is one of two to protect the toad from predators (Stawikowski & Lüddecke 2019).

The Natterjacks preferred terrain is dune-like areas (much like the immediate environment around Barclodiad as observed on a site visit) and/or salty marsh (Baker et al. 2011, 11). It likes short and dry vegetation where it can catch invertebrates for its food and it likes to burrow to avoid extremes in temperature (Baker et al. 2011, 11). Natterjacks like to reproduce annually between April and May, though this date may be pushed up until August depending on weather conditions. They can lay thousands of eggs in short-lived pools of water where these eggs develop quickly (Baker et al. 2011, 11). The natterjack also likes to hide amongst loose rocks during the day (Beja et al. 2009). The Natterjack also makes mating calls during the night which can be heard up to a mile away hence its name (Wildlife Trust 2021). Lastly these toads tend to run rather than jump or hop and also under-go various stages of rapid metamorphosis (Wildlife Trust 2021).

From this biological description we can see that this animal may be of interest due to a mix of traits. The first being that the habitat around Barclodiad is suitable for Natterjack habitation (in the past) due to the sandy environment. Its other traits include its toxicity, its loud mating call, its burrowing behaviour, its nocturnal activity and its capability to produce thousands of offspring that develop at rapid paces.

Its ethnographic traits would likely mirror those of the common toad however the ethnographic and ritual nuances behind the specific choice of the natterjack remain elusive. Based on its biological description its sound, metamorphosis and toxicity may be especially important to past communities.

#### GRASS SNAKE

The Grass Snake (likely *natrix helvetica*) is a predator that preys on small animals such as small fish, frogs and toads. They swallow their prey whole (like other snakes). They are amphibious living close to the water but also on land (Fog City Press 2004, 407| The Wildlife Trusts N.d). Females will lay around 10-40 eggs in rotting vegetation for incubation until they hatch in early autumn having a yearly reproductive cycle (The Wildlife Trusts N.d). It is greenish in colour with a stripe of yellow and around its collar (The Wildlife Trusts N.d) this is good for natural camouflage. The substance produced by the Duvernoy's gland is enough to paralyze a small fish (Fog City Press 2004, 407) however grass snakes are harmless to humans and there is debate concerning this gland. They live for around 15-20 years and often play dead to avoid any predators, sometimes secreting a foul-smelling substance and fleeing if caught (The Wildlife Trusts N.d).

From this biological description there are a few things we can deduce why this was of interest. This creature was camouflaged, and it can go between land and water with ease thus could be of interest as a creature that can go from one world to another. It is also a predator capable of escaping dangers if necessary. These traits as totemic qualities would be of interest to a ritual practitioner.

The ethnographic and folkloric background for the snake is substantial with many if not most cultures featuring the snake as part of their cosmology or involved in some aspect of their way of life. In ancient Egypt the snake held an important position in their cosmology and belief system as there are multiple serpent deities (Wexler 2014, 1| Budge 1904, 376). Some Egyptian snake gods acted as guardians such as Hertept/Heptet who helped with Osiris's resurrection (Budge 1904, 131) and the Uraeus which was a sign of divinity and royalty (Budge 1904, 377). Others acted as a being to be feared such as Apophis, an enemy of Ra, Horus and Osiris, the serpent of evil and the underworld (Wexler 2014, 1| Budge 1904, 377).

In Hindu cosmology and mythology Nagas are part human part snake hybrids that are gods of healing and fertility (Huylar 1999, 119). Vtra, on the other hand, was a serpent demon of draught defeated by Indra (Macdonell 1897, 58). Macdonell refers to the elements in Hindu belief systems that some totemic qualities can be found in the beliefs that people are descended from animals (Macdonell 1897, 153).

Furthermore, derived from Indian art and iconography the serpent is held as a symbol of life and immortality as well as Shesha, the cosmic multi-headed serpent deity that balances the world on his head and whom is often seen shielding the head of Vishnu in his many iconographic depictions (De Souza 1964).

Asclepius, the Greek god of healing and son of Apollo, wielded a rod with a snake coiled around it (Shetty et al. 2014). In Mesoamerica the serpent deity Quetzalcoatl, a god of the sun and of learning, featured prominently in religious symbology and iconography (Innes 1969, 26| Wood 2000, 44).

In the Mabinogion serpents feature as a foe to be overcome, one hero gains the aid of a lion by doing so (Guest 1902, 43) another hero gains a gold ring (Guest 1902, 80). A black serpent featuring in *Peredur son of Efwrawc* is also associated with a duel and gold (Guest 1902, 84) is also associated with a mound, known as the mound of morning (Guest 1902, 84 - 85). They also turn up as part of the engraving or decoration upon a sword where fire or light comes from the jaws of the serpents (Guest 1902, 116). These snakes tend to be associated with riches, fighting, light and a mound in one instance (Could this mound be a Cromlech?).

The ethnographic description of the snake is a complex one as it is seen as benign, malevolent and as a wild beast. However, its qualities when associated with deities include immortality, the underworld, healing and light. Sometimes it is evil like with Apophis and at others it has a more cosmic association as with Shesha. This collection of qualities would suggest a creature that would have totemic qualities capable of accessing the otherworld as well as the ordinary which would make sense given its amphibious characteristics. In this assemblage and based on the above qualities the totemic qualities of the snake would likely be associated with the transition between different worlds.

#### MOUSE

The Mouse from the order Rodentia (the specific species is not specified) (Powell & Daniel 1956, 17) is a small terrestrial mammal that has over one thousand species (Fog City Press 2004, 225). They possess short lifespans though are capable of producing a substantial number of offspring (up to thousands a year) (Fog City Press 2004, 225). They are predominantly nocturnal and are spread throughout the world though,

collectively, they possess an omnivorous diet (Fog City Press 2004, 225). Generally, mice are quite small though the distinctive survival strategies of each species vary depending on a variety of variables which affect its type of nests and its specific diet. They have the potential to spread pestilence and disease though they are also a keystone species that are consumed by a variety of predators such as avian raptors.

It is quite probable that based on these biological qualities its fertility and its small size are ideal totemic and symbolic qualities that the ritual practitioner may desire. Its small size would potentially allow an easier time of navigating obstacles and small spaces including those in a given otherworld. It is also possible that its proclivity for spreading disease and pestilence may be the desired quality. If the latter is the case, then it would have been an animal revered for its destructive qualities.

The mouse does have ethnographic, mythological and cosmological qualities in a selection of different cultures. In ancient Egypt mice have been found buried with priests such as Neferinpu leading to the belief that they were associated with solar deities (Vymazalová & Sůvová 2016). Furthermore, in conjunction with Pliny and Egyptian contexts, mice were used in medicines and prescribed the symbolic association of 'Giver of life' due to their associations with the flooding of the Nile and the renewed life that followed from the newly fertilised soils (Dawson 1924). As such mice were often used in medicine (Dawson 1924). Conversely mice were still seen as possessing many negative qualities and seen as an associate of the enemies of the sun god Ra and associated with pestilence (Dawson 1925).

Among the Lakota the mouse was considered capable of bewitching people if it could get hold of someone's hair; this could be capable of inflicting death on someone (Posthumus 2016, 303-304). There is a variation on how the mouse is viewed in different Native American groups with some having more positive associations whilst others less so.

In the Mabinogion (a key piece of Welsh literature and folklore) mice feature in the story of Manawydan son of Llyr. At around midnight a vast quantity of mice come and devastate the fields of Manawydan sent by the Llwyd son of Il Coed, a friend of Gwawl (Jones & Jones 1986, 49-54). Llwyd, a magician, was responsible for casting an enchantment over the seven cantrefs of Dyfed (a county in Wales) and also

transformed a warband of men into mice so they may destroy Manawydan's corn (Jones & Jones 1986, 53). Here metamorphosis, magic and pestilence are the key attributes of the mouse alongside their nocturnal arrival.

The mouse in these ethnographic contexts is associated with pestilence, destruction and magic but also medicine at times. Totemically, symbolically and shamanically the mouse would be excellent for harming opponents though may also be useful for its fertile qualities and, as Dowson suggests, medicine too.

#### SHREW

The Shrew, possibly *Sorex Araneus* is a small terrestrial mammal that has a very fast metabolism resulting in the need to consume vast quantities of food in proportion to their size, at least every 2-3 hours and sometimes as much as two to three times its body mass per day (Fog City Press 2004; Schmidt 1994). The Shrew is an insectivore much like moles though a little smaller (they will also use burrows), but will also eat small birds, small snakes, small mammals such as mice and sometimes other shrews. There are 250+ species of Shrew worldwide thus showing its success (Schmidt 1994). It uses an acute sense of touch, smell and hearing (echolocation) to locate prey whilst its vision is relatively poor; some shrews use echolocation to identify their surrounding environment (Schmidt 1994). They are nocturnal though some species will hunt through the day. Shrews can live for 1-2 years and have 1-3 litters per year with anything between 2-10 offspring per litter (Schmidt 1994). Saliva from some shrew species is toxic which helps to pacify its prey (Schmidt 1994). Owls appear to be the main predator of the Shrews as it constitutes a large part of their diet whilst other animals may kill shrews but not consume them (Schmidt 1994). In preparation for and during the winter period Shrews are capable of reducing the size of their braincases by as much as 15.3% and their body mass by 17.6% which helps to conserve energy at a time when there is less available food and a harsher environment (Lázaro et al. 2017).

From this biological description we can see that the shrew has some traits that would be totemic, symbolic and shamanic traits. It is a voracious predator that can navigate dark places as it has all the natural tools to do so which would make it perfect

for traversing other worlds in shamanic and ritual contexts. It too is fertile capable of having several litters a year (and has managed to gain a presence almost worldwide due to the success of its survival strategies). It can shrink and later substantially regrow its body mass to suit different seasons thus giving it an adaptive metamorphic quality.

The Shrew also has a limited selection of folkloric and ethnographic qualities. In ancient Egypt the shrew was revered and associated with the darkness potentially being associated with the dark aspect of Horus or the hidden sun god Atum (the same as the Eel) (Woodman et al. 2019, 1199). This is suspected as they have been found mummified in some necropolises sometimes alongside avian raptors (Woodman et al. 2019). In some Miwok tribes their cosmology suggests the Shrew is a candidate responsible for stealing fire (Yates & Johnson 2006, 200).

A definition of the word shrew in English is 'An ill-tempered Scolding Woman' (Merriam Webster n.d). Furthermore, in literature Shakespeare's play *The Taming of Shrew* focuses on the taming of the shrewish Katherina turning her into the ideal bride (Shakespeare, 1980, 265-292). In both contexts the shrew is associated with negative and destructive qualities (which, based on the creature's lifestyle, makes sense). It is possible that these qualities in English literature originally find their origins in Pliny's *Natural History* and Aristotle's accounts on the creature. In Pliny's *Natural History* the shrew is seen as a creature of bad luck or of bad repute by past peoples including Aristotle who describes it as having a dangerous venomous bite (Pliny 1847, 102. Book VIII). There may be other folkloric reasons behind the shrew being viewed in a negative light in Europe, though there are cases where the shrew is seen in a friendlier light by some Native American groups and Siberian groups.

Generally, in the European tradition, the shrew seems to be seen in a somewhat negative light though the ethnographic material is thin. It appears to be associated with destructive, venomous and dark/nocturnal attributes whether in Egypt, literature or history.

The shrew would be a useful animal to have totemically and potentially shamanically due to its overt predatory nature which goes that bit further than the other creatures found in this list. It burrows and could be seen to also be symbolically capable of entering the otherworld and may be better suited to

defend from other predators. It may also be useful for symbolisms and totemic qualities linked to fighting and conflict as well as some small amount of fertility.

#### HARE

(Referenced as the rabbit in Powell & Daniel, 1956)

The Hare of the order Lagomorpha and family Leporidae are a terrestrial species that can be found almost worldwide in an array of environments (such as the arctic, forests and deserts) showing a degree of adaptability. In the UK we are more than likely looking at the Brown Hare. They have a large visual field of view, large ears for sharp hearing and can run at speeds exceeding 45 mph (70 km/h) whilst remaining fully capable of changing direction. These traits make them excellent at escaping predators even though they still suffer high predatory mortality rates. In addition, hares can be incredibly fertile, they have litters capable of getting immediately pregnant after giving birth or conceiving whilst still pregnant. Female European Hares reach sexual maturity at around 3 months and can have three to four litters a year. During the first month of life the leverets (young hares) are left in a form (a shallow depression) in long grass (Fog City Press 2004, 239 & 241). Hares also tend to be nocturnal but can be out during the day (Game and Wildlife Conservation Trust 2002).

From the biological description the speed, the nocturnal activity and fertility of the Hare there are clear reasons why such an animal may possess traits a ritual practitioner may wish to evoke. The speed to enter the other world (a combination of the Hare's speed and nocturnal activity) and the hope of rebirth given the hare's reproductive capabilities.

In addition to its biological attributes the hare also has a long and ethnographically detailed history, especially in cosmology, shamanic, ritualistic, and religious traditions around the world. Across the world the hare is associated with rebirth & fertility, associated with passage to the otherworld (Wenet in Egyptology), and is strongly linked to the moon (Malim 2018). In Egyptian cosmology the hare and the hare goddess Wenet feature in the coffin texts and the book of the dead where Wenet would guide and protect and dead soul through the dangers of the underworld so they may find eternal life (Malim 2018, 99). In the Iron Age in the UK the hare was used for divination and in Luyi

(Zambia) & KhokiKhoki (South Africa) tradition the hare is associated with the moon goddess as her messenger and is believed to be the origins of death (Malim 2018, 99). In China, the moon hare mixes the elixir of eternal life and is thus associated with immortality (Malim 2018, 99). The consumption of hare meat is taboo in some cultures and folklore, which fits with the regulations around totems, but also because there was a belief that one might end up killing and consuming a witch who had shapeshifted which fits with the beliefs surrounding shamans being capable of shapeshifting (Malim 2018, 98).

We can see that throughout a selection of different cultures and in history the hare is associated with the otherworld, immortality, rebirth, evading dangers and a messenger/ form for a lunar goddess. As a totem, these are all characteristics one would want to have where death and burial are concerned, and these traits would be ideal for a ritual practitioner/ shaman to take if they were to guide spirits of the dead to the otherworld. All of this cosmology surrounding the hare fits well with this site especially the associations with the underworld given the entrance is aligned to the north where it sees neither Sunlight nor lunar light and is instead aligned with the Axis Mundi.

### **Beneath the Hearth:**

#### **WILD BOAR**

(Referenced as Pig in Powell and Daniel 1956)

The Pig or most likely Wild boar are otherwise known as *Sus Scrofa* could once be found throughout Europe. The wild boar has an omnivorous diet eating insects and an array of plants using their snout protected by a disk of cartilage to scavenge through the dirt for food (Fog City Press 2004, 200). In behavioural terms they are matriarchal. They can be nocturnal in activity but also active throughout the day. *Sus scrofa* has black skin and fur. Females possess smaller tusks whilst males possess larger ones that grow throughout life. These tusks are also used as weapons in times of need. During mating season the male will develop extra fat for protection from wounds sustained in competition for a mate. *Sus Scrofa* is capable of great speed and possesses a sturdy build. *Sus scrofa* will mate annually and can have a litter from two to ten in number. Predators will hunt the piglets and small sows but deliberately avoid attacking the adult males

even though they are often solitary. Females will protect their young with the adult males returning to solitary life or a small group of other males. Boars will fight to the death even against predators much larger than them (Bruce, McGhee, Vangelova, & Vogt 2004; Heptner & Naumov 1961; Nelson Sarah S 1998).

The biological traits of the boar would suggest speed, strength, fertility and fighting capability. Such traits would be excellent for symbolisms relating to fighters or for a ritual practitioner to invigorate something else with traits of the boar such as speed and strength.

The Boar has a selection of ethnographic traits. In the Mabinogion during the tale of Culhwch and Olwen there takes place two separate boar hunts. These boars are hunted as part of the tasks that the giant Ysbaddaden has set out for Culhwch to complete for marrying his daughter. These boars are both very special; Ysgithyrwyn Chief Boar who possesses white tusks was hunted by King Arthur, his men and his dog after a series of tasks preceding the hunt (Jones & Jones 1986, 129). Twrch Trwyth was the second wild boar to be hunted in this story and was also hunted by King Arthur. So deadly was it that he fought the Irish and 'he laid waste one of the five provinces of Ireland' (Jones & Jones 1986, 131), he fought Arthur's war band and then Arthur himself and survived (Jones & Jones 1986, 131). Formerly the boar Twrch Trwyth was a king who, for his wickedness, was turned into a boar (Jones & Jones 1986, 131). Twrch Trwyth then came to Wales where he and his seven young pigs were one by one finally defeated except for Trwyth himself who went into the sea taking two men with him (Jones & Jones 1986, 135). Here the boar was formerly a king and is also explicitly hunted by kings and heroes, therefore revealing its ties to leadership, authority and power as well as an example of metamorphosis and magic. Its speed, strength and sheer ferocity is more than a match for Arthur and his men in this Welsh tale, so much so Twrch Trwyth was never truly bested.

The Boar features strongly in the Legend of Beowulf such as on the neck guard and armour of Beowulf and the helmet and shield placed on the funeral pyre of Hnaef (Kirtlan 1913, 36, 77 & 95). It is associated with the hero Beowulf and great warriors alike in the story and is described by the Author as 'The boar then, as ever since, occupied a prominent place in heraldry' (Kirtlan 1913, 77). The boar is again associated with leadership, war and power in this instance worthy

enough to be used as a symbol in heraldry. In Greek mythology Hercules' fourth labour was to defeat the Erymanthian Boar.

In Hindu mythology one of Lord Vishnu's avatars is in fact a boar headed being capable of raising the submerged earth (Macdonell 1897, 14) this avatar was later referred to as Varaha.

The Boar or Black Pig was associated with Seth in Egyptian tradition associating it with darkness, chaos and evil (Budge 1904, 247). A black pig and an antelope would be sacrificed on the month of Pachons to drive away Seth from attacking the full moon (Budge 1904, 247).

No matter what ethnographic tradition, the boar is seen as an emblem of authority, strength, war, leadership, speed and power though in Egyptian mythology it is also associated with evil which appears to be the main exception. Such qualities are ideal for warriors (as the boar appears to often be associated with warriors in Europe) and especially given the boar's capability to fight until death. Its qualities are also ideal for leaders or empowering other qualities. As the atlas vertebra of the pig or boar was buried beneath the hearth instead of within it, its symbolic purpose may have been to empower the hearth's animal assemblage with its power and authority, therefore giving the Hearths contents a much greater symbolic, ritualistic, or shamanic potency. Its burial beneath the hearth may also potentially mirror a similar purpose to the later traditions of burying items of symbolic or cultural potency in the hearth, chimney, or beneath the threshold into a home in order to protect it (Davies & Blecourt 2004, 168). The author believes it is more likely to be the latter however, to empower the contents of the hearth with the traits of the boar/pig.

The ethnographic qualities listed for these animals are by no means exhaustive. If all the qualities of these animals were put together such a zoomorphic creature would be capable at travelling at incredible speeds and navigating almost any terrain whether that be terrestrial or aquatic. As can be seen by the traits mentioned above these creatures and their associations are to do with transformation, creation, darkness, travelling (through other worlds) and ultimately rebirth. These creatures hibernate during the winter. So, either the ritual was performed in summer or they were caught and dried earlier on in the year for the ritual to be performed during winter.

#### **SKELETAL REMAINS**

In the western sided chamber, which was sealed off were found the cremated bones of two individuals both of whom are estimated to be young adult males. These bones appear to have been deliberately broken up after removal from the pyre and before being interred into the tomb. These bones were mixed in with some charcoal fragments and burnt sheep bone fragments (Powell and Daniel 1956, 37).

Other cremated bone fragments were present in other offset chambers but these deposits were disturbed and so Powell and Daniel state that 'any deductions on burial rite must therefore be confined to the evidence from the western side chamber' (Powell and Daniel 1956, 37).

Before the stone sealed the small chamber the creation material had been thinly mixed with fine earth and a bone or antler pin had been interred with them (Powell and Daniel 1956, 38-39). Powell and Daniel also comment that this practice, cremation especially, was common among the Boyne culture and that is was likely that the methods behind the creation of Barclodiad y Gawres and the burial were adopted from this culture (1956, 38-39). Potsherds were also found outside this sealed chamber at the junction between the central and end chambers which Powell and Daniel suggest may have been offerings contemporary with the initial cremations, a secondary urn burial or sherds accidentally finding their way to this point by falling from the capstone (1956, 39). There is not enough data to suggest what these were for. No radiocarbon dating has been conducted on these remains.

Given that it is believed that those inhumed at Newgrange were of a dynastic elite (Cassidy et al., 2020) it is quite possible that those buried in Barclodiad y Gawres, especially in the western sided chamber, may also be part of an elite or ruling group of some kind. This is likely given the inspiration believed to be taken from the Irish tradition at Barclodiad y Gawres. Given the enigmatic qualities of this chambered tomb, it may be possible that these individuals were Ritual Practitioners and the sheep an offering when they died. The data is limited on this and shamanic burials from different parts of the world can widely differ from each other.

#### **Local legends surrounding the site:**

It appears no direct legend surrounds the site however legends pertaining to giants and stone

Animal	Nocturnal or Diurnal	Land water or air	Breeding	Ethnographic traits	Toxicity	Other
Wrasse	Diurnal	Marine (Salt water)	Annual (Most likely)	Unknown	Nontoxic	protogynous hermaphrodites (likely)
Eel (Anguilla)	Nocturnal (mainly)	Marine (salt and freshwater)	Once at the end of a lifetime	Shapeshifting, creation, creation of new life	Toxic blood – can be consumed if cooked	Several stages of metamorphosis. Ingredient to see fae in some stories.
Whiting	Favours Nocturnal activity for rising to shallower waters	Marine (saltwater)	Annual (Vast quantity of offspring)	Unknown	Nontoxic - Edible	
Frog	Nocturnal	Amphibious	Annual Thousands of eggs	Shapeshifting Witchcraft Toxicity	Nontoxic – potentially edible	Several stages of metamorphosis
Common Toad	Nocturnal	Amphibious	Annual Thousands of eggs	Shapeshifting Witchcraft Sound Toxicity	Toxic -potentially fatal	Several stages of metamorphosis
Natterjack	Nocturnal	Amphibious	Annual Thousands of eggs	Shapeshifting Witchcraft Sound Toxicity Fertility	Toxic (exudes toxic milky substance across its skin)	Several stages of metamorphosis
Grass Snake	Diurnal	Amphibious	Annual	Renewal and Rebirth	Toxic (very weak-harmless to humans)	Shedding skin and renewal
Mouse	(Mostly Nocturnal)	Terrestrial	Several times a year. Large Litters	Pestilence Fertility Magic	Nontoxic though has a reputation for carrying diseases	
Shrew	(Mostly Nocturnal)	Terrestrial (Limited Burrowing)	1-3 litters a year	Venomous Darkness Destructive	Some species possess Toxic saliva (Harmless to humans)	Can alter body mass substantially in winter: Brain Case reduced by 15.6% and overall body mass by 17.6%
Hare	(Mostly Nocturnal)	Terrestrial	Annual 3-4 litters a year. Can conceive whilst pregnant	Associated with immortality, the lunar goddess/deity, a messenger, underworld & rebirth	Nontoxic-edible	

Table 2: Barclodiad y Gawres animal remains from hearth with their zoological and ethnographic traits indicating their potential symbolic and/or totemic meanings.

monuments occur regularly throughout Wales and England and the name Barclodiad y Gawres is not all too uncommon (Powell and Daniel 1956, 76).

A legend does surround a site with the same name at Bwlch y Ddeufaen in Caerhun Parish at Caernarvonshire: The Apronful of the Giantess (Powell and Daniel 1956, 76). *'A huge Giant, in company with his wife, travelling towards the island of Mona, with an intention of settling among the first inhabitants that had removed there; and having been informed that there was but a narrow channel which divided it from the continent, took up two large stones, one under each arm, to carry with him as a preparatory for making a bridge over this channel; and his lady had her apron filled with small stones for the same purpose: but meeting a man on this spot with a parcel of old shoes on his shoulders, the giant asked him, How far it was to Mona? The man replied, that it was so far, that he had worn out all these shoes in travelling from Mona to that place. The Giant on hearing this dropt down the stones, one on each side of him, where they now stand upright, about a hundred yards or so distant from each other; the space between them was occupied by this Goliath's (sic) body. His mistress at the same time opened her apron and dropt down the contents of it which formed this hea'* (Powell and Daniel 1956, 76 - 77).

It appears that this legend has potentially been inadvertently associated with the Barclodiad y Gawres in Anglesey as short searches on the internet seem to suggest.

Other than this association the author is unaware of any other legends associated with this site. It is most likely that the Giant in question is either a way of past societies explaining the existence of the Neolithic tomb or the idea comes from an earlier concept potentially relating to a god, or in this case, a goddess. Some interpretations pertaining to a Goddess at Barclodiad y Gawres are explored in the name section including ideas behind smithcraft. However, due to potential interpretations surrounding the frog found in the hearth, its ethnographic interpretations and the art on stone 22 it is possible that the apronful may well relate to pregnancy and the goddess may be a frog goddess of some kind.

#### Rock Art

Barclodiad y Gawres is considered to be the most decorated site in Western Britain (Nash 2021, 19).

There are around 5-6 decorated stones at Barclodiad featuring pecked spirals, chevrons, lozenges, cupmarks and other abstract designs.

According to Powell and Daniel the decorated stones are Stone 22 which features some of the most interesting detail at the site of a spiral, chevrons, lozenges and wavy lines. Stone 6, which features spirals and abstract designs and possibly a boat at the bottom right-hand corner. Stone 5 which features lozenges and chevrons. Stone 8 which features six spirals and some lines on its face, but it also features small zig-zagged pecking and cupmarks on top of the stone. Stone 19 has a single spiral (Powell and Daniel 1956, 26-27).

From onsite observation some of the art appears to be facing inwards towards the chamber including Stone 22, Stone 19 and Stone 8 whilst Stone 6 is angled facing into the chamber only slightly and Stone 5 faces the west side of the passage.

The artistic style remains abstract and geometric in design however the assemblage of these designs on the different stones and their position may tell us more. It is likely, especially given the peculiarities of the monument already discussed especially pertaining to its orientation and hearth deposit, that these designs are the result of entoptic phenomena much like the art discussed in Lewis-Williams and Dowson (1988). The chevrons could be interpreted as sound waves seen in the dust during a ritualistic performance (Devereux 2001, 90) (which would important to test scientifically but unfortunately too much damage and too many changes have been done to the site in order to conduct a fully reliable acoustics experiment). The many spirals may represent vortices seen in entoptic states or may have been utilized by ritual practitioners in some form or another, potentially as gateways whilst in ASC (Dronfield 1996).

Stone 22 or C16 is one of the most enigmatic pieces of rock art in Barclodiad y Gawres and Wales in general. It has a spiral in the top right-hand corner, horizontal chevrons covering the upper half of the stone, vertical wavy zigzags covering the lower half of the stone and two lozenges at the center of the whole design. In relation to Tilley (1991) and Nash (2021 pers comm.) these designs could represent the landscape. The lower vertical wavy lines may represent the sea, the horizontal chevrons could represent the Snowdonia Range, the spiral may represent the sun or moon and the lozenges may represent the tomb. Another potential interpretation that the Auor presents is that,

as the tomb is orientated north and ultimately does not align with the sun or the moon and, given that a spiral is more likely to be associated with gateways as seen in Dronfield (1996), small whirlpools or even eyes as the entoptic phenomena including seeing spirals takes place within the eye (Lewis-Williams & Dowson 1988) this might not depict the landscape. As already suggested in the Hearth analyses, this design might in fact be an abstract stylization of a frog (or a toad). The spiral is its eye (the broken piece to the left may have contained a second spiral), the horizontal chevrons its upper body, the vertical wavy lines are its legs, the central lozenge marking the center of the body and the lower lozenge a vulva. This abstract design does bear some similarity to the abstract designs in seen in Gimbutas figure 27 (2001, 34) which bear the abstract outline female bodies that are like that of frogs and toads, but also incorporate chevrons into parts of the design and the vulva's could be seen to develop into lozenges in different and later or earlier forms of art.



Figure 11: Stone C16 (sometimes referred to as Stone 22 by Lych 1970, [p38], & Powell & Daniel 1956) image taken by the author in 2021.

Finally there is the Sheel na gig that Gimbutas believes to be derived from the frog or toad goddess but a more recent and human stylization of her (this can be seen in figure 20 of Gimbutas 2001, 29). The sheela na gig is described as such by Gimbutas: '*Sheela na gig, with her round eyes and large vulva, is none other than the ancient frog or toad goddess, the birth giver and regeneratrix inherited from the Neolithic*' (Gimbutas 2001, 29).

Stone 22 is also angled facing in to the chamber right at its entrance.

#### Acoustic qualities:

As far as the author is aware the acoustic qualities of Barclodiad y Gawres have not been tested. Additionally, the author noted on a visit to the site in 2021 that acoustic tests would be compromised by the modern concrete surrounding the monument, the covering on the floor and a large amount of alteration to the tomb (such as disassembly of parts of the monument) done by past works. This would compromise acoustic tests most likely resulting in unreliable results.

However, the original structure of Barclodiad y Gawres is close in style and construct to the Boyne group in Ireland as opposed to any other type (Powell and Daniel 1956, 31). This is important given Devereux's acoustic tests conducted within Newgrange, the most famous of Ireland's passage tombs resulted in visible soundwaves (Devereux 2001, 90). This is done with the presence of light and particulates (such as dust or smoke) in the air where, using sound and music and at the right resonant frequency, these particles would organize by the sound to become visible soundwaves (Devereux 2001, 91). The interior architecture at Newgrange seems to be designed to deliberately amplify sound and that these tombs saw full use for ritual activity (Devereux 2001, 86-89). As Barclodiad's architectural schematic is similar to the Irish passage tombs it may have been the case that its design was conducive to the use of sound in ritual performance as appears to be the suggestion for Newgrange (Devereux 2001, 89). The chevrons seen in the rock art in Barclodiad y Gawres may in fact be representations of these soundwaves. It is unfortunate that unwarranted vandalism has occurred to Barclodiad y Gawres.

#### Conclusions:

Barclodiad y Gawres is arguably the most enigmatic of the sites analysed in this thesis. This is thanks to the large collection of data surrounding

the site including its archaeological assemblage, its orientation, its rock art and its name.

The hearth which is positioned at the centre of the monument and with the complete absence of burials in the centre and the passage is paramount in this interpretation. Powell and Daniel even comment 'The absence of burials in the central chamber is remarkable, and its reservation for ritual purpose, as witnessed by the hearth, shows to what an extent the offset chambers had assumed the primary purpose for internment' (Powell & Daniel 1956, 34). The collection of animal remains found in the hearth are described as a stew and having ritual or ceremonial significance (Powell & Daniel 1956, 17). The types of animals found in the hearth sample, their biological and ethnographic interpretations suggest several possibilities. The first is that all these animals' bare qualities (symbolically, biologically and/or ethnographically) of creation, travelling, transformation or metamorphosis, transition between worlds (most likely an underworld) and rebirth. The Second is that almost all these animals are either nocturnal or engage in nocturnal activity (and the site having no direct light in day or night due to its orientation). The third is that several of these animals have toxic qualities to them which, if used as a 'stew', could be dangerous for ingesting if this was the case, however this could be evidence or partial evidence for a substance capable of inducing altered states of consciousness. However, we do not know if this assemblage comprises all the ingredients and if it was used as a substance to induce ASC nor how it was administered.

More detailed comparison to other ethnographic forms of ritual may be needed to ascertain if such a stew is used to induce ASC as well as detailed testing of the chemistry behind the toxicity of such animals. Nevertheless, the ritual aspect of this hearth, its contents and the ethnographic analysis of its contents suggests the use of shamanism in the ritual of this Neolithic monument.

The orientation of the site is another enigmatic and almost unique aspect of Barclodiad. The time, effort and resources taken to build these monuments leave little room for error and thus the orientation, especially given the alignments of other megalithic tombs, was deliberate. There is one other site orientated north-south like Barclodiad which is in Ireland (ref needed). Because Barclodiad faces north it faces the Axis Mundi (which is linked to the Pole star, which during the

Neolithic was Thuban in the constellation of Draco) which has cosmological and shamanic significance in other cultures. Given the importance placed on the axis mundi by Sami and the northerly direction by other cultures such as (ref needed) this may suggest the site was orientated on a cosmological basis like Newgrange and other passage tombs but was deliberately orientated on the axis mundi allowing it no direct light from the sun or moon, therefore, suggesting that it has very little if nothing to do with the sun or the moon. This may suggest that the site is a nocturnal site and a place of perpetual darkness lightened only by the intervention of human activity.

As explained previously the Axis Mundi is used by shamans to journey into the other world and then come back again. This would make Barclodiad an excellent if not the perfect site to 'work' at if the ritual practitioner was a shaman or was utilizing methods and cosmologies considered shamanic.

It is possible that the remains of those that were interred at Barclodiad y Gawres were shamans or ritual practitioners utilizing shamanic methods and cosmologies that have gone to the otherworld with the view that they may eventually return. It is also possible that the bodies may have no connection with the original function of the site. It should be worth noting that had the site not been so badly damaged and altered so drastically there may yet have been considerably more evidence to improve this analysis such as the internal acoustics of the site.

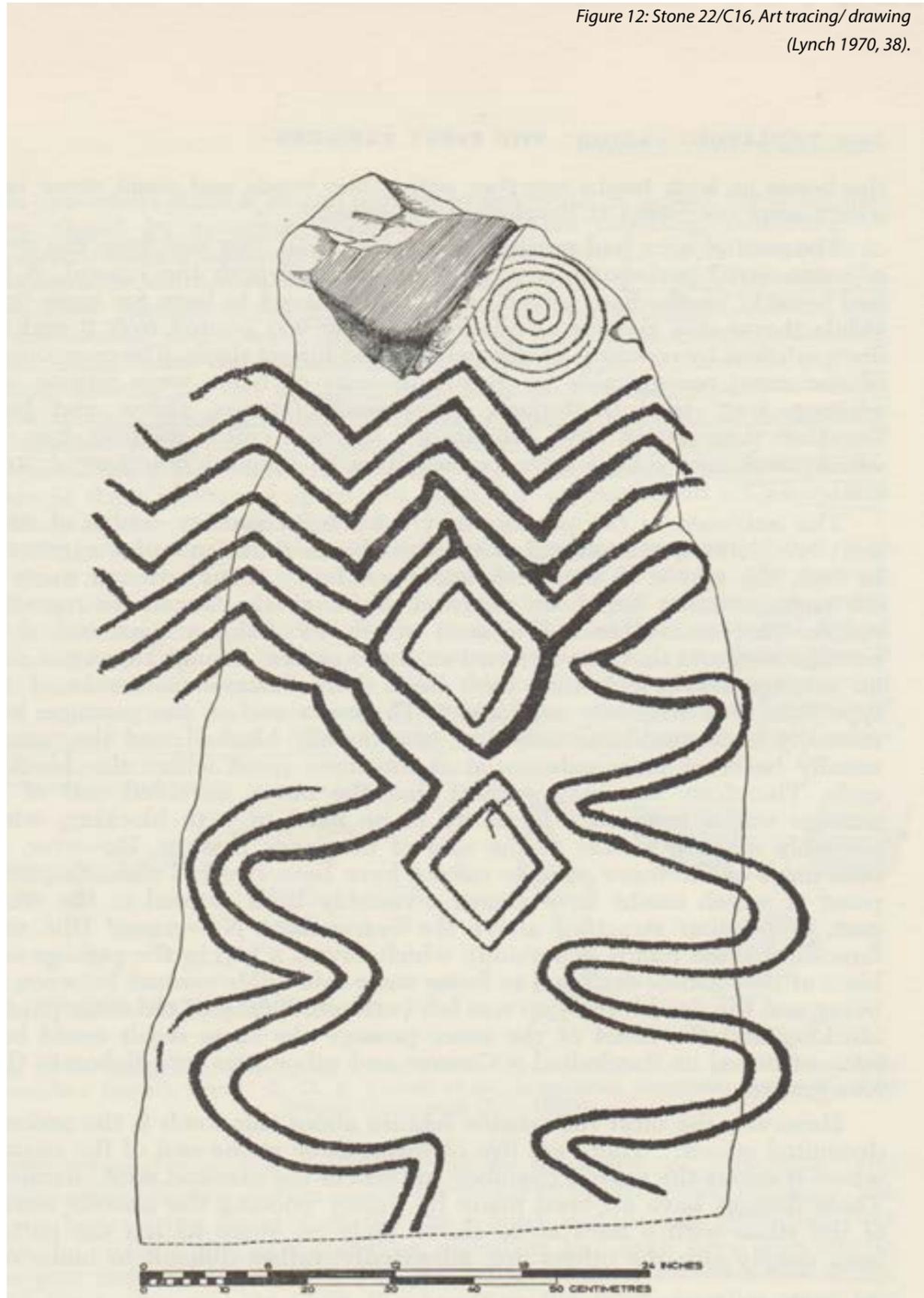


Figure 12: Stone 22/C16, Art tracing/ drawing (Lynch 1970, 38).



Figure 13: Stone 5 (Lynch 1970, 39). Image taken by the author in 2021.



Figure 14: Stone 5 (Lynch 1970, 39) bottom left close up. Image taken by the author in 2021.

Figure 15: Stone 5, Art tracing/ drawing (Lynch 1970, 39).

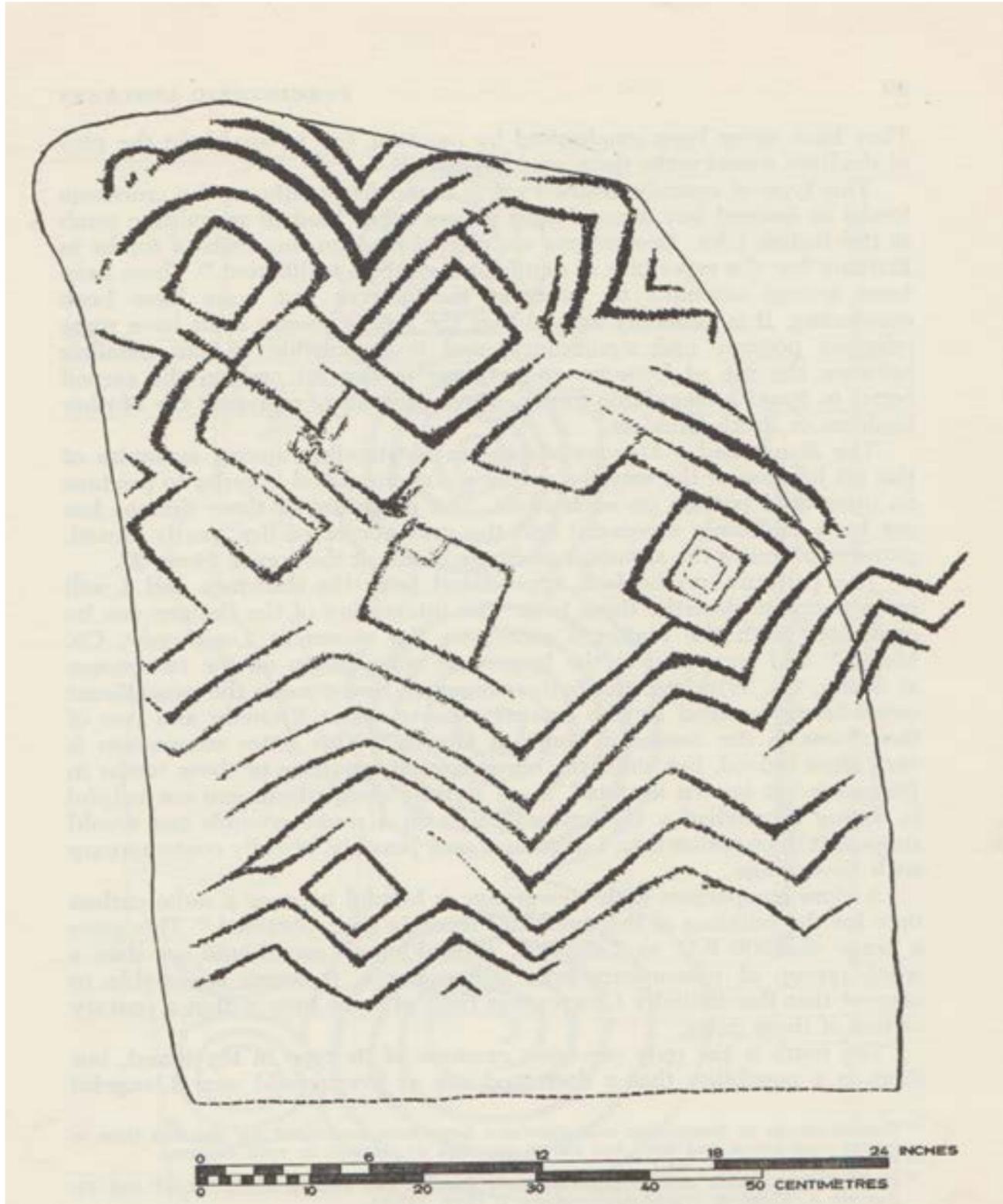


Figure 16: Stone 8 (Lynch 1970, 41) Image taken by the author in 2021.

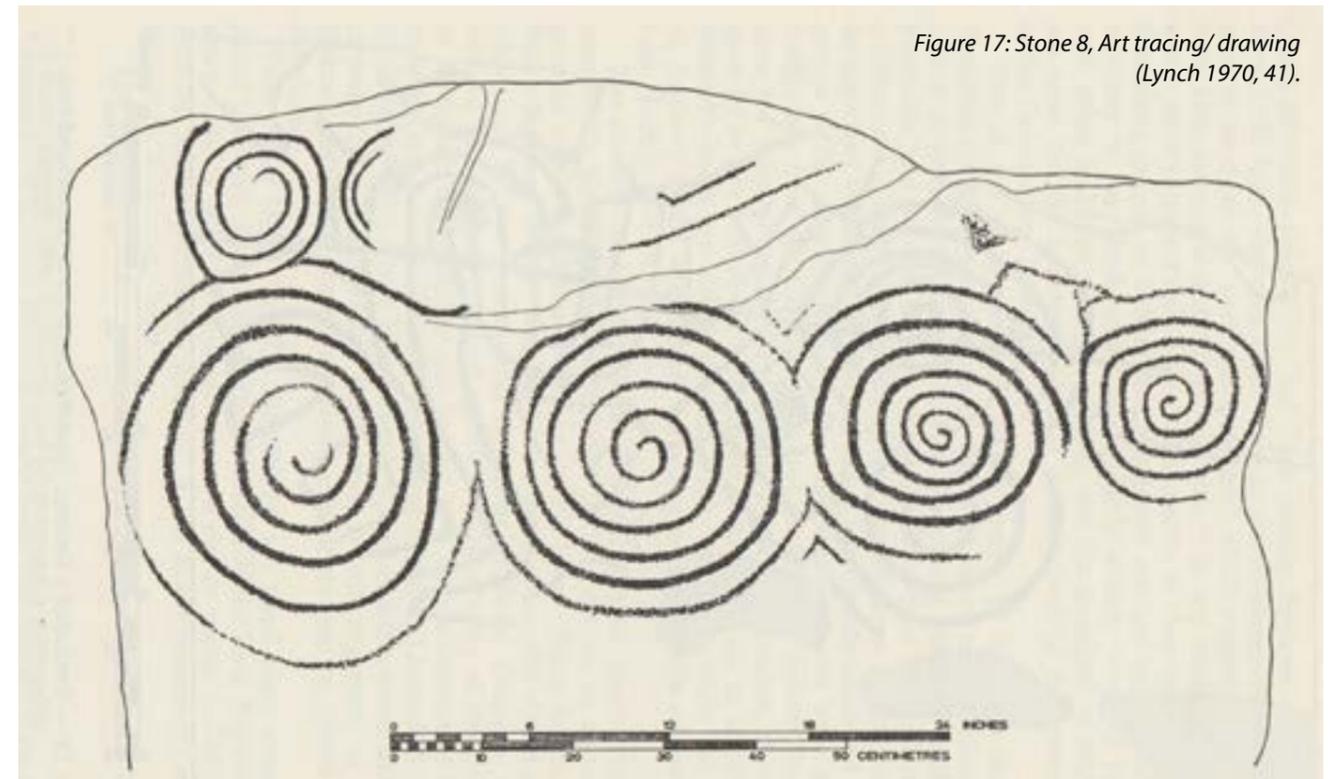


Figure 17: Stone 8, Art tracing/ drawing (Lynch 1970, 41).



Figure 18: Stone 6 (Lynch 1970, 42)  
Image taken by the author in 2021.

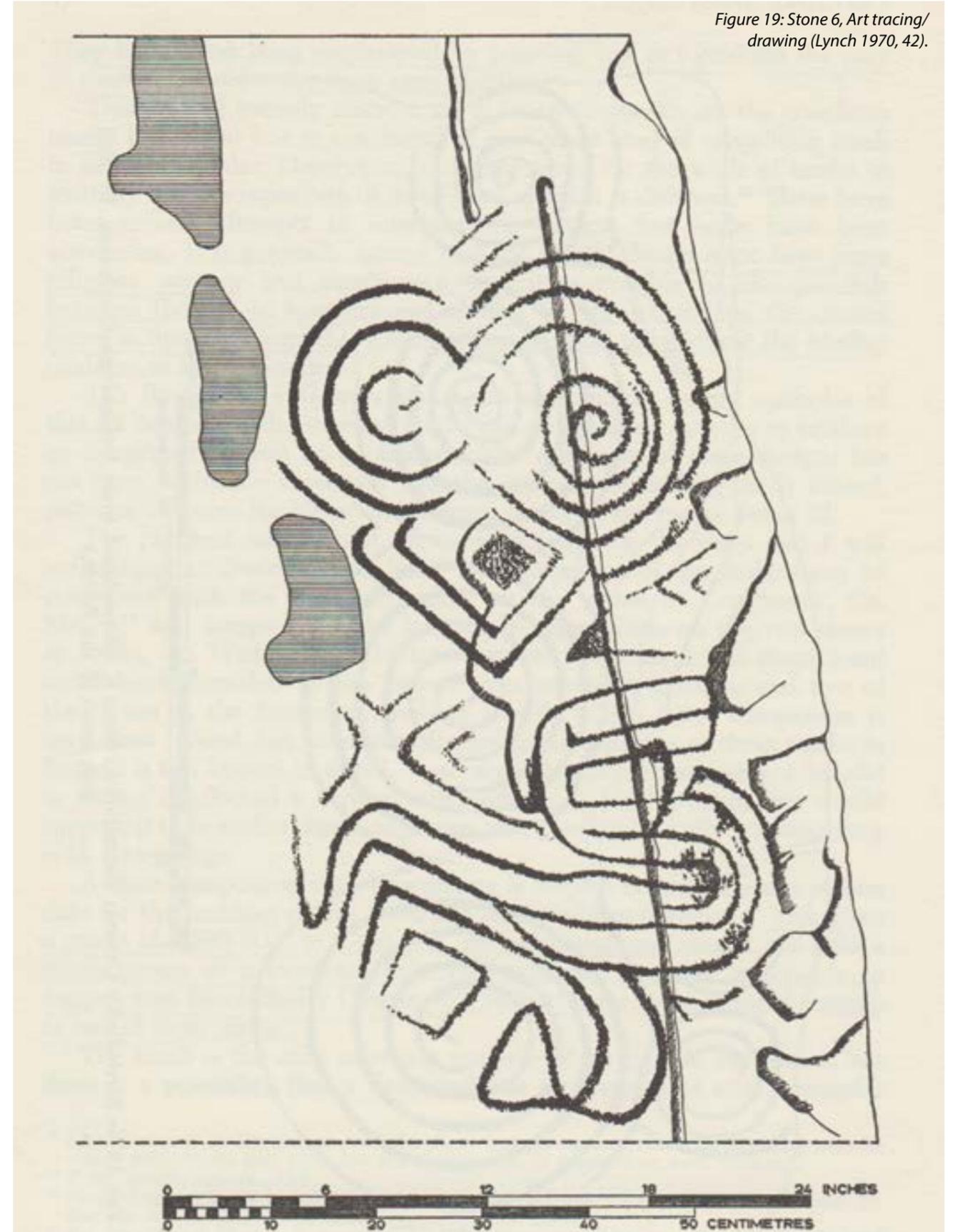


Figure 19: Stone 6, Art tracing/  
drawing (Lynch 1970, 42).

Figure 20: Engravings on top of Stone 8.  
Image taken by the author in 2021.



Figure 21: Stone 19 (Powell & Daniel 1956, 25).  
Image taken by the author in 2021.



Figure 22: Stone with cupmark found  
in the west side of the chamber/  
burial area. Image taken by the  
author in 2021.

#### BRYN CELLI DDU

##### Site Name:

Bryn Celli Ddu is believed to have been constructed sometime between 3074 and 2956 BCE cal (Burrow 2010, 249). Its name translates as 'The Mound in the Dark grove' (Hijazi et al. 2019; Reynolds et al. 2016) or 'Black Grove Hill' and is a reference to when the site was surrounded by a dense grove of trees. The site was formerly known as Llwyn Llwyd before it gained the name Bryn Celli Ddu (Hemp 1930, 179) which roughly translates as Sacred grove (authors translation). The author suspects these names are unlikely to refer to or be related to the original intent or ritual aspects of the monument and likely a reference to its later appearance. The reason the author suspects this is because of the site's alignment and the need for sunlight during the summer solstices (Burrow 2010) and the acoustics of a nearby rocky outcrop and its relation to the site (Devereux & Nash 2014).

##### Location of Site:

The site is located on Anglesey in the parish of Llanddaniel-Fab (Nash 2006; Hemp 1930) at the coordinates 53°12'26" N 4°14'6" W (OS National Grid Reference SH5073370174) (Hemp 1930, 179). It is positioned on a deposit of glacial moraine close to the Menai straits and with views towards the Snowdonia peaks (Nash 2006).

##### Its Surrounding Landscape:

The landscape surrounding Bryn Celli Ddu has some interesting features. Running from east to south is the Afon Braint (Burrow 2010, 249| Figure 24) a small stream that passes the site. There is a rocky outcrop north-west of the monument and faces it that features rock art and acoustic aspects (Nash and Devereaux 2014, 2). West of Bryn Celli Ddu is a small standing stone. In the far distance the Snowdonia Range can also be seen.



Figure 23: Entrance of Bryn Celli Ddu. Image taken by the author in 2021.

#### The Architecture of the Site:

Bryn Celli Ddu has few similarities to Irish chamber tombs such as those in Dronfield (1996) but does bear characteristics seen in Tilley (1991). Powell and Daniel comment on Bryn Celli Ddu stating that 'its affinities are less with Ireland than with Brittany and the Atlantic coasts Southwards' (1956, 31). The site consists of a passageway, a chamber a mound and features some rock art that was originally hidden. There appear to be two separate stages of construction which is identified by Hemp (1930) but there is debate surrounding these two separate stages. Frances Lynch suggests that Bryn Celli Ddu was once a henge that was eventually incorporated into the chamber tomb and mound upon its construction (Lynch 1970). Burrow disagrees with this and suggests that the first stage was still a chambered tomb but then the henge was later added to (Burrow, 2010).

During a site visit in 2021 the author investigated some of the Geological aspects of Bryn Celli Ddu. The geology of the rocks at Bryn Celli Ddu is mostly comprised of metamorphic blueschist. This is the case for most if not all the visible uprights, for some of the capstones, the standing stone in the chamber and the lintel. Two of the capstones were comprised of sedimentary conglomerate mudstone. The issue is that this site has undergone a reconstruction phase so some of the stones may not be in situ. A good example is when Skinner visited the site in 1802 and had to crawl through the passageway to reach the chamber (Skinner 1802, 25; Nash 2021 pers comm.) something one now does not have to do.

Blueschist is a geologically rare rock but abundant in Anglesey, a portion of this metamorphic rock is situated very close to Bryn Celli Ddu in the natural geology (Kawai et al. 2007).

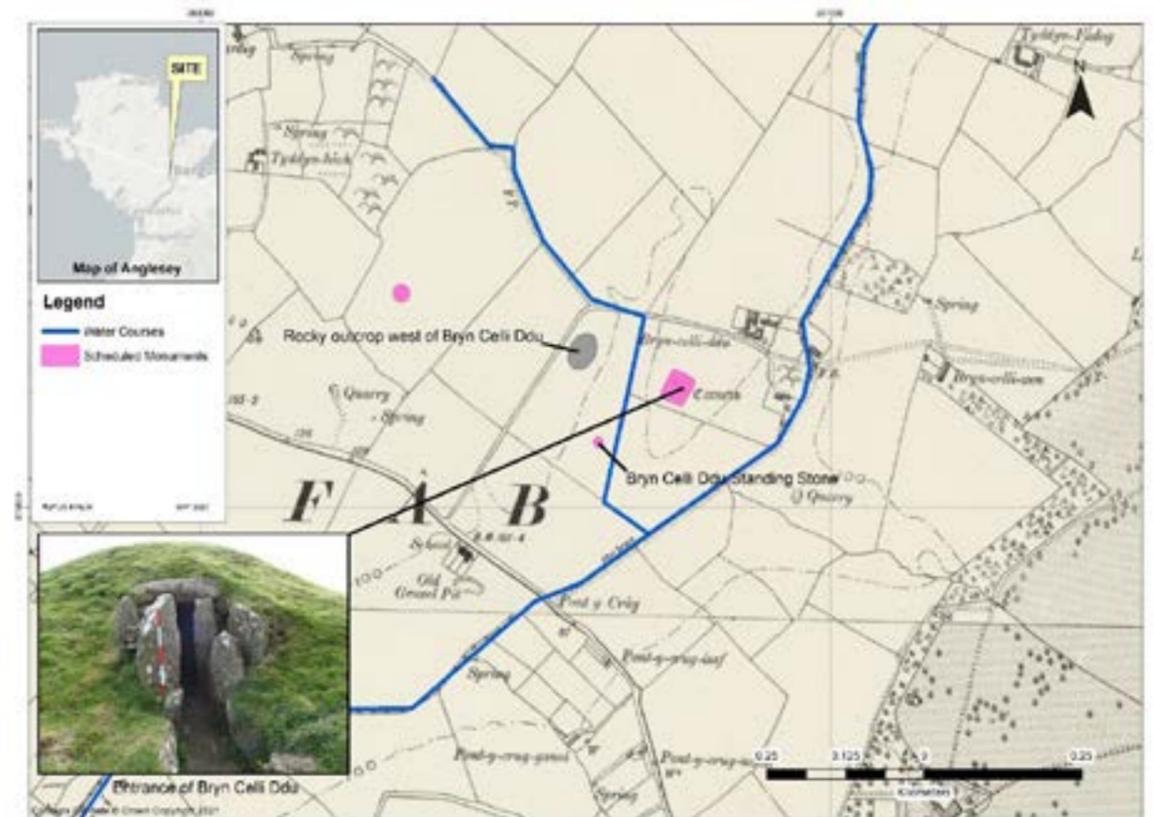


Figure 24: Map of Bryn Celli Ddu and the surrounding landscape. Map and photos created and taken by the author. Reproduced with the permission of the National Library of Scotland.



Figure 25: Small standing stone west of Bryn Celli Ddu. Image taken by the author.

At the centre of the monument and covering the central pit was found a large slab of schist placed horizontally dipping from south to north (Hemp, 1930, 196). This north-south alignment at one of the most important parts of the monument and most secretive would fit with the significance of Tilley's analysis of the north-south alignment of the chambers found in the passage tombs of Vastergotland (1991) and arguably associate it with the aforementioned concepts behind the axis mundi (Dronfield, 1996, 39). This is also helpful given the damage the site has sustained over the years and the unclear orientation of the chamber of Bryn Celli Ddu (Burrow 2010).

The entrance of the burial chamber is orientated northeast to align with the sun on the summer solstice which lights up a wall at the rear of the chamber. This alignment would also align with the central pit even though no light would be cast upon it due to the interior walls of the chamber.

This alignment may well have had ritual and cultural significance, perhaps associated with ideas of pregnancy and rebirth. This is not necessarily shamanic as it may relate to more culturally nuanced cosmologies but other sites such as Newgrange which feature alignments (albeit different times of the year) also sometimes feature rock art that could be interpreted as shamanic (Dronfield, 1996; Lewis-Williams & Dowson 1988). This may suggest that if shamanic elements were incorporated with the ritual of the rock art then it may have also been incorporated with the ritual behind alignments such as those at Bryn Celli Ddu.

#### **Type of Site:**

Bryn Celli Ddu is a passage tomb however it has several features that suggest it may have served different purposes at different points in its history. The cairn incorporates four stone circles of which there is the debate that surrounds them. Hemp believes that at least two of these circles likely served a ritualistic purpose (Hemp, 1930, 200) however the debate that surrounds them is whether they were there before the tomb was ever constructed or whether they had been built surrounding a smaller tomb that was later extended and absorbed the stones.

#### **Archaeological Assemblage:**

During the more recent history of Bryn Celli Ddu there have been several investigations at the site. The earliest major recording is said to have been done by

Rev Henry Rowlands in the early 18th Century who sketched the site and explained that it had sustained damage due to people taking the stones away to make walls and hedges (Hemp, 1930, 179). The next visitor in November 1777 (other than the workmen looking for stone), was Henry Penruddocke Wyndham who explained that there were once many human bones along the floor which turned to dust upon being touched (Hemp, 1930, 179). Later Rev John Skinner who visited the site on his tour of Anglesey in 1802 confirms that the site has been damaged as the stone was used to build walls but also that a wedge of gold was found roughly the size of a heater iron with a wire passing through the smaller end of it (Skinner 1802, 24-25). This wedge of gold, which Skinner suggested may have been a sacrificial implement, was taken by Colonel Peacock and appears to have disappeared after this (Skinner 1802, 24-25). In 1869 Captain F.D Lukis excavated the site who compared some of the pillars (at his time of writing) to the cromlechs at Carnac in Brittany (Hemp, 1930, 180). Lukis claims that he found shingles, ashes, charcoal, burnt and unburnt human bones as well as limpet shells (Hemp, 1930, 181 & 187). Hemp tells us that the Lukis collection was given to the British museum in 1875 which includes Red Jasper (a material Hemp tells us is often found around the site), broken flint, limpet shells, lead and pottery though Hemp states the lead is modern and the pottery is a natural concretion (Hemp, 1930, 182). Lukis also states that he undertook the digging too hastily (Hemp, 1930, 181). Hemp's excavation was meticulous, and he discovered that the cairn was surrounded by four concentric stone circles, three of which were buried in the cairn and one buried in the ditch (Hemp, 1930, 183). In the chamber Burrow found burnt and unburnt human bones and teeth as well as limpet cockle and mussel shells as well as 'two pieces of chert which fit together to form a rough end scraper' (Hemp, 1930, 187). During the excavation of the outer passage white quartz was found and is described to have been all over the site (Hemp, 1930, 192).

During the excavation of the forecourt just in front of the entrance Hemp found: cremated bones, charcoal (enough to suggest a fire in one spot), at least two hearths flanking the entrance, lots of quartz stones (some of which had been broken), a burial of burnt bones enclosed in a pebble and clay basin, five post holes (one of which contained carbonized pine wood) and the skeletal remains of an ox with its

head facing the entrance of the monument (found in a small shallow pit beyond the post holes) (Hemp, 1930, 193-196). At the centre of the monument Hems excavation discovered the central pit which contained an interesting assemblage in its own right. In it they found: the Pattern Stone (which will be analysed in the rock art section), the pit (had been hardened by fire), some fragments of charcoal, one burnt bone, a human right ear bone, a piece of unburnt hazel wood, a selection of clay and stones, two pieces of jasper and a purple clay cone (Hemp, 1930, 196). This assemblage was discovered throughout different excavations or investigations and creates a complex image of the site. Undoubtedly it was used for burial purposes and as a resting place for the dead for quite some time. However, the wedge of gold, quartz, red jasper, Ox burial, the human ear, the Pattern Stone, the shells, as well as the choice of hazel in the central pit may likely be indicative of specific culturally nuanced ritual rites. Some aspects of these rites may well feature shamanic elements.

#### **THE OX**

The Ox burial found beyond the post holes in the entrance of the site was compared to the Celtic Ox *Bos longifrons* by Dr J. Wilfred Jackson. However, as Dr Jackson points out, the Ox found at Bryn Celli Ddu was substantially larger in comparison and was thought to be more like the build of the Ox found at Woodhenge at the time of writing (Hemp, 1930, 213). The bones may need re-examining as this may elucidate new details and given that, as Burrow points out, the possibility of a prehistoric Ox poses many interesting possibilities in its own right (Burrow 2010, 257). Cattle (or Bovidae) have been a part of human societies for millennia and feature heavily in pastoralist communities such as the Nuer (Evans-Pritchard 1940). They act as a source of milk, meat and in some cultures as currency also as by the Nuer peoples (Evans-Pritchard 1940). They have also been sacrificed as part of ritual worship such as in the Taurobolium from around 100 – 200 AD (Salerno 2018). In the Irish folklore of the Legend of Cuchulain bulls (as opposed to Ox) feature prominently (Gregory 1903). A War were fought over the bull as Cuchulain and queen Maeve compete for the Bull of Brown with Cuchulain performing superhuman and incredible feats (Gregory 1903).

Based on their qualities cattle can bear totemic qualities or be seen as symbols of fertility and wealth

whereas males such as bulls may be associated with war, virility and leadership. The Ox burial at Bryn Celli Ddu may be associated with the authority, virility, fertility, fighting prowess or wealth of those buried at the same time as the ox. Alternatively, it may be a ritual offering with similar meanings to the monument. More data is required to ascertain its exact purpose. However, based on the animal remains at Barclodiad (see Barclodiad section in this thesis), it is possible that the use of an animal in this way may be indicative of shamanic elements being used in the ritual of the site of Bryn Celli Ddu.

#### **THE SHELLS**

As previously discussed in the Barclodiad section, shells have been used for symbolic purposes for thousands of years, as well as personal adornment and even as an instrument (d'Errico et al. 2005| Vanhaeren et al. 2006| Fritz et al. 2021). Shells were used at Bryn Celli Ddu and Barclodiad y Gawres which does suggest that they had a ritualistic significance to the peoples of the Neolithic as well as nearby availability, though may not necessarily possess the same meanings for both sites. The reason for this is that in Barclodiad the shells were placed onto the Hearth at the centre of the monument whereas the shells (Cockle, Winkle and scallop) were found scattered through the passage at Bryn Celli Ddu (Hemp 1930, 209). The exception is with the Limpet and Oyster shells which were placed in the chamber at Bryn Celli Ddu (though one oyster shell was on placed on the capstone and the other just outside the entrance) (Hemp 1930, 209). In Barclodiad y Gawres it is Limpet and Oyster shells that are in the centre of the chamber and are placed onto the hearth. Therefore, Limpets and Oysters feature both at Bryn Celli Ddu and at Barclodiad y Gawres and are both placed in the main chambers (see the Barclodiad section of this paper for further details on Limpets and Oysters).

This may well suggest a continued ritualistic practice used at both monuments, or that both bear similar symbolic meanings. Based on the analysis of Barclodiad y Gawres it is possible these shells are indicative of shamanic elements in the ritual of Bryn Celli Ddu in a similar way to those at Barclodiad y Gawres due to this similarity between the two sites and what is potentially indicative of a ritual and cultural tradition used at both sites.



However, it is suspected this motif was done at a much later date as the striations are indicative of metal on stone and the interior of the tomb has experienced graffiti. The method behind the composition of this spiral is different from the art found on the Pattern Stone and cannot be verified as part of the original assemblage.

#### Acoustic Qualities:

145 meters away from Bryn Celli Ddu burial chamber is a Palaeozoic laminated shale rocky outcrop. Interestingly this outcrop features a point-specific acoustic reflection. Such sound made at this site could be very clear if an instrument is used. Additionally, this outcrop also features rock art thus reinforcing the theory that significant pieces of rock art are being placed on features of acoustic significance (Devereux & Nash 2014). This suggests a surrounding sacred landscape that would have had significance to certain peoples of the past (Devereux & Nash 2014). Due to significant interference at the passage tomb it is unknown if the interior chamber featured acoustic qualities though it is likely. Testing may be tricky to

conduct, and accurate results would be difficult to attain given the many changes and alterations made to the site.

#### Conclusions:

Bryn Celli Ddu has a complex assortment of finds. Some indicate that aspects of shamanism were incorporated into the ritual of the site whereas others may simply indicate culturally nuanced ritual activity. The rocky outcrop and its acoustic effects are indicative of shamanic elements given examples of the choice of rock art placed in acoustically key parts of caves or monuments (Devereux 2001, 88-89 & 105). The location and the art of the Pattern Stone is also essential as Williams and Dowsons (1988) and Dronfields (1996) studies can apply here for the creation and purpose of this stone. It may have acted as a map or symbolic gateway for the dead buried at Bryn Celli Ddu to help them or lead them to another place. This hypothesis is especially interesting if one considers that the stone it was laid upon was facing north-south, potentially indicating a link to the axis mundi. The shells also occupy a unique and vital aspect of the site as these



Figure 27: A copy of the Pattern Stone at the site of Bryn Celli Ddu (front). Image taken by the author in 2021.



Figure 28: A copy of the Pattern Stone at the site of Bryn Celli Ddu (back). Image taken by the author in 2021.

potentially indicate a continuity of ideas, beliefs and ritual activity between Barclodiad and Bryn Celli Ddu including the shamanic aspects already discussed in the Barclodiad section. The Ox burial may well bear symbolic and totemic traits similar to those found in shamanic traditions however it is just as likely that this animal has other culturally nuanced symbolic properties other than shamanism.

Overall, based on the above conclusions, shamanism can be said to have been incorporated into the ritual of Bryn Celli Ddu. It is a shame that the acoustics have not been measured inside this Bryn Celli Ddu or Barclodiad as this may supply more interesting data, however the alterations to these sites may make those results unreliable.

Figure 29: The pattern Stone (Lynch 1970, 60).

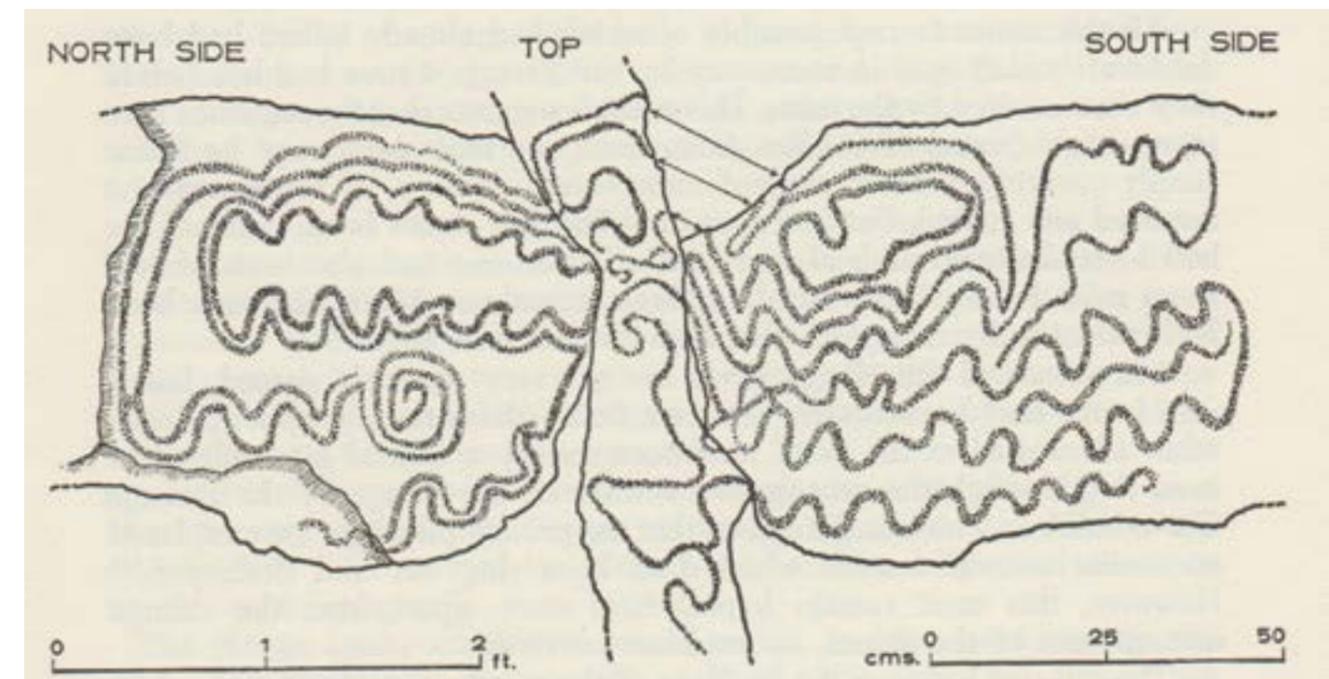


Figure 30: Small spiral 'cut' into the wall of the chamber at Bryn Celli Ddu. Image taken by the author in 2021.



Figure 31: Rocky Outcrop near Bryn Celli Ddu.  
Image taken by the author in 2021.



#### LLWYDIARTH ESGOB STONE

##### Site Name:

The name Llwydiarth Esgob stone translates as the Grey Bishops Stone or the Sacred Bishops Stone or the Sacred West Bishops Stone (author's translation). The older meaning of the word Llwyd means 'sacred' as described by Cathrall (1987, 186). 'Llwyd was an epithet of the Deity, as in expression "Duw Llwyd," the Sacred God' (Cathrall 1987, 186). Depending on how old this name is and whether it is associated with the rock and not just the farm (as the farm has the same name) would suggest this rock has ritual and spiritual connotations perhaps thus suggesting to its past purpose having been Christianised. However, as the stone has been moved (Nash 2010, 257) this may not be its original name.

##### Location of Site:

The stone can be found on Anglesey at the Llwydiarth Esgob Farm at 53°20'00.7"N 4°21'04.6"W (OS National Grid Reference SH4354884406). The stone rests at a height between c. 50-75m AOD (Nash et al., 2010, 257).

##### Its Surrounding Landscape:

The Esgob stone has been moved from its previous location but is believed to not have been moved far due to its weight (Nash 2010, 259). In the area there is the passage grave Maen Chywf which is situated close to the Llys Einion Stone located 1.2 km northwest of the Esgob stone at 58m AOD (Nash 2010, 257-258). Lying 50m east from Maen Chywf is also the Alter stone which may also be related (Nash 2010, 258). In addition, a selection of Neolithic and Bronze age axe heads have also been found in the immediate area surrounding Llwydiarth Esgob (Nash 2010, 259-260).

##### The Architecture of the site:

The site consists of a single, broken engraved stone measuring about a meter in length (Nash 2010, 259). Its geological composition is that of local Hornblende Picrite (Nash 2010, 256). Its orientation is unspecified; however, its present orientation would be irrelevant in any case given the stone was moved to the farm by the antiquarian T. Pritchard in the early 20th Century from an unspecified nearby location (Nash 2010, 256). The stone is also missing a piece which may possess more rock art (Nash 2010, 259).



Figure 32: Llwydiarth Esgob Stone. Image taken by the author in 2021.

##### Type of Site:

Llwydiarth Esgob is a recumbent broken stone engraved and pecked with concentric circles, some cupmarks, linear and curvilinear lines (Nash 2010, 259). The stone may have been part of a dolmen, or an upright in a passage or chamber like Bryn Celli Ddu or Barclodiad y Gawres (Nash 2010, 259-260) potentially originating from nearby Maen Chywf.

##### Archaeological Assemblage:

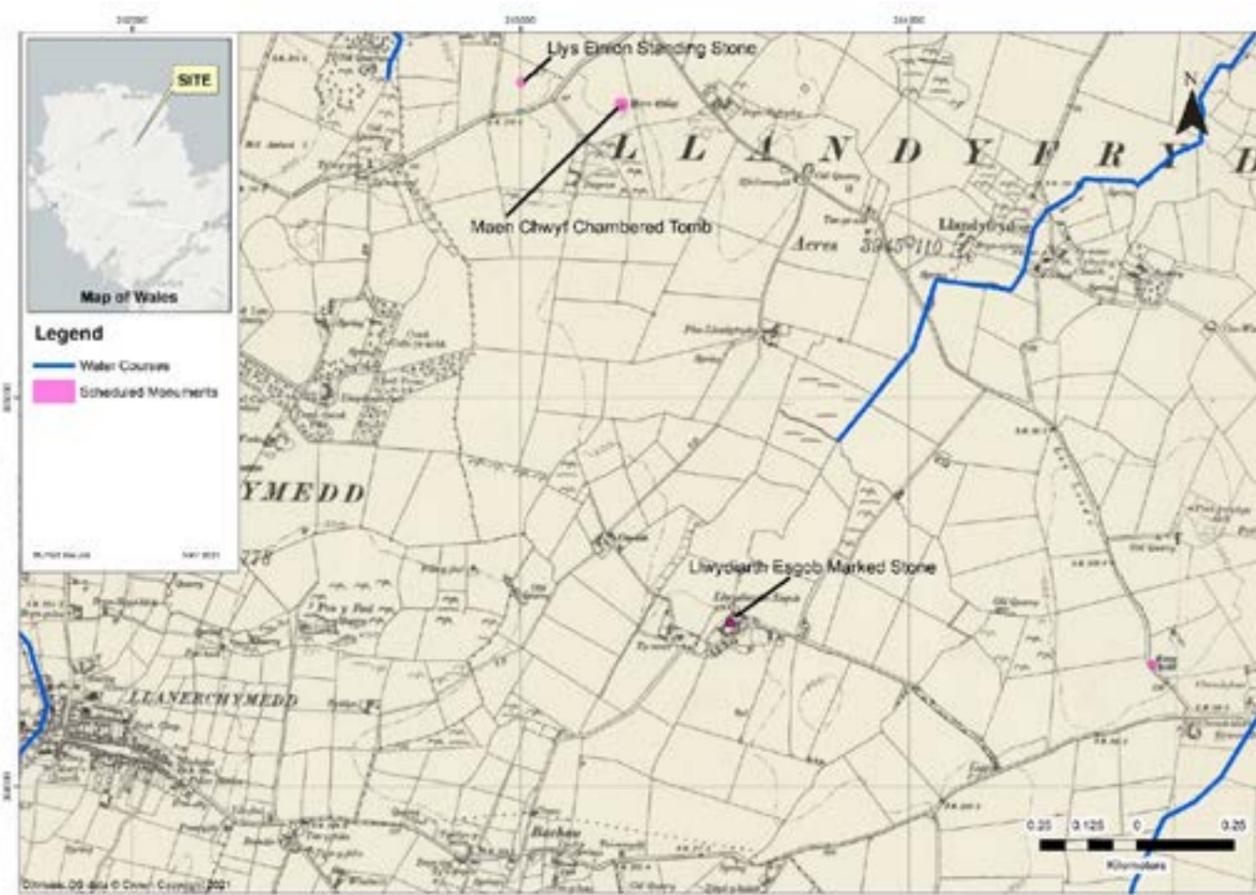
Some brief excavations have been carried out around and near to the stone unearthing several Neolithic and bronze age axe heads (Nash 2010, 258| Lynch 1970, 77 & 107).

##### Local Legends surrounding the site:

There appear to be no direct legends associated with the stone, however this may be due to its position out of situ and lost association with the original site.

##### Rock Art:

The rock art on Llwydiarth Esgob is comprised of two major sets of engraved concentric circles with a cupmark at the centre of each and both joined by an engraved line as well as curvilinear lines around the outside of these motifs (Nash 2010, 259). The rock art featured on the stone is more detailed than the cupmarks found on many sites outside of Anglesey though its style is dissimilar from most of the art in Barclodiad y Gawres and Bryn Celli Ddu (Nash 2010, 259). However, stone 6 in Barclodiad y Gawres does feature double spirals somewhat similar to the art on Esgob (Nash 2010, 259). The art is geometric in design and may indicate entoptic phenomena taking place before altered states of consciousness (Lewis-Williams & Dowson 1988). The concentric circles could be interpreted as an interconnected spiritual, symbolic, or potentially shamanic pathway to the otherworld



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Figure 33: Llwydiarth Esgob Stone and the surrounding landscape. Map made by the author. Reproduced with the permission of the National Library of Scotland.



Figure 34: Neolithic and Bronze Age tools. Image taken with the kind permission of Jane Evans and Tom Evans. Image taken in 2021 by the author.



Figure 35: Llwydiarth Esgob Stone tracing (Nash et al, 2008).

similar to Dronfield's suggestions for the chambered tombs in Ireland and some cultures that use spirals and circles as part of their rock art such as in Native California (Dronfield 1996, 64). If the Esgob stone was a part of a dolmen (such as the proposed Maen Chywf), whether in the passage or the chamber this would lend further credence to this interpretation and, much like the rest of the rock art analysed in this paper, directly associate it with the mortuary structures and ritual to do with death.

**Acoustic Qualities:**

The Acoustic qualities of the stone have not been tested. Its present condition would also cause additional problems for acoustic measurement as it is not in situ and is incomplete due to damages.

**Conclusions:**

Llwydiarth Esgob offers a different kind of rock art in comparison to Barclodiad y Gawres and Bryn Celli Ddu as well as more artistically detailed than most of the other sites analysed in this thesis.

As this stone may have once been a part of a former dolmen or cairn this needs to be substantiated and the site excavated for further evidence.

The name of the rock does suggest a potential spiritual significance of some kind based off of some translations and perhaps a later Christianisation of the stone. This may suggest a past knowledge about the

ritualistic significance of the stone provided this was its original name. The art on this stone may suggest shamanic evidence given some comparisons to the Native Californian shamans and rock art that utilizes spirals and circles in association with altered states of consciousness and journeying (Dronfield 1996, 64) which may suggest the entoptic phenomena effect (Lewis-Williams and Dowson, 1988). If this is correct this would suggest shamanism is occurring in the rock art of this monument. However further evidence would be ideal and finding where the Esgob stone originally came from would be of paramount importance. Given that there are other Neolithic and bronze age axes in the surrounding area, the Neolithic Maen Chywf dolmen and two other standing stones this does suggest a ritual monument as well as a potential ritual landscape (Nash 2010, 260). It is quite likely that Llwydiarth Esgob was a part of this assemblage. If this stone was in the monument, it would be interesting to substantiate whether it was visible in either the passage or the chamber (such as in Barclodiad y Gawres) or if it was hidden (such as in Bryn Celli Ddu) or if it was positioned somewhere else as this would give further context as to its purpose. If it was on display then it may have been utilized by other contemporary and later ritual practitioners but if it was hidden then this would suggest it was for the dead (such as in Bryn Celli Ddu) (Nash 2010, 259).

## MAEN CATWG

### Site Name:

Maen Catwg (RCAHMW 1976, 43) meaning Catwg's Stone (author's translation) also known as the marrying stone (Royal Commission Aberystwyth 1957) is found 1 km N.W. of Gelli-Gaer/Gelligaer in the county of Glamorgan. Catwg can translate as battle however it most likely refers to a name, possibly also pronounced as Cadoc, Cadog or Cattwg. St Catwg is an abbot born to Gwynllyw mab Glywys ruler of Glyswysing and Gwladus merch Brychan daughter of the ruler of Brycheiniog in the 5th or 6th Century (Henken 1987, 89).

St Catwg was one of the central key founders of Christianity in Wales and features a cult throughout Celtic South Wales including the Vale of Glamorgan with the church in Gelli-Gaer being of prime example (Bowen 1954, 38 & 39). The spread of his name and cult appears to have followed the Roman road systems initially (Bowen 1954, 39-40). The story behind St Catwg/Cadog varies but some show his birth and life filled with the acts of a great heroic leader and miracles. Such examples include his father stealing his mother after her father did not give him his permission which is one of a few classical practices of ancient heroes in folklore, lights surrounded him before and shortly after his birth that turned night to day, to clear a dispute with Arthur he changed the colour of over 100 ordinary cows to the colours of white and red (the colours of the otherworld in Celtic mythology) and then transformed them into ferns (Henken 1987, 89 & 90). St Catwg also punished Sawyl and his men for forcibly taking food and drink from the monastery by cutting off half their hair and beards then cutting off the lips and ears of the horses before causing the earth to swallow up Sawyl and his men (Henken 1987, 93). The latter of these miracles are not befitting of a Christian saint, and it does indicate that although St Catwg was a real person, these events have been taken from an older religious tradition or belief system and adopted by those who later wrote of Catwg and associated with him. The Celtic elements such as the colour coding of the cattle and the maiming of the horses are indicative of this.

In the case of Maen Catwg this may suggest several things. Firstly, the site may have been Christianised by the cult of Catwg from its former cosmological functions, though for a site to feature

such a change would suggest some kind of important spiritual, religious, or folkloric purposes. Secondly the site may have been associated with the pre-Christian qualities Catwg later came to be associated with as customs changed over time and the name was changed reflecting this change in customs. Thirdly that it may have been a mixture of various reasons including the above. Either way for the site to bear the name of an important saint does suggest that the site did bear spiritual, religious or ritualistic significance for the local population at some point in the past.

### Location of site:

The site is found 1 km N.W of Gelli-Gaer in the county of Glamorgan 260m AOD at 51°40'07.7"N 3°15'49.3"W (OS National Grid Reference ST1269597442). It is situated on a gentle slope falling Southwest.

### Its surrounding Landscape:

Maen Catwg is situated near to old routeways including a potential old crossroads/field boundary. Hills are surrounding the site, it is located between two streams the Nant Caeach to the west and the Nant Cylla to the east and it is situated on a ridge that appears to act as the origin point of a selection of springs that flow into these streams though these are at least 200-300 meters away to the west. It is only 1km northwest of the old settlement of Gelligaer (RCAHMW 1976, 43). Gelligaer is also the site of a Roman fort that was excavated from 1899-1901 (Ward 1903).

### The architecture of the site:

The site consists of a single rectangular stone with cupmarks which is orientated Northeast Southwest 2.6 meters long, 1.7 meters wide and 0.6 meters in depth (RCAHMW 1976, 43). There was observed to be some stones beneath the west side of the stone which may suggest that this stone was a capstone of a now destroyed cromlech or megalithic tomb (RCAHMW 1976, 43). Maen Catwg appears to be a sedimentary rock however its geological composition has not been determined.

### Type of Site:

The site of Maen Catwg is a megalithic recumbent stone engraved with cupmarks that may be the capstone of a former cromlech/burial monument (RCAHMW 1976, 43). It has also been referred to as the 'marrying stone' (Royal Commission Aberystwyth 1957) which may allude to a potentially previous use. This site may have acted as a marker stone too.

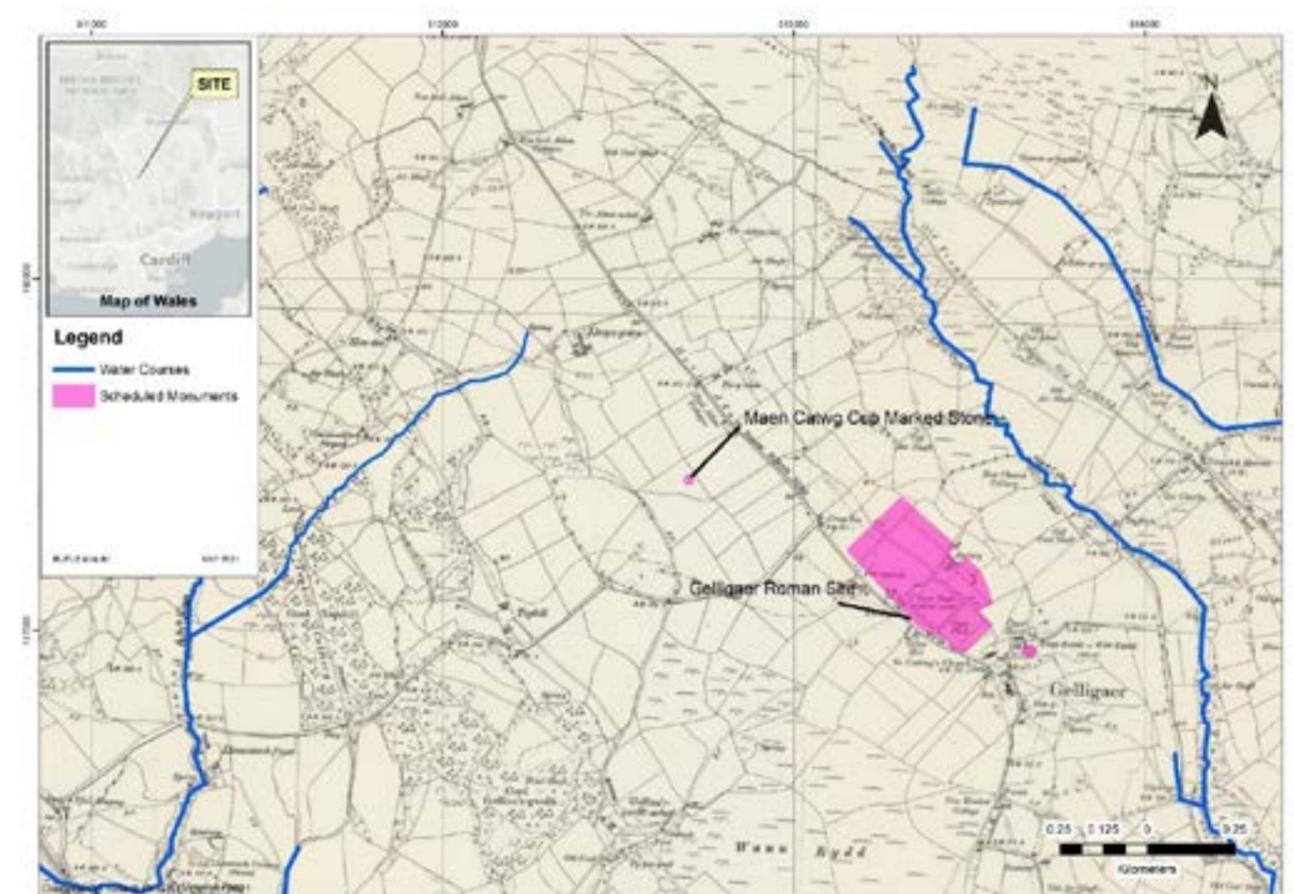


Figure 36: Maen Catwg and the surrounding Landscape. The map made by the author 2021. Reproduced with the permission of the National Library of Scotland.

### Archaeological Assemblage:

No excavation has taken place at the site at the time of writing, so no known archaeological assemblage has been discovered.

### Local legends surrounding the site:

There appear to be no direct local legends associated with the stone other than the potential mythology behind the name Catwg mentioned in the site name section above.

### Rock Art:

There are 50 cupmarks in total 33 of which can be measured and range from 40-115 mm in diameter and from 5-60 mm in depth (RCAHMW 1976, 43). These cupmarks appear to have been marked randomly on the rock. Dronfields (1996) and Lewis-Williams & Dowson (1988) interpretations may apply here with the cupmarks again acting like vortices and be the product of entoptic phenomena which would suggest shamanic activity. If this is the capstone of a cairn then this may lend some further credence to this

interpretation. Alternatively, these cupmarks may have been made by pilgrims to the site, made by individuals who gathered here, or used as a marker stone.

### Acoustic qualities:

No acoustic tests have been conducted at Maen Catwg on either the stone or local surroundings.

### Conclusions:

The site contains too little evidence to substantiate if there is or isn't any presence of shamanism. The greatest clues so far lie in rock art; however, without further archaeological context, this is open to other interpretations such as graffiti and a meeting place. The name Catwg which may be related to an earlier pre-Christian entity and belief system that was associated with this stone. If this is the case then this may well indicate a link to former belief systems potentially with a shamanic element in conjunction with the rock art. Further research and excavation would need to be conducted on this site to acquire further evidence and come to a clear conclusion about shamanic elements in this site.

## TREFAEL

### Site Name:

Trefael potentially meaning township (authors translation) is found in South-East Wales in the hinterlands of the Nevern Valley around 2.7km southeast of Trelyffaint (Nash et al. 2013, 24). The name may relate to a nearby settlement or a historic settlement. Alternatively, it may bear a similar meaning as the Trelyffaint monument which refers to a hall of Toads, so some of the original name may be missing.

### Location of site:

Trefael is found in the Nevern valley hinterlands near to the coastal village of Newport (Nash et al. 2013, 24) approximately 52°02'84.01"N 4°76'67.57"W (OS National Grid Reference SN1029040289). It is located 2.7 km southeast of Trelyffaint, located near to a standing stone and comprises part of ritualistic sacred and fertile landscape (Nash et al. 2013, 25).

### Its surrounding Landscape:

Trefael is one of 6 key prehistoric monuments in the Nevern area of North Pembrokeshire, though there appear to be even more sites than this (Nash et al. 2013, 25). Its positioning would have likely been near to fishing, hunting and, later on, agricultural communities in the past and the site can be found roughly positioned between two streams running from northeast to southwest that flow into the River Nevern (Nash et al. 2013, 25 & 27).

### The architecture of the site:

The site mainly consists of a single stone (believed to formerly have been a capstone) of which its geological composition is believed to be bluestone – the same sort of material as stone henge (Nash et al. 2013, 24 & 27). Its orientation is not overly clear but appears to have views in the south and westerly directions over the valley. This capstone was previously a part of a cairn though its architecture and orientation are unknown.

### Type of Site:

Trefael is a complex site. First it was believed to be a standing stone dated to the Bronze Age, however it was discovered to formerly being a cairn from the Neolithic and then evidence of two shale beads placed the first use of the area into the Mesolithic suggesting possibly over 8000 years of human activity (Nash et al. 2013, 27). It is postulated the site may have been used initially as a meeting point for local communities

in the Mesolithic 4000 years before the cairn was constructed, then as a burial site in the Neolithic as a cairn/ portal dolmen, then by the Bronze Age the capstone was repurposed as it is; in this period the cupmarks are believed to have been pecked (Nash et al. 2013, 27 & 24). Sherds of medieval glazed vessels were also found at the site suggesting continued use until this time (Nash et al. 2013, 27). The rock art, which is focused on monuments concerned with death burial and ritual in other select Welsh sites is also found here suggesting the ritual purpose of some kind and is part of a ritual landscape (Nash et al. 2013, 27 & 24). This type of site is likely polysemic, being a burial place, a meeting place, a marker and a place of ritual perhaps with different emphasis on each of these functions in different periods of history.

### Archaeological Assemblage:

The archaeological assemblage of this site is comprised of two large deliberately perforated shale and mudstone beads that are similar to Mesolithic examples 25 km southwest at Nab Head. Parts of a tightly compacted Neolithic cairn. 320 pieces of white quartz believed to have been either a pavement, façade, or entrance – this was compared to the Knowth passage graves in the Boyne valley. Finally, there was some aforementioned medieval pottery (Nash et al. 2013, 25-26). These findings do suggest ritual activity possibly starting back in the Mesolithic and by later on possibly gained similarities to the Knowth passage tombs in Ireland given the use of quartz. This assemblage is also found at a site that is already part of a ritual/sacred landscape. Crystals can be used as shamanic power objects in some cultures however shamanic elements cannot be deduced from this assemblage alone.

### Local legends surrounding the site:

The author is unaware of any legends concerned with this site.

### Rock Art:

There are around 75 cupmarks in total found at the site with some arranged in patterns of curving and straight lines (Nash et al. 2013, 25). Based on Dronfields (1996) study and Lewis-Williams and Dowsons (1988) study if these cupmarks delineate curved and shaped lines this may be evidence of entoptic phenomena which may suggest the use of altered states of consciousness and at an appropriate site of mortuary practice thus the cupmarks may be interpreted as

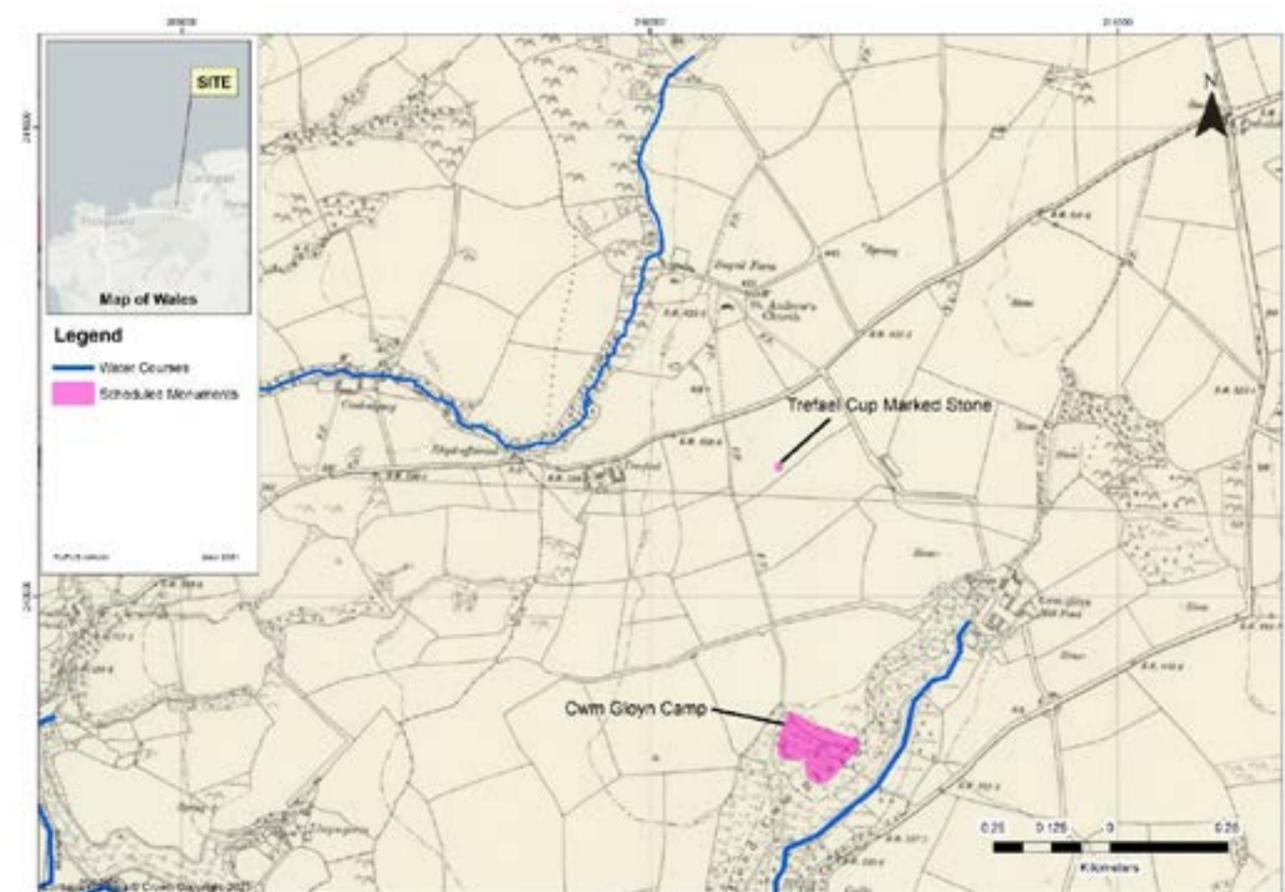


Figure 37: Trefael and surrounding landscape. Map made by the Author 2021. Reproduced with the permission of the National Library of Scotland.

vortices of a kind to an underworld. This may indicate potential shamanic inclusion in the elements of the ritual behind this site. However, these cupmarks may have been made for other reasons during the bronze age and onwards such as a marker stone perhaps delineating a meeting place.

### Acoustic qualities:

The acoustic qualities of the Trefael stone have not been tested.

### Conclusions:

Trefael is an interesting site with a long history. The evidence at this site shows a continued use for around 8000 years and for a variety of purposes. This does suggest the site possesses significance to past peoples (likely some measure of ritualistic or later folkloric reasons) and it is part of a ritual landscape found in the Nevern valley (Nash et al. 2013, 26). However other than a potential interpretation of the rock art there is not enough evidence to substantiate if shamanism was involved at Trefael. However, it does bear many similarities to some of the other

sites mentioned in this thesis including the nearby Trelyffaint. It remains within the 15% of Welsh monuments that possess rock art and further tests, and evidence may help to elucidate further information on this site. It is interesting that at both Trefael and nearby Trelyffaint deposits of pottery have been found (though they are millennia apart). These could have been offerings made by locals at different times and may indicate a tradition in this area surrounding these monuments and other various beliefs among the local communities. This could have something to do with local beliefs in fairies or similar ideas which may have been a way of interpreting or understanding ideas of the past surrounding these monuments and those who were buried there. Given that the site of Trefael has been utilized since the Mesolithic this would suggest that it is the place/ spot in the landscape that was most significant. Trefael most likely does involve aspects of shamanism in its earlier ritual given the rock art, the age of the site, the quartz, the ritual landscape, and the hidden cairn but arguably more data is needed to fully confirm this.

## TRELLYFFAINT

### Site Name:

Trellyffant meaning Toad's Hall is found in Nevern Pembrokeshire. According to Gerald of Wales (Giraldus Cambrensis) it was named as such because a chief buried within the tomb had been eaten by toads (Nash 2006, 176) (this legend will be analysed in the local legends section).

### Location of site:

The site is found in Nevern Pembrokeshire (Nash 2006, 176) located at approximately 52°02'52.3"N 4°47'53.4"W (OS National Grid Reference SN0820042532). The dolmen is about 800 meters from the sea at cardigan bay to the North and Mynydd Preseli to the South (Nash 2020, 89). This portal dolmen is situated close to the Trellyffant farm.

### The surrounding Landscape:

Trellyffant sits between two nearby streams and 1.75 km southwest of the monument of Llechy-Tribedd (Nash 2006, 176). 3 km south-east is the destroyed monument of Trefael and 230 meters south of the monument is Trellyffant Standing stone (Nash 2020, 5 & 7). The site is somewhat isolated in and of itself maintaining distant views east, south and west and has been built on the side of a south-facing slope (Nash 2020, 5). The choice of location and its elevated position at 137m AOD (Nash 2006, 176). The location of the monument has no access to the open sea (cardigan bay) to the north; however, there are limited views to the west and Nevern estuary.

### The Architecture of the site:

The site, identified as having the elements of a cairn by Frances Lynch and an earthen mound that may have once covered the tomb (1972) is a portal dolmen that has one major chamber but may have once comprised of two chambers (Nash 2006, 176| Nash 2020, 7).

### Type of Site:

The site is considered to be a portal dolmen used initially for mortuary purposes (Nash 2006, 176| Nash 2020, 44). It is possible that the rock art may have been added later as a repurposed use of the site during the Bronze Age for political, social, or ritual purposes (Nash 2006, 176).

### The Archaeological Assemblage:

Though it seems there has not been an excavation within the monument itself an excavation

led by George Nash found some artefacts in the area immediately surrounding the monument (Nash 2020). Several pottery sherds were found during the excavation in both trenches however the sherds found in Trench 2 were severely degraded by the acidic soil whereas Trench 1 contained 34 sherds belonging to the same vessel some of which still containing lipid residues and some markings (Nash 2020, 44). The dating was to around 3200 - 2100 cal BCE (with a 95% probability of being 3100 BCE), the pot was of moderate quality and the lipids derived from dairy products (Nash 2020, 44). Nash postulates that this vessel may have been part of the ritual of the site surrounding ritualised mortuary processes (Nash 2020, 44). This pot was found in relation to charcoal from a potential hearth. It should be noted that it was customary for people to leave out dairy products such as milk or cream near the hearth to appease fairies such as brownies until very recently (Simpson & Roud 2000, 36). This may lend some credence to an offering of some kind (Ross 2001, 133-135)

There is potential evidence for a hearth, but this was not found during the excavation (Nash 2020, 32). Several lithic artefacts were also found, most were made within the local area and dated to the Neolithic; however, two blades; one dark blue, the other black, seem to have originated outside of south-west Wales (Nash 2020, 31).

The evidence of this archaeological assemblage found at Trellyffant during this excavation does not suggest shamanic activity though it may suggest ritual behaviour in relation to the mortuary processes surrounding the monument.

### Local legends surrounding the site:

The full story as told by Gerald of Wales, who explains the story takes place in the Cantreff of Cemais (Thorpe 2004, 169) the same area in which the tomb is located, gives some interesting material to analyse and work with when investigating potential shamanic elements. He recounts the story as thus:

*'In our own days a young man who was lying ill in bed, was persecuted by a plague of toads. It seemed as if the entire local population of toads had made an agreement to go to visit him. Vast numbers were killed by his friends and by those looking after him, but they grew again like the heads of the Hydra. Toads came flocking from all directions, more and more of them, until no one could count them. In the end the young man's friends*

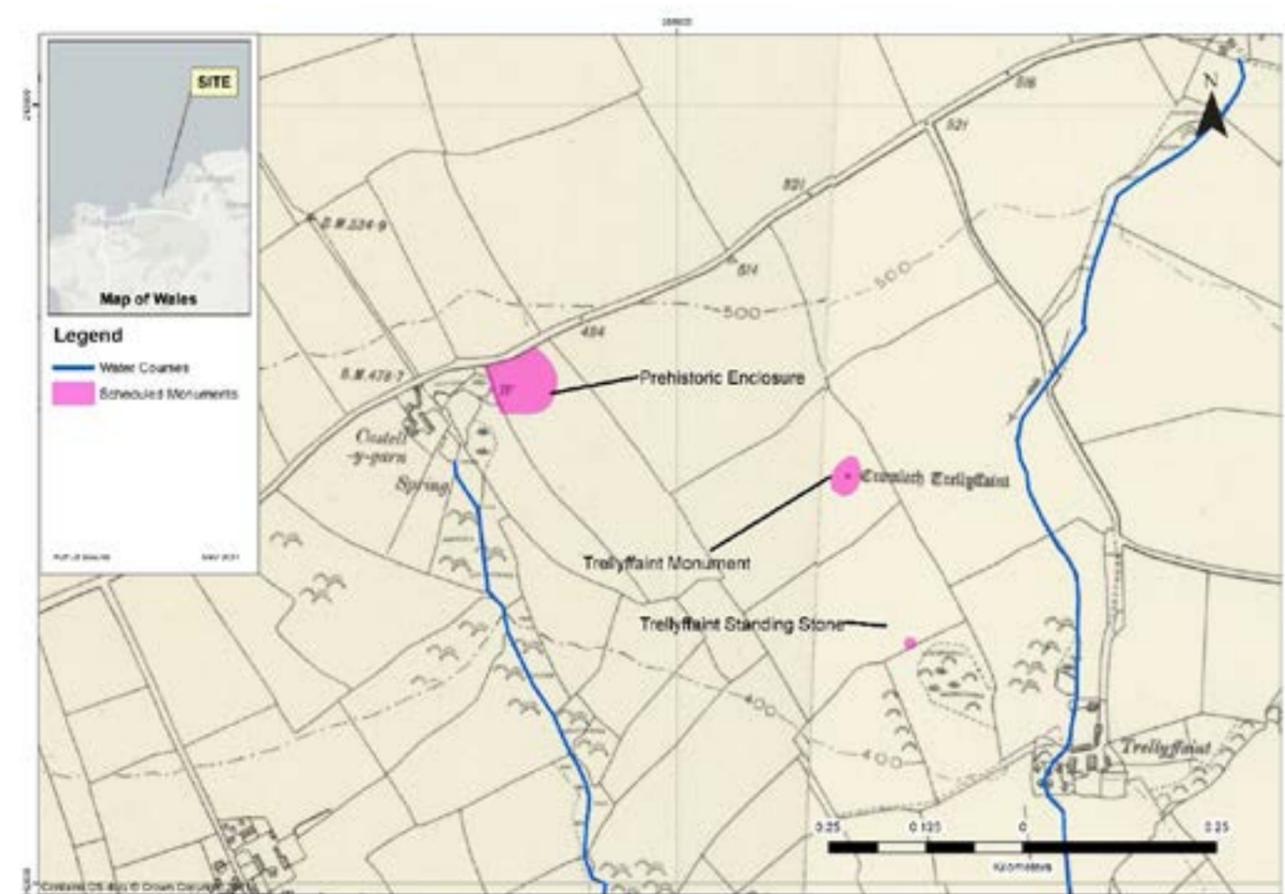


Figure 38: Trellyffant and the surrounding landscape. Map made by the author 2021. Reproduced with the permission of the National Library of Scotland.

and the other people who were trying to help were quite worn out. They chose a tall tree, cut off all its branches and removed all its leaves. Then they hoisted him up to the top in a bag. He was still not safe from his venomous assailants. The toads crawled up the tree looking for him. They killed him and ate him right up, leaving nothing but his skeleton. His name was Seisyll Esgairhir, which means longshanks' (Thorpe 2004, 169-170).

This legend is believed to be associated with the burial dolmen at Trellyffant, however, in Thorpe (2004) Gerald of Wales does not link this story directly to the burial chamber but to the surrounding region known as the Cantreff of Cemais. There is a farmhouse located by the tomb with the same name and it is possible that this name (and possibly the corresponding story) came from a legend about the tomb. Without direct links, this does pose some difficulties concerning the certainty of the connection between legend and site. However, this story is very important as it contains a selection of shamanic elements, and the monument is called the

Hall/ Settlement/ Home (depending on translation) of the Toads. The story starts with the character being sick, then being plagued by toads which no one could do anything about; finally, he is put up a tree where the toads can still get to him and devour him. In shamanic initiation, in many cultures an individual becomes a shaman by first falling ill with a serious sickness much like the protagonist in this story, sometimes it is a sickness that cannot be cured. The individual is then given a choice, to become a shaman or die. This may come in the form of dreams of past relatives, spirits, or animals – again much like the protagonist which none can prevent. Then to become a shaman they must go to the otherworld (in some cultures via the axis mundi) where they 'die' before being reborn. The character in the story ascends a tree, possibly once understood as a culturally nuanced version of the axis mundi where he dies by being devoured by toads. What is missing from this story is where he comes back unless it was a botched initiation.

This story shares some comparisons with the character Auburn Mary from The Scottish legend The Battle of the Birds (Jacobs 1995, 214-215). The protagonist has to kill Auburn Mary, deflesh her, take apart her bones and lay them against a tree. He then climbs these bones to the top where he takes the eggs of the bird. As he climbs down, he makes sure to use each bone and gather them altogether, lay the flesh back over it and sprinkle the body with water from a spring to bring her back to life (Jacobs 1995, 214-215). This story also includes a tree, the death and ultimate defleshing of an individual. Both such elements are found in shamanic cosmology especially relating, but not limited to initiation. Travelling the world tree through to an otherworld and needing to die to get there before (hopefully) being reborn. This legend is arguably highly shamanic and may indicate shamanic elements at play within the ritual of Trelyffaint.

#### **The Rock Art:**

Trelyffaint features 35+ cupmarks all situated on the capstone (Nash 2006, 176, Nash 2020, 7). These cupmarks were initially considered to be bronze age in origin by people who sought to reuse the monument for new purposes (Nash 2020, 7).

This new purpose could be for ritualistic reasons or socio-political reasons. In the case of ritual, the cupmarks could well be interpreted like rock art such as vortices in the contexts of Dronfields research (1996). The cupmarks could represent symbolic gateways to other worlds or may be used as gateways if altered states of consciousness are employed much like at the chambered tombs in Ireland (Dronfield 1996) and therefore may suggest the presence of entoptic phenomena (Lewis-Williams & Dowson 1988). If this is the case, then this would suggest the use of shamanic aspects in the ritual behind this monument as with the others described in this thesis.

However, the alternative interpretation of socio-political re-purposing (Nash 2006, 176) would refute this if this interpretation is true.

This is one of several select monuments in Wales in Wales with rock art and therefore it is important. In addition, as it appears to have an old legend associated with it, the context of this site lends itself towards the ritualistic interpretation more so than the socio-political interpretation. The true purpose behind the rock art at this site may well be polysemic, perhaps a combination of the aforementioned purposes but

only known to those who made it. More research and further excavations may help elucidate further information about this site.

#### **Acoustic qualities:**

As far as the author is aware no acoustic tests have been conducted at Trelyffaint.

#### **Conclusions:**

Trelyffaint is an interesting site given its location, excavation findings, rock art and legends. The evidence available to us about the purpose of Trelyffaint would suggest initially ritual activity surrounding mortuary practices in the Neolithic, and the legend may well suggest a shamanic element involved in some aspect of the ritual behind the site. The evidence of a potential Hearth and the remains of a Neolithic pot containing lipids also lends itself to this interpretation. However, beyond this, the evidence would be inconclusive to outright claim shamanic involvement in the case of this monument, but it is highly likely in this instance.

## 5

# Preliminary Results and Discussion

The sites of Bachwen, Barclodiad y Gawres, Bryn Celli Ddu, Llwydiarth Esgob, Maen Catwg, Trefael and Trelyffaint show varying degrees of potential evidence for shamanism having been utilized in the ritual of the aforementioned sites.

Barclodiad y Gawres contains the most convincing evidence suggesting shamanic involvement due to the contents of its hearth and the traits the animals hold both individually and collectively. These animals collectively suggest transformative (due to natural metamorphosis or folkloric associations with rebirth or immortality), nocturnal and predatory traits. Such strange animal assemblages have been found before such as with the shamanic burial in the Levant (Grosman et al. 2008) though this may be the first time it has been found in Great Britain and with such small animals. In the context of shamanic belief, this assemblage would compose a very strange but arguably deadly therianthrope. Additionally, some of the animals contain toxins that, in either folklore (eel) or toxicology (Toad) have the potential to induce hallucinations (but may also kill if ingested). If the hearth assemblage was used to induce altered states of consciousness it is unclear how, as this mixture does not appear to be one that someone would ingest and survive. Given the remains, it doesn't appear that it was ingested in any case. Alternatively, the hearth assemblage may have simply had symbolic therianthrope associations and was not used for inducing altered states of consciousness at all.

The rock art is crucial as the site is intricately decorated on multiple stones, one of which may depict either a frog, toad (or the landscape) all of which may also suggest entoptic phenomena and therefore altered states of consciousness. The orientation of the site to face north (rather than other passage tombs which align with solar and lunar cycles) leaves it in a place of almost perpetual darkness, potentially associating it with the axis mundi.

All of the above are indicative of shamanic elements incorporated into the culturally nuanced ritualistic tradition of the site of Barclodiad y Gawres making it the most fascinating and detailed site in this thesis.

In the case of Bryn celli Ddu, this site contains evidence also suggesting that shamanic elements were incorporated into its ritual. The nearby rocky outcrop and its acoustic traits are potentially the results of altered states of consciousness and entoptic phenomena. The Pattern Stone which had been sealed away in the central pit shows intricate detail that may be the result of entoptic phenomena which would suggest the use of altered states of consciousness and therefore shamanic elements in its ritual. The north-south alignment of the stone in this central pit may also be indicative of an axis mundi alignment (specifically associated with the pit assemblage but not necessarily the rest of the monument) thus again suggesting a shamanic connection. The limpet and oyster shell assemblage found in the central chamber of Bryn celli Ddu (also found in centre of the chamber at Barclodiad y Gawres) may suggest a ritual and/or cultural link between the two sites. This may indicate a continuity of activities happening at both sites which may include the aspects of shamanism found in the ritual of Barclodiad y Gawres and its hearth where the limpet and oyster shells were found. The site also features multiple hearths.

The site of Trelyffaint appears to have shamanic associations found in the legend associated with the site which bears the narrative and symbolic traits of a shamanic initiation. Additionally, the evidence of lipids at the site may suggest offerings but this may be a purely ritualistic or cultural tradition at the time and may have nothing to do with shamanism. There may potentially be a hearth at this site given the amount of charcoal, but it was not found during the excavation. The cupmarks at the site, as found at many others,

remain of interest. These results suggest a leaning towards the theory that shamanism formed part of the ritual at Trelyffaint mainly due to the legend associated with it and its artistic connection.

Trefael is a fascinating site with a long history. Its long occupation, the slightly more varied use of art, and the finding of the Mesolithic mudstone beads would suggest the site has had religious significance for a significant time and does lean in favour of the likelihood of shamanic aspects having been used at the site at some point in its history. The use of rock art and the fact it was part of a cairn as well as part of a ritual landscape further suggests this possibility.

Maen Catwg features an interesting name that has fascinating folkloric context behind it and some rock art that could be indicative of entoptic phenomena. The rock is suspected to be part of a cairn, but no formal excavation has taken place at this site and no assemblage has yet been found. However, given the choice of name for the site, this would suggest it had significant value to past communities likely for religious purposes therefore (given its supposed age) may suggest that it had ritualistic significance long ago. This is not enough to suggest shamanic involvement in its ritual leaving the result inconclusive.

The Llwydiarth Esgob stone features some excellent rock art which would fit nicely with Lewis-Williams & Dowsons entoptic phenomena and Dronfields vortices. However, the stone is not in situ and further evidence would be needed to fully substantiate a shamanic link to the ritual of this stone leaving the result as inconclusive.

Bachwen has little evidence to suggest shamanic involvement in its ritual though the quartz at the site and nearby legends are interesting. Only the art, which is mainly composed of the humble cupmark (of which there are many which are difficult to reach), can truly be argued to associate it with shamanism in any way but without an excavation, this remains inconclusive.

The evidence presented here suggests that elements of shamanism were used in the culturally nuanced ritual of at least some of these sites. Nowhere is this clearer than the case of Barclodiad y Gawres. This is partly due to the wealth of detail preserved in the archaeological record and report by Powell and Daniel as well as the detailed amount of data available on the site (a similar case with Bryn Celli Ddu).

This level of detail cannot be said of some of the

other sites found on this list which feature far less data. This acts as a limiting variable in the arguments for and against whether shamanism was incorporated into the ritual of these sites. Sometimes this has been due to natural degradation such as the acidity of the soil which has led to a reduced amount of material evidence which makes interpretations more complicated. At other times it has been due to human-assisted degradation such as quarrying away the stone for walls and road or moving bits of the monument to new locations. There are also complications especially surrounding the smaller sites which may have evidence of repurposing for social or political functions as opposed to ritualistic ones. The main site where this may be an exception is Barclodiad y Gawres until the 20th Century.

The rock art link between the sites does suggest that the ideas (and their transmission), ritual and shamanic aspects that can be proven to be a part of sites such as Barclodiad y Gawres and Bryn Celli Ddu may well have been incorporated into the other monuments in Wales. The fact that all or almost all of these monuments are or were part of burial monuments (and their respective age) would further suggest this link.

## 6 Conclusions

The sites of Barclodiad y Gawres and Bryn Celli Ddu do show that elements of shamanism were incorporated into the ritual of these sites. At Barclodiad this is shown by the use of animals in the hearth, the rock art, and the orientation of the site whereas at Bryn Celli Ddu the use of acoustics, rock art, and the shell link between it and Barclodiad potentially shows a continuity of ideas and activities. These two sites can be analysed by a variety of different methods, thanks to the data available to us about them.

Based upon a more anthropological approach to the archaeology (or what I would term, using intangibility), the sites of Trelyffaint, Trefael and Llwydiarth Esgob all contain rock art and show promising signs of the use of shamanism in their ritual. Each of these sites have a unique quality to them: Trelyffaint has a legend that can be defined as shamanic, Trefael has its age (Mesolithic mudstone bead discovery) and slightly more detailed art than ordinary cupmarks suggesting an ancient ritual or religious site, whilst Llwydiarth Esgob has detailed art that can be interpreted with Dronfield (1996) and Lewis-Williams & Dowsons (1988) analysis.

The site of Maen Catwg has not undergone excavation and so more limited data is available on it. Its name and potential link to the legend of Catwg may suggest a shamanic aspect to the site at some point in the past especially given the peculiar abilities of the saint. The use of rock art at the site and the belief it may be another burial monument does mark it as important and links it to the other sites. However, the author believes that more data (especially through excavation) is needed, in targeted areas around the stone.

The site of Bachwen also has not undergone excavation yet and therefore has more limited data on it. It is possible the site is tied to the local legends of the area, but the author has not found a clear link. The cupmarks (which are grouped in a difficult place

to reach) and the fact it is a burial monument does tie it to the other monuments on this list but due to the lack of further data a shamanic link is inconclusive. An excavation would have to be conducted at the site.

Overall, two of the sites (Barclodiad y Gawres and Bryn Celli Ddu) show a clear connection to the use of shamanism in the ritual of the site. Three sites (Trelyffaint, Trefael and Llwydiarth Esgob) show more limited but likely signs of shamanism used in their ritual at some point in their past. One site (Maen Catwg) shows a tentative shamanic link, but further research is needed. One site (Bachwen) does not have enough evidence on its own and further research is required.

Although a number of these sites have been recently excavated and/or investigated, a reassessment using intangible approaches is needed. What the author means by intangible includes tying in the various placename elements to the site and the surrounding landscape and to try and ascertain a period for when these names became important. The author believes more scientific analysis needs to be done on the sites discussed in this thesis as well as others either not mentioned or researched. This includes scientific dating, acoustic testing and excavation.

These findings do suggest what appears to us in the anthropological record; that shamanism forms a crucial part of ritual in societies past and present. That shamanism does leave tangible and intangible evidence and that it has been present since at least 40kya (Gheorghiu et al... 2017, 1-5). A current example in the anthropological record includes Siberian shamanism which utilizes animals as part of its practice and cosmologies, most specifically birds in the case of the Yakut (Balzer 1996). Shamans in this context identify with the animal spirits that have come to them and will wear garbs that imitate the feathers and other aspects of the birds, the shaman will also mimic the animal during the practice (Balzer 1996, 306). The Native Americans would use the feathers of

birds directly as they believed they 'gain the powers and other characteristics of animals by appropriating and wearing their body parts' (Klapštová et al... 2015, 68). Paul Stoller reportedly used pieces of a chicken which had to be buried near a doorway to enact a 'rite' (sic) to make an individual unwell which he learned from the Songhay sorcerers (Stoller & Olkes, 1989). In South Africa art remains a tangible piece of evidence as the San hunter gatherers will maintain art as well as use art in their shamanic practice (often incorporating figures of animals) and ritual thus reflecting the importance of art in such practices (Yates, & Manhire, 1991). Art as well as animals play a huge part in the ethnographic record and have been used in the cases of Barclodiad y Gawres, Bryn Celli Ddu and Trelyffaint for our examples.

Therefore, viewed holistically and based on the archaeological assemblages, ethnographic comparisons, folkloric implications, and in some cases architecture, it can be surmised that Shamanism or aspects thereof were used in the ritual of some of these Welsh megalithic monuments.

#### IMPLICATIONS OF RESEARCH

The results of this research are important as it not only draws attention to the presence of shamanic elements in the ritual of a given site or set of sites but also shows the importance of using the available data holistically to discern these results. The more available data and different fields of research that archaeologists and anthropologists can use the more they can help us discover new data and interpretations. It also shows that in the research of shamanism, a host of other media can be used to discern its presence other than the rock art alone (though it can make for an excellent starting point).

## Glossary of Terms

### Animism

Animism is a debated term. It predominantly relates to the approach or belief where a living spirit or soul is attributed to inanimate objects and other natural phenomena (Insoll 2012, 1005).

### Fetishism

Fetishes and Fetishism refer to certain objects which have a spiritual or enigmatic quality that can be used as a form of religious or spiritual worship. Or, more specifically, a fetish can be seen as a link between a worshipper and what they are worshipping (Haddon 1906, 64).

The term fetish (and fetishism) initially came from Portugal referring to the charms and amulets worn for good luck before becoming incorporated into ideas behind west African belief systems (Haddon 1906, 64). Haddon defines the essential characteristics of fetishism to be 'Any object, symbol or charm with sympathetic properties, a sign or token representing an ideal notion of being, habitation of a spiritual being, vehicle of communication of a spirit, instrument by which a spirit acts, possesses personality and will, may act by own will or foreign spirit, spirit and material object can be dissociated, worshipped, sacrificed to, talked with, petted and ill-treated' (1906, viii & 72).

Haddon notes there are issues with specifics of its definition as its meaning has crossovers with the term Idolatry and Idols (1906, 76) and with Animism (1906, 71 & 77). Fetishes are utilized by ritual practitioners (Haddon 1906, 60) such as shamans; described as wizards by father Merolla in Haddon (1906, 82). A fetish can also be defined as an instrument by which the Spirit acts (Haddon 1906, 80)

### Totemism

The term Totemism and Totems refers to a socio-cultural practice where the people or certain groups of people, in a given society associate themselves with a given animal and its qualities. This animal Totem doesn't always need to be strictly 'real' such as the case with the mythological thunderbird in indigenous North American contexts. The term originally came from the Ojibwa of Native America and ultimately means 'He (she) is a relative of mine' (Insoll 2012, 1007). This totem has a unique and special kind of kinship with the individual/group. However, the purpose and/or meaning of that totem may differ in function and classification. This is seen by Elkin where some people may possess individual totems, clan totems, sex totems, hunting totems, etc (1964).

Generally, consumption of an animal totem is forbidden except for special occasions whereby ingesting it at such events those involved believe they gain the power of that animal (Winkelman 2015). The Anthropologist Claude Levi Strauss and the Sociologist Emile Durkheim approached totemism in a structuralist manner. They believed totems were ways of uniting a community and encouraging members to emulate certain qualities. The totems being ancestors and deities in animal form thus reinforcing bonds of kinship.

Individual totems are important when applying shamanism. Shamans often use animal spirits in their work incorporating the spirits qualities into themselves which sometimes becoming a part of the shaman's personal identity (Winkelman, 2015, 8).

### Shamanism

See page 11 for the definition of shamanism.

# References

- Afanas'ev A., Guterman, N., Alexeieff, A., & Jakobson, R., 1975. *Russian Fairy tales*. Pantheon Books, United States of America.
- Bahn, P. G., 2010. *Prehistoric Rock Art Polemics and Progress*. New York, Cambridge University Press.
- Baker, J., Beebee, T., Buckley, J., Gent, A., and Orchard, D., 2011. *Amphibian Habitat Management Handbook, Amphibian and Reptile Conservation*. Bournemouth.
- Balzer, M., M., 1996. Flights of the Sacred: Symbolism and Theory in Siberian Shamanism. *American Anthropologist*, 98(2), 305–318, <https://doi.org/10.1525/aa.1996.98.2.02a00070>.
- Barber, A., H., Lu, D., & Pugno, N., M., 2015. Extreme strength observed in limpet teeth, *Journal of the Royal Society Interface*, 12(105), 0–5. <https://doi.org/10.1098/rsif.2014.1326>.
- Beja, , Kuzmin, S., Beebee, T., Denoel, M., Schmidt, B., Tarkhnishvili, D., Ananjeva, N.B., Orlov, N., L., Nyström, , Ogradowczyk, A., Ogielska, M., Bosch, J., Miaud, C., Tejedo, M., Lizana, M., & Martinez Solano, I., 2009. *Epidalea calamita* (errata version published in 2016), The IUCN Red List of Threatened Species 2009: e.T54598A86640094.
- Bókony, V., Üveges, B., Verebélyi, V., Ujhegyi, N., & Móricz, Á., M., 2019. Toads phenotypically adjust their chemical defences to anthropogenic habitat change, *Scientific Reports*, 9(1), 1–8. <https://doi.org/10.1038/s41598-019-39587-3>.
- Bowen, E., G., 1954. *The Settlements of the Celtic Saints in Wales*. University of Wales Press, Cardiff.
- British Sea Fishing*, N.d. Whiting. [Online] Available at: <https://britishseafishing.co.uk/whiting/> [Last accessed: 26/04/2021]
- Bruce, J., McGhee, K., Vangelova, L., Vogt, R., 2004. *The Encyclopaedia of Animals a Complete Visual Guide*, San Francisco, Fog City Press.
- Bruno, J., F., Stachowicz, J., J., & Bertness, M., D., 2003. Inclusion of facilitation into ecological theory. *Trends in Ecology and Evolution*, 18(3), 119–125. [https://doi.org/10.1016/S0169-5347\(02\)00045-9](https://doi.org/10.1016/S0169-5347(02)00045-9)
- Budge, E., A., W., 1904. *The Gods of the Egyptians or Studies in Egyptian Mythology*. Vol II, Open Port Publishing Company, London.
- Burns, E., W., 1959. *Witch Hunts In Europe and America*, An Encyclopaedia, Greenwood, London.
- Burrow, S., 2010. Bryn Celli Ddu Passage Tomb, Anglesey: Alignment, Construction, Date, and Ritual, *Proceedings of the Prehistoric Society*, 76 (1), 249–270.
- Cassidy, L., M., Maoldúin, R., Ó., Kador, T., Lynch, A., Jones, C., Woodman, , C., Murphy, E., Ramsey, G., Dowd, M., Noonan, A., Campbell, C., Jones, E. R., Mattiangeli V., & Daniel G. Bradley, 2020. A dynastic elite in monumental Neolithic society, *Nature* 582, 384–388 <https://doi.org/10.1038/s41586-020-2378-6>.
- Cathrall, W., 1987. *History of Oswestry*, Gallery Books, Shrewsbury.
- Clottes, J., 2016. *What is Paleolithic Art?* London, The University of Chicago Press.
- Collado Giraldo, H., 2016. A Mark along the Way: Schematic Rock Art and Communication Routes, *Arts*, 5(3), 6. <https://doi.org/10.3390/arts5030006>.
- Connolly, D., 2016. *Archaeoastronomy for Archaeologists*. BAJR Series Guide 43. 18.
- Curtin, J., 1895. *Tales of the Fairies and of the Ghost World Collected from oral Tradition in Southwest Munster*, Boston, Little, Brown and Company.
- Davies, O., Blecourt, W., (eds) 2004. *Beyond the Witch Trials Witchcraft and Magic in Enlightenment Europe*, Manchester University Press, Manchester.
- Davis, J., R., A., & Fleure, H., J., 1903. *Patella (The Common Limpet)*, Williams and Norgate, London.
- Davis, W., & Weil, A., T., 1992. Identity of a new world psychoactive toad. *Ancient Mesoamerica*, 3(1), 51–59, <https://doi.org/10.1017/S0956536100002297>.
- Dawson, W., 1924. The Mouse in Egyptian and Later Medicine. *The Journal of Egyptian Archaeology*, 10(2), 83–86. doi:10.2307/3854233.
- Dawson, W., 1925. The Mouse in Fable and Folklore. *Folklore*, 36(3), 227–248, Retrieved May 8, 2021, from <http://www.jstor.org/stable/1256048>.
- De Souza, J., 1964. The Serpent as A Symbol of Life and Immortality. *Proceedings of the Indian History Congress*, 26, 99–108, Retrieved June 7, 2021, from <http://www.jstor.org/stable/44133101>.
- d'Errico, F., Henshilwood, C., Vanhaeren, M., Niekerk, K., 2005. Nassarius kraussianus shell beads from Blombos Cave: evidence for symbolic behaviour in the Middle Stone Age. *Journal of Human Evolution*, Volume 48, Issue 1, Pages 3–24, ISSN 0047-2484.
- Devereux, P., 2001. *Stone Age Soundtracks*, Vega, London.
- Devereux, P., & Nash, G., 2014. Indications of an Acoustic Landscape at Bryn Celli Ddu, Anglesey, North Wales, *Time and Mind*, 7(4), 385–390. <https://doi.org/10.1080/1751696x.2014.980139>
- Dixon, R., B., 1916. *The Mythology of all Races*. Vol IX, Boston, Marshall Jones Company.
- Dronfield, J., 1996. Entering alternative realities: Cognition, art and architecture in Irish passage-tombs, In *Cambridge Archaeological Journal* (Vol. 6, Issue 1). <https://doi.org/10.1017/s0959774300001591>.
- Duellman, W., L., Trueb. 1986. *Biology of Amphibians*. US: Mc Graw-Hill, Inc.
- Eliade, M., 1989. *Shamanism: Archaic Arts of ecstasy*, St Ives Plc, Penguin Arkana.
- Elkin, A., 1964. *The Australian Aborigines: How to Understand Them*. 4th Edition, Angus and Robertson Ltd, Sydney and London.
- Evans-Pritchard, E., E., 1940. *The Nuer: a description of the modes of livelihood and political institutions of a Nilotic people*, Oxford, Clarendon Press.
- Evans-Pritchard, E., E., 1976. *Witchcraft Oracles, and Magic Among the Azande*, Oxford, Clarendon Press.
- Fergusson, E., 1931. *Dancing Gods: Indian Ceremonials of New Mexico and Arizona*, Albuquerque, University of New Mexico Press.
- Cooke, F., Dingle, H., Hutchinson, S., McKay, G., Schodde, R., Tait, N., Vogt, R., (Eds) 2004. *The encyclopedia of animals*. Singapore. Fog City Press
- Fritz, C., Tosello, G., Fleury, G., Kasarhérou, E., Walter, , Duranthon, F., Gaillard, , & Tardieu, J., 2021. First record of the sound produced by the oldest Upper Paleolithic seashell horn. *Science Advances*, 7(7), 1–7. <https://doi.org/10.1126/sciadv.abe9510>.
- Game and Wildlife Conservation Trust, 2002. *Conserving the brown hare*. [Online] Available at: <https://www.gwct.org.uk/media/208618/Conserving-the-Brown-Hare.pdf> [Last accessed: 24/03/2021]
- Garcês, S., & Nash, G.H., 2017. The relevance of watery soundscapes in a ritual context. *Time and Mind*, 10(1), 69–80. <https://doi.org/10.1080/1751696X.2016.1267917>
- Garcês, S., Gomes, H., Haddab, L., Cura, , & Rosina, , 2019. In Search of the Atr-Ftir Signatures of Experimentally Mixed Ingredients Presumably Used In Pre-Historic Rock Art. *Rock Art Research*, 36(2), 2–8.
- Gheorghiu. D., Pasztor, E., Bender, H., Nash, G.H., (eds) 2017. *Archaeological Approaches to Shamanism*, Newcastle upon Tyne, Cambridge Scholars Publishing.
- Gimbutas, M., 2001. *The Living Goddesses*, University of California Press, Berkeley and Los Angeles.
- Goldenweiser, A., A., 1910. Totemism, an Analytical Study. *The Journal of American Folklore*, 23(88), 179–293. Retrieved from <http://www.jstor.org/stable/534841>.
- Goldhahn, J., 2002. Roaring Rocks: An Audio-Visual Perspective on Hunter-Gatherer Engravings in Northern Sweden and Scandinavia, *Norwegian Archaeological Review*, 35(1), 29–61, <https://doi.org/10.1080/002936502760123103>.
- Gomes, H., Collado, H., Martins, A., Nash, G., Rosina, P., Vaccaro, C., & Volpe, L., 2015. Pigment in western Iberian schematic rock art: An analytical approach. *Mediterranean Archaeology and Archaeometry*, 15(1), 163–175. <https://doi.org/10.5281/zenodo.15050>
- Gregory, L., 1903. *Cuchulain Of Muirthemne*, London, John Murray.
- Grosman, L., Munro, N., D., & Belfer-Cohen, A., 2008. A 12,000-year-old Shaman burial from the southern Levant (Israel), *Proceedings of the National Academy of Sciences of the United States of America*, 105(46), 17665–17669. <https://doi.org/10.1073/pnas.0806030105>.

Guest, C., 1902. *The Mabinogian*; Translated from the Red Book of Hergest by Lady Charlotte Guest Vol. 1, Fisher Unwin, London.

Haapanen, A., 1982. Breeding of the common frog (*Rana temporaria* L.), *Annales Zoologici Fennici*, 19(2), 75-79, Retrieved April 14, 2021, from <http://www.jstor.org/stable/23734082>.

Haddon, A., C., 1906. *Magic and Fetishism*, Archibald Constable & Co, London.

Håkan Rydving, 2011. Shamanism today: constructions and deconstructions of a scientific illusion, *Mongolian and Siberian, Central Asian and Tibetan Studies* [Online], 42 | 2011, posted on December 20, 2011, consulted on April 24, 2021. URL: <http://journals.openedition.org/emscat/1815>; DOI: <https://doi.org/10.4000/emscat.1815>.

Harner, M., J., 1990. *The Way of the Shaman*, New York, HarperCollins.

Harner, M., J., 1972. *Hallucinogens and Shamanism*, London, Oxford University Press.

Hartland, E., S., 1891. *The Science of Fairy Tales: An Inquiry into Fairy Mythology*, London, Walter Scott.

Hemp, W., J., 1930. VII— The Chambered Cairn of Bryn Celli Ddu. *Archaeologia*, 80 (March 1930), 179–214.

Henken, E., R., 1987. *Traditions of the Welsh Saints*, St Edmundsbury Press, Suffolk.

Heptner, V., G., V., & Naumov, N., , N., 1961. *Mammals of the Soviet Union*. Volume 1, 1–844, <https://doi.org/10.2307/1381452>.

Hijazi, S., Mainprize, C., Wareham, M., Bramble, S., & Griffiths, S., 2019. *Public Archaeology and Bryn Celli Ddu: Sharing Prehistory*. Archaeopress. 83-91.

Huyler, S., 1999. *Meeting God: Elements of Hindu Devotion*, Yale University Press, London.

Innes, H., 1969. *The Conquistadors*, Fontana, London.

Insoll, T., 2012. Animism and Totemism (ed.), *The Oxford Handbook of the Archaeology of Ritual and Religion* online ed, Oxford Academic.

Jacobs, J., 1995. *Celtic Fairy Tales*, Senate, Guernsey.

Jolly & Pieter, 2002. Therianthropes in San Rock Art. *The South African Archaeological Bulletin*. 57. 85. [10.2307/3888859](https://doi.org/10.2307/3888859).

Jones, G., & Jones, T., 1986. *The Mabinogion*, Translated by Jones G and Jones T, Everyman's Library, Guernsey.

Joy, F., 2016. The Sámi Noaidi Grave in Kuusamo and the Significance of The North-South Orientation, *Journal of Finnish studies* (208-246) (Vol. 19, Issue 1).

Jud, Z., & Layman, C., 2011. *Loxahatchee River oyster reef restoration monitoring report: Using baselines derived from long-term monitoring of benthic community structure on natural oyster reefs to assess the outcome of large-scale oyster reef restoration*, Report. Prepared for Martin Council.

Kirtlan, E., J., B., 1913. *The Story of Beowulf, Translated into Modern English Prose*, Thomas Y. Crowell Company Publishers, London.

Klapštová, K., Rajchard, J., & Procházka, J. (2015). Species determination of the feathers on native American warbonnets and other objects from the collections of the national museum - Náprstek Museum. *Annals of the Naprstek Museum*, 36(2), 67–80.

Kuzmin, S., Ishchenko, V., Tuniyev, B., Beebee, T., Andreone, F., Nystrom, , Anthony, B., Schmidt, B., Ogrodowczyk, A., Ogielska, M., Bosch, J., Miaud, C., Loman, J., Cogalniceanu, D., Kovacs, T. & Kiss, I., 2009. *Rana temporaria*. The IUCN Red List of Threatened Species 2009: e.T58734A86470817. [Online] Available at: <http://dx.doi.org/10.2305/IUCN.UK.2009.RLTS.T58734A11834246.en>.

Lázaro, J., Dechmann, D., K., N., LaPoint, S., Wikelski, M., & Hertel, M., 2017. Profound reversible seasonal changes of individual skull size in a mammal. *Current Biology*, 27(20), R1106–R1107. <https://doi.org/10.1016/j.cub.2017.08.055>

Lee, E., M., Klement, K., R., Ambler, J., K., Loewald, T., Comber, E., M., Hanson, S., A., Pruitt, B., & Sagarin, B., J., 2016. Altered states of consciousness during an extreme ritual, *PLoS ONE*, 11(5), 1–22 <https://doi.org/10.1371/journal.pone.0153126>.

Levi Strauss, C., 1964. *The Raw and the Cooked: Introduction to a science of Mythology*, Pimlico, Bath.

Lewis-Williams, D., 2014. *The Mind in the Cave*, China, Thames & Hudson.

Lewis-Williams, J., D., Dowson, T., A., Bahn, G., Bednarik, R., G., Clegg, J., Consens, M., Davis, W., Delluc, B., Delluc, G., Faulstich,, Halverson, J., Layton, R., Martindale, C., Mirimanov, V., Turner, C. G., Vastokas, J. M., Winkelman,

M., & Wylie, A. (1988). The Signs of All Times: Entoptic Phenomena in Upper Palaeolithic Art [and Comments and Reply], *Current Anthropology*, 29(2), 201–245. <https://doi.org/10.1086/203629>.

Lynch, F., 1970. *Prehistoric Anglesey: The Archaeology of the Island to the Roman Conquest, Denbigh*. The Anglesey Antiquarian Society.

Macdonell, A., A., 1897. *Vedic Mythology*. Verlag Von Karl J, Trubner, Strassburg.

Madden, E., 2015. *Snowdonia Folk Tales*, Port Stroud, The History Press.

Malim, C., 2018. As Above, So Below: St Melangell and the Celestial Journey. In: *Lands of the Shamans Archaeology, Cosmology & Landscape*. Gheorghiu, D., Nash, G., Bender, H., and Pasztor, E., (Eds), (89-109), Oxford, Oxbow books.

Malim, C., 2020. A Giant, A Grail and a Whole New Story. In: *Old Oswestry hillfort and its Landscape: Ancient Past, Uncertain future*. Malim, T., Nash, G., (Eds), (104-132), Oxford, Archaeopress Publishing Ltd.

Merriam Webster, N.d. *Shrew*, In the Merriam Webster Dictionary, [Online] Available at: <https://www.merriam-webster.com/dictionary/shrew> [Last accessed: 07/05/2021]

Michael, E., Peterson, Brian, K., Roberts, 2013. *Small Animal Toxicology* (Third Edition). Chapter 82 – Toads, Pages 833-839, W.B, Saunders, ISBN 9781455707171, <https://doi.org/10.1016/B978-1-4557-0717-1.00082-X>.

Mitchelle, J., and Dicke, J., 1839. *The Philosophy of Witchcraft*, Murray and Stewart, Paisley.

Muncaster, S., Andersson, E., Kjesbu, O. S., Taranger, G. L., Skiftesvik, A. B., & Norberg, B., 2010. The reproductive cycle of female Ballan wrasse *Labrus bergylta* in high latitude, temperate waters. *Journal of Fish Biology*, 77(3), 494–511. <https://doi.org/10.1111/j.1095-8649.2010.02691.x>

Nash, G.H., 2021. *The Geology of Bachwen* [On site explanation] (Personal Communication 18/04/2021).

Nash, G.H., 2021. *The Geology of Barclodiad y Gawres* [On site explanation] (Personal Communication 18/04/2021).

Nash, G.H., 2006. *The Architecture of Death*, Gloucestershire, Logaston Press.

Nash, G.H., 2020. *A programme of Archaeological Evaluation at the Trelyffaint Monument in Pembrokeshire (SMP041)*. Report No. TRPEMB19/ GHN/ Version 1.

Nash, G.H., 2005. The impossible coincidence. A single-species model for the origins of modern human behaviour in Europe. *Evolutionary Anthropology* 14: 12-27. M. 2729–2740.

Nash, G.H., 2010. Graffiti-art: Can it hold the key to the placing of prehistoric rock-art?, *Time and Mind*, 3(1), 41–62, <https://doi.org/10.2752/175169710X12549020810452>.

Nash, G.H., 2021. Contextualising megalithic rock art on Neolithic chambered tombs: a Welsh perspective. In M. A. and N. G. Charette C (Ed.), *Indigenous Heritage and Rock Art. Archaeopress Archaeology*.

Nash, G.H., Mazel, A., eds 2018. *Narratives and Journeys in Rock Art: a Reader*, Oxford, Archaeopress Publishing Ltd.

Nash, G.H., Weston, L., (Forthcoming) *Assessing the petrology of the stones that form the chamber and passage of Barclodiad y Gawres. Wales*. To be published in CDA's Archaeology.

Nash, G.H., George, A., Stanford, A., & Wellicome, T., 2010. Brief Report: Recent excavation and recording program at the Llwydiarth Esgob Stone, Llandyfydog, Anglesey, north Wales, *Rock Art Research*, 27(2), 257–260. <https://doi.org/10.1080/02699930302282>.

Nash, G.H., Stanford, A., Carol, J., & Wellicome, T., 2013. Trefael: the dolmen that became a standing stone. *Current Archaeology*. Issue 276 (24-27) <http://www.archaeology.co.uk/articles/features/trefael-the-dolmen-that-became-a-standing-stone.htm>

Nash, G.H., & Garcês, S., 2017. Discovering lost masterpieces by ancient artists of the Iberian Peninsula, *Current World Archaeology*, Issue 82: 34–36.

National Geographic (2021) *European Eel*, [Online] Available at: <https://www.nationalgeographic.com/animals/fish/facts/european-eel#:~:text=This%20species%20is%20nocturnal%20and,depending%20on%20their%20life%20stage.> [Last accessed: 25/03/2021]

Nedreaas, K., Florin, A., Cook, R., Fernandes, , & Lorange, 2014. Merlangius merlangus. *The IUCN Red List of Threatened Species* 2014: e.T198585A45097610. <https://dx.doi.org/10.2305/IUCN.UK.2014-3.RLTS.T198585A45097610.en>. Downloaded on 26 April 2021.

Nelson Sarah, S., 1998. *Ancestors for the Pigs, Pigs in Prehistory*. University of Pennsylvania Press inc.

Peoples, H., C., Duda, , & Marlowe, F., W., 2016. Hunter-Gatherers and the Origins of Religion. *Human Nature*,

- 27(3), 261–282. <https://doi.org/10.1007/s12110-016-9260-0>
- Pietz, W., 1988. *The Origin of Fetishism: A Contribution to the History of Theory*, University of California, Santa Cruz, <http://dx.doi.org/10.1016/j.jaci.2012.05.050>.
- Pliny, Wernerian Club, (Eds) 1847. *Natural History in Thirty-Seven Books*, A Translation on the basis of that by Dr Philemon Holland, Ed 1601, (Vol 1), George Barclay, London
- Posthumus, D., C., 2016. Transmitting sacred knowledge: Aspects of historical and contemporary Oglala Lakota belief and ritual, In: *Dissertation Abstracts International Section A: Humanities and Social Sciences* (Vol. 76, Issues 9-A(E)).
- Postma, T., L., 2009. Neurotoxic Animal Poisons and Venoms. *Clinical Neurotoxicology*, 463-489.
- Powell, T., G., E., & Daniel, G., E., 1956. *Barclodiad Y Gawres: The Excavation of a Megalithic Chamber Tomb in Anglesey*, Liverpool, Liverpool University Press.
- Prufer, K., M., & Dunham, S., 2009. A shaman's burial from an early classic cave in the Maya mountains of Belize, Central America. *World Archaeology*, 41(2), 295–320. <https://doi.org/10.1080/00438240902844236>
- RCAHMW, 1976. *An Inventory of the Ancient Monuments in Glamorgan*, Vol. 1, part 1, Stone & Bronze Age, HMSO, London.
- Reynolds, F., Griffiths, S., Edwards, B., and Stanford, A., 2016. Bryn Celli Ddu Exploring a hidden ritual landscape, *Current Archaeology*, Issue 310, 20-24.
- Riley, A., Jeffery, K., Cochrane-Dyet, T., White, J., & Ellis, J., 2017. *Northern European Wrasse-Summary of commercial use, fisheries and implications for management*. [Online] Available at: <https://www.gov.scot/binaries/content/documents/govscot/publications/foi-eir-release/2018/03/foi-18-00461/documents/foi-18-00461-documents-release-2-pdf/foi-18-00461-documents-release-2-pdf/govscot:document/Fol-18-00461>
- Ross, A., 2001. *Folklore of Wales*, The History Press, Stroud.
- Royal Commission Aberystwyth, 1957. 'The Marrying Stone' U Cupped Stone (site of?), *Antiquity* No: 50 10 SW 4. County and Old 6" No: Glam 20 NW 4. Parish: Gelligaer. 1A 1020M
- Sauvet, G., Sainz, C., G., Sanchidrián, J., L., & Villaverde, V., 2014. Europe: Prehistoric Rock Art. *Encyclopedia of Global*

- Archaeology*, 2599–2612. [https://doi.org/10.1007/978-1-4419-0465-2\\_1278](https://doi.org/10.1007/978-1-4419-0465-2_1278)
- Salerno, E., 2018. The Taurobolium in Gallia: A Link Between the Center and The Periphery. *Proceedings of the Dutch archaeological and historical society* volumes xxxvi-xxxvii (2016-2017), XLVIII, 189.
- Schmidt, R., H., 1994. *Shrews; The Handbook: Prevention and Control of Wildlife Damage*. Paper 55.
- Shakespeare, W., 1980. *The Complete Works of William Shakespeare*, The Cambridge Text established by John Dover Wilson for the Cambridge University Press, Octopus Books Limited, New York.
- Shee-twoig, E., 1981. *The Megalithic Art of Western Europe*. Oxford. Clarendon Press
- Shetty, A., Shetty, S., & Dsouza, O., 2014. Medical symbols in practice: Myths vs reality. *Journal of Clinical and Diagnostic Research*, 8(8), 12–14. <https://doi.org/10.7860/JCDR/2014/10029.4730>
- Shott, M., J., 2003. Chaîne Operatoire and Reduction Sequence. *Lithic Technology*, 28(2), 95–105. <https://doi.org/10.2307/23273410>
- Simpson, J., & Roud, S., 2000. *A Dictionary of English Folklore*, Oxford University Press, Oxford.
- Skinner, J., 1802. Ten Days Tour through the Isle of Anglesea December, 1802, *Archaeologia Cambrensis*, London.
- Stawikowski, R., & Lüdecke, T., 2019. Description of defensive postures of the natterjack toad *epidalea calamita* (Laurenti 1768) and notes on the release of toxic secretions. *Herpetology Notes*, 12(May), 443–445.
- Stoller, P., Olkes, C., 1989. *In Sorcery's Shadow*. The University of Chicago Press, Ltd. London.
- T. Kawai, B.F. Windley, M. Terabayashi, H. Yamamoto, S. Maruyama, S. Omori, T. Shibuya, Y. Sawaki, Y. Isozaki, 2007. Geotectonic framework of the Blueschist Unit on Anglesey–Lleyn, UK, and its role in the development of a Neoproterozoic accretionary orogen, *Precambrian Research*, Volume 153, Issues 1–2, Pages 11–28. ISSN0301-9268, <https://doi.org/10.1016/j.precamres.2006.11.002>.
- The British Museum (2017) *Bronze Relic-Box for a mummified Eel*. [Online] Available at: <https://artsandculture.google.com/asset/bronze-relic-box-for-a-mummified-eel/swEof3RcctbQNw?hl=en> [Last accessed: 25/03/2021].

- The Wildlife Trust (2021) *Natterjack Toad*, [Online] Available at <https://www.wildlifetrusts.org/wildlife-explorer/amphibians/natterjack-toad> [Last accessed: 28/04/2021].
- The Wildlife Trusts (N.d) *Grass Snake*, [Online] Available at: <https://www.wildlifetrusts.org/wildlife-explorer/reptiles/grass-snake> [Last accessed: 26/03/2021]
- The Woodland Trust, 2021. *Common Toad*, [Online] Available at: <https://www.woodlandtrust.org.uk/trees-woods-and-wildlife/animals/reptiles-and-amphibians/common-toad/> [Last accessed: 29/04/2021].
- Thorpe, L., 2004. Gerald of Wales: *The Journey Through Wales and The Description of Wales*. *Elcograf. Penguin Classics*. 336p.
- Tilley, C., 1991. Constructing a Ritual Landscape, *Acta Archaeologica Lundensia*, 8(20), 67–79.
- Turnbull, M., C., 1962. *The Forest People*, New York, Simon & Schuster.
- Vanhaeren, M., d'Errico, F., Stringer, C., James, S., L., Todd, J., A., Mienis, H., K., 2006. Middle Paleolithic Shell Beads in Israel and Algeria. *Science*, Vol 312. 1785-1788.
- Vitebsky, 2000. *Shamanism* (p 150–157). p 150–157. Retrieved from [http://meissinger.com/uploads/3/4/9/1/34919185/vitebsky\\_shamanism.pdf](http://meissinger.com/uploads/3/4/9/1/34919185/vitebsky_shamanism.pdf)
- Vymazalová, H., & Šůvová, Z., 2016. A Story of an Ancient Egyptian Mouse. *Anthropologie* (1962-), 54(3), 187-194. Retrieved May 8, 2021, from <http://www.jstor.org/stable/26272559>
- Ward, J., 1903. *The Roman fort of Gellygaer in the County of Glamorgan*, Bemrose and Sons Ltd, London.
- Werner, E., T., C., 2005. *Myths and Legends of China*, George G. Harrap & Co, Ltd, London.
- Wexler, 2014. History of Toxicology and Environmental Health; Toxicology in *Antiquity*, Volume 1, Academic Press, Oxford.
- Whitley, D., S., 2012. Rock Art, Religion, and Ritual. *The Oxford Handbook of the Archaeology of Ritual and Religion*, p (307-326), Oxford University Press, Oxford. <https://doi.org/10.1093/oxfordhb/9780199232444.013.0021>
- Winkelman, M., 2015. Shamanism as a biogenetic structural paradigm for humans' evolved social psychology. *Psychology of Religion and Spirituality*, 7(4), 267–277, <https://doi.org/10.1037/rel0000034>
- Wood, M., 2000. *Conquistadors*, BBC, London.

- Woodman, N., Wilken, A., T., & Ikram, S., 2019. See how they ran: Morphological and functional aspects of skeletons from ancient Egyptian shrew mummies (Eulipotyphla: Soricidae: Crocidurinae). *Journal of Mammalogy*, 100(4), 1199–1210. <https://doi.org/10.1093/jmammal/gyz091>
- Wynn, T., 1985. Piaget, stone tools and the evolution of human intelligence. *World Archaeology*, 17(1), 32–43. <https://doi.org/10.1080/00438243.1985.9979948>
- Yates, L., G., & Johnson, J., R., 2006. On the Ethnolinguistic Identity of the Napa Tribe: The Implications of Chief Constancio Occayé's Narratives as Recorded. Source: *Journal of California and Great Basin Anthropology*, 26(2), 193–204 <https://www.jstor.org/stable/27825837>.
- Yates, R., & Manhire, A., 1991. Shamanism and Rock Paintings: Aspects of the Use of Rock Art in the South-Western Cape, South Africa. *The South African Archaeological Bulletin*, 46(153), 3-11. doi:10.2307/3889007

