PHYSICAL AND METAPHYSICAL ZONES OF TRANSITION

COMPARATIVE THEMES IN HITTITE AND GREEK KARST LANDSCAPES
IN THE LATE BRONZE AND EARLY IRON AGES

by

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DECLARATION

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I declare that **Physical and Metaphysical Zones of Transition: comparative themes in Hittite and Greek karst landscapes in the Late Bronze and Early Iron Ages** is my own work. All the sources that I have used or quoted have been indicated and acknowledged by means of complete references, and this work has not been submitted before for any other degree at any other institution. I further declare that I submitted the dissertation to originality checking software and that it falls within the accepted requirements for originality.

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Anne Persida Hay

Dated 25th January 2021

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ABSTRACT

While there is increasing interest in the effect of landscape on ancient imagination, less attention has been paid to the impact of restless karst hydrology on ancient beliefs. By identifying shared themes, this study compares and contrasts the way Hittites and Aegean people in the Late Bronze and Early Iron Ages reshaped peripheral karst landscapes into physical and imagined transitional zones.

Karst geology underpins much of the Aegean and Anatolian landscape, allowing subterranean zones to be visible and accessible above ground via caves, springs, sinking streams, sinkholes and other unusual natural formations. In both cultures, certain dynamic landscapes were considered to be sacred porous points where deities, daemons, heroes and mortals could transit between cosmic realms. Evidence suggests that Hittites and Aegean people interpreted dramatic karst landscapes as liminal thresholds and spaces situated between the world of humans and the world of deities.

Part One investigates physical zones of transition via the karst ecosystems of rural sanctuaries. Part Two considers the creative interpretation in myth and iconography of karst phenomena into metaphysical zones of transition. The examples reveal the way in which Hittites and Aegean people built their concept of the sacred on the extraordinary characteristics of karst geology. Numinous karst landscapes provided validity and a familiar reference point for the creation of imagined worlds where mortal and divine could connect.

Vandag is daar toenemende belangstelling in die effek van die landskap op die verbeelding van die mensdom in die oudheid - maar minder aandag word bestee aan die impak van die rustelose karst landskap op die mens se gelowigheid in die oudheid. Deur die identifisering van sekere gemene temas, vergelyk hierdie verhandeling die manier waarop die Hetiete en die Egeïese volkere in die Laat Brons- en vroeë Ystertydperke die omliggende karstlandskap herskep het in fisiese en denkbeeldige oorgangszones.

Die Egeïese en Anatoliese landskap bestaan grotendeels uit karst geologie, met tot gevolg dat ondergrondse zones bo die grond sigbaar en toeganklik is in die vorm van grotte, bronne, sinkgate en ander uitsonderlike natuurlike formasies. In beide bogenoemde kulture is sekere landskapstonele beskou as heilige en poreuse punte waar gode, demone, helde en sterwelinge tussen die kosmiese zones kon beweeg. Die getuienis van die tyd suggereer dat die Hetiete en die Egeïese volkere die dramatiese karst landskappe as grense of drempels tussen hulle wêreld en dié van die gode beskou het.

Deel Een ondersoek die fisiese oorgangszones deur te kyk na die karst ecostelsels waarin plattelandse heiligdomme hulle bevind het. Deel Twee beskou die kreatiewe gebruik van karst verskynsels as voorstellings van metafisiese oorgangszones in die gekrewe bronne en ikonografie. Die geselekteerde voorbeelde dui aan die manier waarop die Hetiete en Egeïese volke hulle konsepte van heiligdom gebaseer het op die buitengewone verskynsels van karst geologie. Numineuse karst landskappe het hulle idees gestaaf en ‘n bekende verwysingspunt uitgemaak waar die menslike en die goddelike met mekaar in kontak kon kom.

Ngenkathi intshisekelo ekhulayo yethonya lokwakheka komhlaba emcabangweni wasendulo, kunakwe kancane umthelela we-karst hydrology engenazinkolelo ezinkolelweni zasendulo. Ngokukhomba izingqikithi okwabelwana ngazo, lo mqondo uqhathanisa futhi uqhathanise indlela amaHeti nabantu base-Aegean kweLate Bronze kanye ne-Early Iron Ages abuye abuye abumbe kabusha imigwaqo ye-karst yomngcele ibe yizingxenye zesikhashana zomzimba nezicatshangwe.

I-Karst geology isekela kakhulu indawo yezwe i-Aegean ne-Anatolian evumela ukuthi izindawo ezingaphansi komhlaba zibonakale futhi zifinyeleleke ngaphezu komhlaba ngemigede, iziphethu, imifudlana ecwilayo, imigodi yokushona nokunye ukwakheka okungokwemvelo okungajwayelekile. Kuwo womabili amasiko izindawo ezithile eziguqukayo zazithathwa njengezindawo ezingcwele zokungena lapho onkulunkulu, amademoni, amaqhawe nabantu abafayo bengadlula phakathi kwezindawo zomhlaba. Ubufakazi bukhombisa ukuthi amaHeti nabantu base-Aegean bahumusha imidwebo emangazayo yekarst njengemikhawulo yemikhawulo nezikhala eziphakathi komhlaba wabantu nezwe lonkulunkulu.

Ingxenye yokuqala iphenya izindawo eziguqukayo zomzimba ngokusebenzisa imvelo ye-karst yezindawo ezingcwele zasemakhaya. Ingxenye Yesibili ibheka ukutolikwa kokudala kunganekwane nakwizithonjana zezinto ze-karst kube izingxenye eziguqukayo zenguquko. Izibonelo ziveza indlela abantu abangamaHeti nabantu base-Aegean abawakha ngayo umqondo wabo ongcwele ngezimpawu ezingavamile ze-karst geology. Amathafa amahle we-karst ahlinzeka ngokusebenza kanye nephuzu elijwayelekile lesethenjwa lokwakhiwa kwamazwe acatshangelwe lapho abantu abafayo nabaphezulu bangaxhuma khona.

KEYWORDS

Zones of transition; liminal; metaphysical; karst hydrology; Hattian; Hittite; Anatolia; Aegean; Greek; Late Bronze Age; Early Iron Age; rural sanctuaries; landscape monuments; holy mountains; sacred springs; thermal springs; sinking rivers; sinkholes; caves; *maquis*; marsh; meadow; sacred groves; bee; bee maiden; cosmogony; underworld; afterlife; Tartarus; Telepinu; Trophonios; Divine Road of the Earth; Sun Goddess of Arinna (and the Earth); Artemis; Hecate; Heracles; Hermes; Gavurkalesi; Mt Oeta; Ivriz; Brauron; Delphi; Südburg; Lebadeia.

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ABBREVIATIONS

Ael.	Aelianus
NA	*De natura animalium*
Aesch.	Aeschylus
Supp.	*Supplices*
Apollod. *Bibl.*	Pseudo-Apollodorus *Library*
Ap. Rhod.	Apollonius of Rhodes
Ant. Lib.	Antoninus Liberalis
Met.	*Metamorphosis*
Arist.	Aristotle
HA	*The History of Animals*
Mete.	*Meteorologica*
Poet.	*Poetics*
Callim.	Callimachus
H.2	*Hymns*
CHD	The Hittite Dictionary of the Oriental Institute of the University of Chicago, ed. by H G Güterbock and H A Hoffner Jnr. Chicago 1980 ff
CTH	E. Laroche, *Catalogue des textes hittites* (Paris, 1971)
Diod.Sic.	Diodorus Siculus
Eur.	Euripides
IT	*Iphigenia in Tauris*
Phoen.	*The Phoenissae*
Supp.	*Suppliant women*
GRBS	*Greek, Roman, and Byzantine Studies*
Hdt.	Herodotus
Hes.	Hesiod
Th.	*Theogony*
Cat.	*Catalogue of Women*
WD	*Works and Days*
HL	Hittite Laws
Hom.	Homer

Il.	*Iliad*
Od.	*Odyssey*
HH.	*Homeric Hymns*
IBoT	Istanbul Arkeoloji Müzelerinde bulunan Boğazköy Tabletleri (Boğazköy-Tafeln im Archäologischen Museum) I-V. Istanbul 1944, 1947, 1954, 1988
KBo	*Keilschrifttexte aus Boghazköi,* Leipzig and Berlin
KUB	*Keilschrifturkunden aus Boghazköi.* Berlin
Liv.	Livy
NABU	*Nouvelles Assyriologiques Brèves et Utilitaires*
Ov.	Ovid
Met.	*Metamorphoses*
Paus.	Pausanias
Pind.	Pindar
Ol.	*Olympian 3*
Pae.	*Paeanes*
Pyth.	*Pythian Odes*
Plut.	Plutarch
De E	*De E apud Delphos*
De def. or.	*De defectu oraculorum*
De Pyth. or.	*De Pythiae oraculis*
Porph.	Porphyry
De. antr. nymph	*De antro nympharum*
SAA	State Archives of Assyria
Sen.	Seneca
Ep.	*Epistulae*
Soph.	Sophocles
OC	*Oedipus Coloneus*
Phil.	*Philoctetes*
Trach.	*Trachinae*
Strab.	Strabo
Thuc.	Thucydides
Theophr.	Theophrastus
Hist. pl.	*Historia plantarum*
Verg.	Virgil
Aen.	*Aeneid*
Xen.	Xenophon
An.	*Anabasis*

STYLISTIC CONVENTIONS

Classical abbreviations follow the Oxford Classical Dictionary (OCD) 4th Edition. All dates are BC unless otherwise stated. I refer to primary sources in the Hittite group of languages and Greek via English translations. Paragraphs where only one author is cited are credited at the end of the paragraph. I follow Bryce in regard to the style of Hittite names and Larson for the Aegean world. The term 'Greek' is used to cover earlier periods prior to the notion of a unified Greece populated by Greeks.

DEFINITIONS OF TERMS

aven ‘a hole in the roof of a cave passage that may be either a rather large blind roof pocket or a tributary inlet shaft into the cave system. A feature described as an aven when seen from below may equally be described as shaft when seen from above, and the naming of such a feature commonly depends purely upon the direction of exploration. Many avens close upwards to impenetrable fissures but may still be important hydrological routes; few caves are without them. In parts of France, aven is equivalent to the British term, pothole’ (Fields 2002:14 sv aven).

chthonic ‘of or relating to the underworld’ (Merriam-Webster 2019 sv chthonic).

blind valley ‘1. A karst valley abruptly terminated by the passage underground of the watercourse, which has resisted the karst processes and remained at the surface. An intermediate type, the half-blind valley, exists in which the valley form continues downstream from the sinkhole used under conditions of normal river flow. The watercourse only flows here intermittently and the valley may (except for its use as a flood conduit) be fossil in that it represents the section abandoned by the river as it sought progressively higher swallow holes. 2. A karst valley with no evident downstream continuation, and one in which the water drains and disappears underground into one or more ponors. 3. A valley that terminates abruptly at a point where its stream sinks, or once sank, underground. As sinks develop higher up the blind valley, the original valley termination may be dry under most flow conditions. Related to marginal polje’ (Fields 2002:20 sv blind valley).

deathscape ‘deathscapes is a mental concept – a construct that is comprised of ideas about and representations of death in the landscape together with their social significance’ (Dimakis 2015:27). For this study, ‘deathscape’ includes mythic topography.

doline, sinkhole ‘a basin- or funnel-shape hollow in limestone, ranging in diameter from a few meters up to a kilometer, and in depth from a few to several hundred meters. Some dolines are gentle grassy hollows; others are rocky cliff-bounded basins. Dolines are also formed by

the large-scale subsidence caused by cave roof-collapse of near-surface caverns; in this instance, the collapse doline, the sides are cliff-like and the floor composed of the irregular blocks from the fragmented roof. Closed depressions receiving a stream are known as swallow holes or stream sinks' (Fields 2002: 61 sv doline).

doline lake 'a small karst lake occupying a doline or closed depression in limestone. The term implies that the doline is at or near the ground-water table and in continuity with it, or that the base of the doline is sealed with an impermeable layer such as clay' (Fields 2002: 62 sv doline lake).

geomorphology 'the study of landforms' (Ekinci 2010: 304).

geomythology the study of pre-scientific oral folk narratives that use myth to explain geological features or events. This field of study was recognised by ancient Greeks and the philosopher Euhemerus, c.300 BCE, proposed that actual people and real deeds lay behind myths about deities and their exploits (Mayor 2004:1).

geothermal 'of, relating to, or utilising the heat of the earth's interior' (Merriam-Webster 2019 sv geothermal).

graben 'a depression formed by a fault block moving downward on the two bounding faults' (Fields 2002:84 sv graben).

historiola '("Little story"). Modern term describing brief tales built into magic formulas, providing a mythic precedence for a magically effective treatment' (Graf 2006 sv historiola).

karst '(Internationally used term, originally the German form of the Slavic word *kras* or *krš*, meaning a bleak waterless place; it is the German name for a district east of Trieste having such terrane.) A terrane, generally underlain by limestone or dolomite, in which the topography is chiefly formed by the dissolving of rock, and which may be characterised by sinkholes, sinking streams, closed depressions, subterranean drainage, and caves. The term karst unites specific morphological and hydrological features in soluble (mostly carbonate) rocks. Morphological features include karren, dolinas (sinkholes), jamas, ponors, uvalas, poljes, caves, caverns, etc. Hydrological features include basins of closed drainage, lost rivers, estavelles, vauclusian springs, submarine springs, more or less individualised underground streams and incongruity of surface and underground divides. Karst is understood to be the result of natural processes in and on the earth's crust caused by solution and leaching of limestones, dolomites, gypsum, halite, and other soluble rocks. Synonyms: (French) *karst*; (German) *Karst*; (Greek) *karst*; (Italian) *carso, carsismo*; (Russian) *karst*; (Spanish) *karst*; (Turkish) *karst*; (Yugoslavian) *krš, kras*.' (Fields 2002:107 sv karst).

karst hydrology **‘**category of geology dealing in water sources and phenomena related to water-soluble rock formations, for example limestone, dolomite and gypsum. Alternative meaning: the ability of soluble karst rock to drain away water’ (Fields 2002:108 sv karst hydrology).

karst topography **‘**terrain distinguished by water-soluble features including visible caves and sinkholes’ (Fields 2002:109 sv karst topography).

liminal ‘between or belonging to two different places, states’ (Cambridge Dictionary 2020 sv liminal).

liminality a meeting place or state ‘betwixt and between’ where accepted norms can be transposed, where the unorthodox is ordinary (Turner 1974:73) and all is possible (Turner 1974: 75).

maquis typical evergreen shrub vegetation associated with karst topography and known as *fynbos* in South Africa (Atalay et al 2008:3).

metaphysical to go beyond the scope or boundary of physical matter or the laws of nature. This is a basic definition of the term ‘metaphysical’. However, the term ‘metaphysics’ remains extremely difficult to define. It was originally used as the title of Aristotle’s collection of works on philosophical issues or sciences dealing with the origination of matter, its causes and immutability. By the 17th century the term was reserved for philosophical subjects that did not fall into any neat category. The term became increasingly awkward as physics gained ground as a hard science; thus the term ‘ontology’ was introduced. The debate continues. Certain philosophers consider the concept of metaphysics to be ‘impossible’ (Van Inwagen & Sullivan 2017).

microclimate ‘“Little climate”. The environmental conditions, such as temperature, humidity, and air movement, in a very restricted area, such as a sheltered nook in a cave wall’ (Fields 2002:122 sv microclimate).

polje ‘Slavic term for field, meaning a large meadow-like depression formed from karst limestone extending from a few kilometres to hundreds of kilometres in length. It is an open polje when the water is drained away by streams and a closed polje when the water is drained through swallow holes. Springs and streams flow into the depression while water usually drains away via a ponor. As rapid drainage is a problem, poljes can flood during the rainy season, resulting in seasonal lakes and wetlands. A variety of other karst features occur with poljes: swallow holes, lost rivers, estavelles and exsurgences. Poljes are a typical feature of karst limestone’ (Fields 2002:143 sv polje). The Copais basin in Boeotia is an example.

ponor ‘Slavic term for sinkhole or swallow hole’ (Fields 2002:144 sv ponor).

rimstone pool ‘a pool sited on a cavern floor and enclosed by a rim of carbonate reprecipitated from the karst water in the pool at points locally favoring the release of carbon dioxide’ (Fields 2002:158 sv rimstone pool).

sea estavelle ‘submarine or sea-shore opening in karst formations which at one season or period discharges round water (fresh or brackish) from the aquifer into the sea-bed and at another season or period draws seawater into the aquifer by a vacuum’ (Fields 2002:165 sv sea estavelle).

sinkhole the entry point where water vanishes into the earth as a horizontal cave or a vertical hole (Fields 2002:168 sv sinkhole). Termed *katavothron* in Greek (Fields 2002:110 sv katavothron) and *düden* in Turkish. Also known as a swallow hole.

sinking stream a stream that flows underground when it disappears down a swallow hole (ponor). Ancient Greeks referred to this phenomenon as *katavothron*. Sophocles (496–406 BC) uses the term in regard to the river Inachos (LaMoreaux 1991:218).

soluble rock **‘**Ground dissolution occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.
The three common rocks that dissolve are rock-salt (halite), gypsum and limestone (including chalk). Dissolution of these rocks produces caves, sinkholes, sinking streams and large springs, creating a landscape known as karst.
Rock-salt is extremely soluble and has usually been removed from the near-surface zone by natural dissolution. Gypsum is highly soluble and can cause potential problems if it dissolves. Limestone is moderately soluble and is removed over a longer time scale, but contains significant cavities.
Potential hazards associated with karst include near-surface cavities, subsidence and sinkhole formation, uneven rockhead, reduced rock-mass strength and rapid groundwater flow.’
Contains British Geological Survey materials © UKRI 2021. https://www.bgs.ac.uk/datasets/bgs-geosure-soluble-rocks/

terra rossa iron-rich red soil associated with karst topography (Atalay et al 2008:8).

terrane denotes a locale displaying particular features both above and below ground level. **Terrain** refers to characteristics that occur only on the surface (Fields 2002:191 sv terrain, terrane).

volcanism ‘volcanic action or activity’ (Merriam-Webster 2019 sv volcanism).

zones of transition a term that is used in various disciplines including physics, geology and architecture. In this study it reflects the work of Van Gennep (1960) and Turner (1964), therefore I define a zone of transition as a physical location or state of mind between an accepted preceding state and a future changed state. It is a space or place that is out of the ordinary and unusual, where changes might occur to natural features, life forms or human consciousness and where the accepted norms of the cosmos do not apply.

INTRODUCTION

CHAPTER 1: OVERVIEW

> If ever you have come upon a grove that is full of ancient trees which have grown to an unusual height, shutting out a view of the sky by a veil of pleached and intertwining branches, then the loftiness of the forest, the seclusion of the spot, and your marvel at the thick unbroken shade in the midst of the open spaces, will prove to you the presence of deity. Or if a cave, made by the deep crumbling of the rocks, holds up a mountain on its arch, a place not built with hands but hollowed out into such spaciousness by natural causes, your soul will be deeply moved by a certain intimation of the existence of God. We worship the sources of mighty rivers; we erect altars at places where great streams burst suddenly from hidden sources; we adore springs of hot water as divine, and consecrate certain pools because of their dark waters or their immeasurable depth (Sen. *Ep*. 41.3).

In the passage above, Seneca makes the connection between human notions of the sacred and a landscape typical of karst geology and karst hydrology.[1] Water above and below the ground is an intrinsic part of karst terrane,[2] and karst hydrology comprises many dramatic features, including sinking rivers, underground streams, and hot and cold springs that gush, pulse or flow erratically (Fields 2002:108 sv karst hydrology).[3] It so happens that Turkey, Greece and the Aegean islands have extensive bands of this karst terrane (fig. 1). My premise is built on the foundation of shared karst geology and the resulting singular geological features of Anatolia and the Greek world. Areas of unusual beauty are also formed by karst hydrology and its ecosystems, such as springs, striking rock formations and caves, lush vegetation and wildlife.

Seneca is not alone in providing evidence that ancient people interpreted such dramatic karst landscapes as evidence of the presence of the divine. Centuries before Seneca, pre-scientific Mediterranean people were evolving a variety of reasons to explain remarkable karst phenomena as channels where mortals could connect with deities and

[1] Terms used by modern geologists to describe topography above and below the earth formed by the action of water on soluble rock, primarily limestone and dolomite (Fields 2002:107 sv karst, 108 sv karst hydrology).

[2] Geologists use 'terrane' to describe features occurring both above and below the earth, while 'terrain' refers specifically to surface aspects (Fields 2002:191 sv terrane, terrain).

[3] In Turkey, for example, over 500 thermal springs are recorded (Ekinci 2010:305), ranging from comfortably warm (Denizli-Pammukale 36 ºC) to extremely hot (Kızıldere 242 ºC). Similarly, Greece has a long history of healing waters, from the salty sulphurous springs at Loutraki to the so-called 'radioactive' thermal springs of Ikaria, which are rich in natural radon (Trabidou & Florou 2010:1).

the Beyond. These were liminal spaces and thresholds, neither part of the mortal world, nor purely divine.[4] They were interpreted as inhabiting the human and supernatural worlds simultaneously.

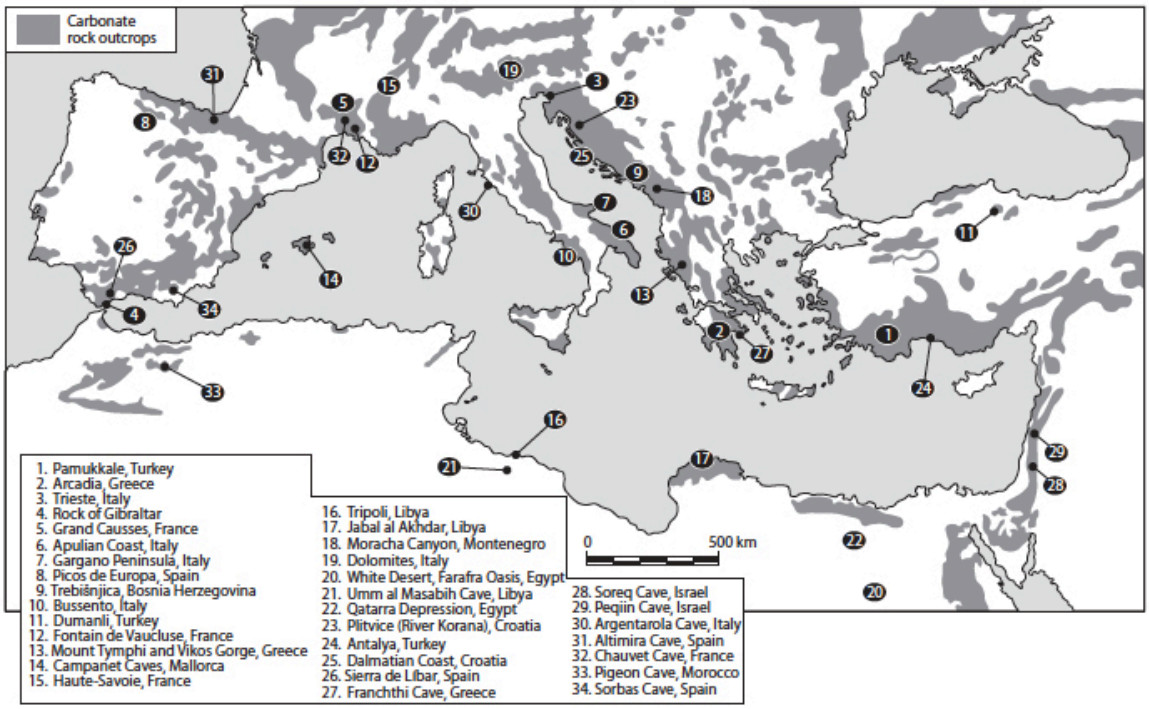

Fig. 1 Karst regions in the Mediterranean: shaded areas show surface carbonate rock outcrops of soluble limestone, dolomite or marble.

Thus, the ancients experienced certain landscapes as porous areas, 'betwixt and between' (Turner 1964:55) the mortal and immortal worlds, where deities, daemons, heroes and mortals could transit between accepted cosmic zones. The landscape, natural phenomena, trees, water-loving bulls and stags, bees, and human acknowledgement of divine activities became potential markers of such zones of transition. Many rural sanctuaries and events in myth were therefore located in these landscapes of seemingly mysterious significance. Isolated sacred sites located at the edges of territory feature in both cultures. Similarly, both cultures have episodes in myth where karst terrane plays a key role. The association of rural sites and mythic landscape with springs and openings in the earth manifest similar themes for the Greek and Hittite worlds, albeit in different ways. For both cultures, these isolated sanctuaries set in dramatic topography were seen as zones of transition with physical, political, social and religious aspects. Certain sites are located in landscapes with characteristics that identify them as physical and metaphysical transitional points, featuring springs, rivers, marshes, ravines, caves and groves. The rural sanctuaries and myths examined in this study are defined by these characteristics. Lush vegetation attracts bees, butterflies and water-loving animals such as stags, bulls and snakes. Terrifying creatures of the imagination haunted liminal zones

[4] Langdon (2018:52) sums Seneca's passage up neatly as "where Seneca describes the mysterious presence of divinity in landscape".

and Herakles vanquished many of them: the hellhound Cerberus at Eleusis and the hydra, python and lion at Lerna, Delphi and Nemea respectively (Bonnechere 2007:25). For Hittites, the serpent Illuyanka lurked in watery openings into the earth and denied water to the mortal world (Macqueen 1959:175). Springs became imbued with otherworldly powers. Delphi boasted 'speaking waters' (De Boer 2014:83) while at Lebadeia, springs were capable of enhancing or removing memory (Connors & Clendenon 2016:175). A strikingly high proportion of Hittite sanctuaries, for example, occur next to water (Macqueen 1959:178). Similarly, in the Greek world, springs, caves, groves and meadows were thresholds where mortals and deities might interact (Bonnechere 2007: 20).[5]

My study therefore focuses on the shared features and characteristics that define such Hittite and Greek zones of transition at rural sanctuaries and in myth in terms of physical and metaphysical liminal spaces. Earlier belief systems seem closer to the natural world, as people were less technically informed of natural phenomena. Divine interaction appears to be directly linked to karst hydrology, so presents as a clear explanation for perplexing natural phenomena. Later rituals regarding human rites of passage are not of primary concern and will be used to provide context.

Hence the landscape is the foundation of my hypothesis. By investigating the Late Bronze Age (c.1700–c.1200 BC) and Early Iron Age (c.1200–c.600 BC) evidence of the Hittite and early Greek interpretation of these landscape formations, this study scrutinises how karst landscapes encouraged the notion of transitional zones. It examines how the Hittites and the Greeks transmuted these unusual physical landscapes into sacred sites and mythic landscapes, and associated them with metaphysical notions of liminal zones. Through cultic activity, myth and artificial enhancement, what was experienced as a physical zone of transition was commuted into a metaphysical zone of transition.

Consequently, my topic of study involves two broadly interconnected themes: karst geology and hydrology on the one hand, and on the other, the expression of beliefs in actual and imagined zones of transition found in textual evidence (particularly renditions of mythology) or material indications (such as Hittite and Greek rural sanctuaries, iconography and artefacts).

[5] An excellent example can be seen in the *Hymn to Pythian Apollo*, where Phoebus Apollo is drawn to appropriate the spring Telphusa's site for his own oracle: 'Then you went towards Telphusa: and there the pleasant place seemed fit for making a temple and wooded grove. You came very near and spoke to her: "Telphusa, here I am minded to make a glorious temple, an oracle for men, and hither they will always bring perfect hecatombs, both those who live in rich Peloponnesus and those of Europe and all the wave-washed isles, coming to seek oracles. And I will deliver to them all counsel that cannot fail, giving answer in my rich temple"'(*HH* 3.245–255).

BACKGROUND AND AIM OF THE STUDY

The impact of karst landscape on belief systems is mentioned by several scholars, such as Croon (1956), Macqueen (1959), Bonnechere (2007), Harmanşah (2014) and Connors and Clendenon (2016), to name but a few. However, to the best of my knowledge there is no body of work that specifically focuses on the link between karst landscapes, borderland rural sanctuaries, myth and zones of transition in the context of the Aegean world or Hittite Anatolia. The present study therefore hopes to add to the field by providing an initial broad investigation of this aspect within these two cultures.

Although the evidence I have used for the Hittite period and that of ancient Greece is most often not contemporaneous, both cultures display many shared themes when it comes to my area of investigation, and there are striking similarities, sometimes in unexpected areas. My key focus is to investigate these shared themes evident in the physical and metaphysical characteristics that defined zones of transition linked to karst hydrology. At the same time, comparing the evidence of these two Indo-European cultures also reveals differing interpretations of similar karst features at peripheral rural sanctuaries and in myth, or curious *lacunae* on either side, and this in itself builds a further understanding of each individually. By reassembling a tradition that manifested itself in two cultures, one in the west, the other in the east, a study such as this may provide a finer focus on this aspect in both cultures (Rutherford 2007: 8). In so doing, the study hopes to offer some clarity on notions of transitional zones which may be taken further for other cultural comparisons.[6]

RESEARCH QUESTIONS AND THEORETICAL CONSIDERATIONS

As has been implied above, the primary research question is how the unusual physical aspects of karst landscape impacted on the imagination of the Hittites and the Greeks, and became a part of their notions of transitional space, connecting the physical with the metaphysical level. This can be further interrogated by investigating which physical features defined a zone of transition in each case, and to what extent there are shared metaphysical themes that emerge from the physical features. Another sub-question that would need to be answered by this study is how similar or differing notions of transitional spaces manifested themselves in each culture.

[6] And, although this is not a primary aim of the present study, it will provide greater understanding of the interaction of people, water and environment – a subject that is finding renewed interest today as our planet faces looming water shortages. Geomorphology has become important for the development of tourism in many countries (Ekinci 2010:304). Growing commercial interest in ancient cultic activity allied to these sites will benefit many stakeholders directly and indirectly, including scholars. Some Turkish geologists (Ekinci 2010, Günay & Törk 2015) show considerable interest in karst formations, as these landscapes have huge ecotourism potential in Turkey, both in regard to natural beauty and ancient history (Ekinci 2010:303). Ecotourism has the potential to increase funding, maintenance, restoration and further study of these sites as the topic acquires relevance for the public and private sectors.

In order to answer these questions, my approach is to use the ancient evidence we have at our disposal, together with modern research and studies of karst geology and hydrology as part of my investigation. In essence, this is therefore a qualitative study, as defined by Bryman (2014:714), who emphasises 'allowing categories to emerge out of data' and 'recognizing the significance for understanding the meaning of the context in which an item is being analysed'.

The Hittite period has guided my selection and organisation of the evidence on a practical level, since it is the earlier civilisation and confined to some 500 years. Concomitantly, there is less ancient material available in comparison with the Greek world, which encompasses a considerably longer period, arguably into modern times.[7] With clear links between sacred sites, subterranean water, dramatic rock formations and reliefs, Anatolian karst also appears to be the stronger key driver in ancient notions of cosmogony and porous cosmic zones. Hence, I am looking at my topic via selected, shared themes identified initially from Hittite material.

Comparing and contrasting Hittite and Greek cultures will clarify how two cultures with similar markers in the landscape extrapolated reactions to and notions of karst topography. Similar markers can be traced back to pre-Indo-European indigenous cultures (or earlier settlers) that were dominated by a gradual infiltration of Indo-European groups, the influence exerted by Indo-Europeans, and the shift in the attributes of deities and ideas about the underworld. These factors form the background to investigating how similar geology influenced Hittite and Greek perceptions on liminal zones and sacred spaces.

I have not attempted to pursue direct influence from Anatolia to Crete here.[8] The link is too tenuous. There is no way of proving that Hittite notions influenced Greek ideas, despite the interaction between Hittites and Mycenaeans (Miller 2014:13), and pre-Mycenaeans and the poetic heritage shared among Anatolia, Greece, the Levant and Mesopotamia during the 2nd millennium (Miller 2014:17). Similarly, an indigenous Pelasgian presence in the Aegean prior to the Indo-European migrations remains contentious.[9] Furthermore, a written tradition of mythology emerged later in the Aegean world c. 8th century BC. Linear A remains to be deciphered and Linear B or Mycenaean Linear Script deals primarily with commerce. Without written myths there is not enough

[7] Ancient Greek notions of purity have been carried into modern Christian practice as evidenced at the healing spring of Perdikovrisi in Boeotia. Sacred to Apollo Ptoion (and possibly the hero Ptoion before him), the spring is sacred to St Paraskevi (Touloupa 1970:121).
[8] There is evidence of Anatolian descendants on Crete, although not the mainland (Miller 2014:17).
[9] Hammond (2003:59) suggests that – based on 'traditions of folk-movements' – the Neolithic people of Thessaly might have been Pelasgians.

information for investigation, therefore details on earlier beliefs must been found in later periods.

GEOLOGICAL EVIDENCE

Because a basic tenet of my dissertation is derived from natural and man-made physical terrain, a large part of this study relies on geological and archaeological reports made over many decades. Some of these have been discussed in the survey of seminal scholarship below, so I will not go into great detail here. For the purposes of this study, geological evidence includes maps and photographs of sites where karst features such as caves, marshlands and areas of lush vegetation can be clearly identified. Understanding the location of karst phenomena within a larger context is useful, and maps clarify spatial relationships quickly and efficiently. Maps from previous centuries can be as informative as modern satellite images: for example, Leake's 1836 map of Thermopylae and adjacent country (fig. 42) and the surrounding topography of Brauron in Google Maps (fig. 51). By the same token, photographs provide more detailed visual information regarding the type of terrain, dramatic karst features and particular ecosystems driven by karst geology.

Fig. 2. The site of the Oracle of Trophonios demonstrating the physical karst setting studded with cultic niches and chambers (possibly associated with Pan) above the Herkyna River.

These have been compared with the ancient evidence, as in the case of the site of Pausanias' account of the oracle of Trophonios at Lebadeia (Boeotia) (fig. 2 above and fig. 3 below). He describes the cave with the source of the river Herkyna (9.39.2), two springs or fountains (9.39.7), a man-made portal into the earth (9.39.9) and sacred grove (9.39.4),[10] all of which are zones of transition and, as identified in the modern era,

[10] The sacred grove would have been primarily on the left side of the gorge in fig. 3. To date, the exact place of the oracle has not been discovered. It should lie somewhere between the summit of Elijah's mount and the sacred grove (Bonnechere 2007: 32).

typical of karst geology. Photographs show a remarkable landscape that changes swiftly from dappled riverbanks with a sparkling river to the forbidding gorge.[11] By its nature karst geology is never static; thus a comparison of images even a mere century apart can show differences in the source of springs, caves and vegetation. Although Herkyna's cave has not been located, surely Pausanias saw the same massive soaring crags as we do today.

Fig. 3. The gorge of Lebadeia at the site of the Oracle of Trophonios. At the summit of the mount of Elijah (right) lie the ruins of a temple to Zeus Basileus (Paus. 9.39.4)

ANCIENT EVIDENCE

As indicated above, our evidence of the religious life of ancient peoples is preserved through material evidence (for example, the landscape chosen for sacred sites, rock monuments, iconography and votive material) and textual evidence (literary and documentary material).

Limiting the comparison to the same period for Hittites and Greeks has proved not to yield the most useful results. The patterns of evolution between the great Hittite Empire c.1600–1200 BC and the contemporaneous Greek world of small, independent communities are too diverse. Greek mythological texts that are synchronous with Hittite material are lacking; therefore, later material is used to complement the Hittite written evidence.

However, where earlier evidence is available it has been particularly useful for the purposes of this investigation, since earlier belief systems seem closer to the natural

[11] Having walked the path of the river and the gorge in 2018, I believe no photograph can capture the drama and atmosphere of the landscape.

world as people were less technically aware of natural phenomena. The presence of the divine offered a clear explanation for perplexing natural phenomena directly linked to karst hydrology. As indicators of water in a dry land, it is no surprise that sacred groves and oracular trees are interpretations of the presence of the gods in the ancient Greek world. Later evidence on the emotive nature of certain landscapes starts to acquire a certain self-consciousness, as demonstrated in the quote by Seneca at the beginning of this introduction. For the purposes of this study, later rituals regarding human rites of passage are not of primary concern and will be used only where necessary to elucidate particular aspects of this investigation.

Hittite texts tend to be pragmatic and dealt with administration, ritual procedure, temple rules, religious material for the education of scribes, hymns, prayers, myths and so on. Our main sources of information on Hittite religion are the artefacts and cache of cuneiform texts at Hattusa, the majority dating to the last 50 years of the Empire (Beckman 1989:99), but other textual sources have also emerged at the regional towns of Masar Höyük (Tapikka) and Kuşaklı (Sarissa) (Beckman 2013:84).[12] Karst landscapes feature strongly in Hittite mythology, particularly in regard to disappearing deities, and the disappearing deity genre of myths supplies key primary material regarding zones of transition.

The influence of Hattian culture on the Hittites provides a unique view of a two-part cosmos, heaven and earth, in contrast to the tripartite heaven, earth and underworld. The Hittite underworld was included with the earth (Tatišvili 2007:9), which may have encouraged the singular idea of the underworld as a refuge (Tatišvili 2007:8), in contrast to the dank place of dread known to the ancient Greeks. Certain Hittite texts point towards a state water-cult and there is strong evidence that Hittites considered subterranean water as a liquid highway to the divine world (Erbil & Mouton 2012:74). In some instances, Hittites would enhance natural springs with artificial tunnels, sacred ponds or reservoirs (Erbil & Mouton 2012:73). The sanctuary at Eflatun Pınar, for example, has a rock monument that depicts Hittite cosmogony and shows a sophisticated level of karst water management for cultic activity (Bachmann 2006:254). Several other remarkable natural and artificial examples will be examined in Part One and Part Two of this study.

Zones of transition are predominantly evident in the genre of myth dealing with disappearing deities, particularly Telepinu (son of the chief storm god), several other storm gods and the mother goddess Hannahanna, a key player in locating missing

[12] Hoffner's *Hittite Myths* (1998), a translation of the original tablets with a glossary of names and technical terms, provides an introduction to each myth. He has categorised the myths by cultural influence, and disappearing deity narratives with their Hattian influences therefore fall under Old Anatolian myths.

deities (Ünal 1989:110). These deities used springs and rivers as portals to the netherworld (Macqueen 1959:173) with potentially dire consequences for humanity (Tatišvili 2007:8). Thus in CTH 671 §9 (rev.11–17) the Storm God (of the sky), aware that flowing water led to a chthonic zone, instructs the divinised river to thwart any attempt by Nerik's storm god to vanish: '…you, O Marassanta River, must not let him go to another river (or) another spring.'[13]

There is a great deal of evidence supporting Greek belief in liminal areas associated with karst terrane. Accounts of the underworld are particularly rich in karst caves, chasms, toxic gas emissions and thermal lakes (Pfanz et al 2014:93). The sense of supernatural beauty associated with karst landscape is attested in one of the earliest works of Greek literature: in the *Odyssey* (5.63–77), Hermes, the god of transitions, is sent to persuade the nymph Calypso to liberate Odysseus. She lives amidst meadows of violet and parsley (Hom. *Od*. 5.72) and near the entrance to her cave are a row of four sparkling springs (Hom. *Od*. 5.70). He lingers at the entrance, 'a threshold between worlds' (Bonnechere 2007:41), overcome by the beauty of the environment: 'There even an immortal, who chanced to come, might gaze and marvel, and delight his soul; and there the messenger Argeiphontes stood and marvelled' (Hom. *Od*. 5.75).

Although early ancient Greek writers did not understand the science, their acutely observed descriptions and theories for sinking rivers, poljes, springs and so on have been very useful for the purposes of this study. The *Homeric Hymns* are another key source of Greek mythology providing 'a first hand view of the Greek mythographic experience at an early date' (Boer 1996:iii). Many of the hymns reveal karst features in the context of liminal zones of transition, for example, recounting how Hermes' mother, a nymph, gave birth to her son in a cave (*HH* 4.5–15), or the *Hymn to Pan* revealing the goat-legged god as a marvellous amorphous creation of a liminal zone (*HH* 19.5). The spring Telphusa dissuades Apollo from taking over her lovely spot with its shady trees (*HH* 3.380). Earlier material is a fertile source for my topic.

We may also include here what is known today as geomythology: the study of pre-scientific oral folk narratives that use myth to explain geological features or events (Mayor 2004:1).[14] When identifying any potential link to karst geology, the myths discussed in this study are interpreted bearing geomythology in mind. With Greek material, the geomythological link is often carried by avatars, for example, nymphs or creatures such as the Lernaean Hydra. What becomes apparent is that Hittites and

[13] Sacrifice and prayer to the Storm God of Nerik as translated by Hoffner (1998:24)
[14] The term 'geomythology' was coined in 1968 by Vitaliano to explain the relationship between landscape and beliefs.

Greeks extrapolated karst features into metaphysical space in highly creative ways. Part Two, which deals with metaphysical zones of transition, focuses on this dimension.

Herodotus' *Histories,* written in 5th century BC, is equally useful in terms of the history, myths and legends associated with karst features. For example, Herodotus relates that Croesus (1.46) and Mardonius (8.134) consulted the oracle at Lebadeia, a Boeotian site and a zone of transition that is discussed more fully in Chapter 8. And some 100 years later, Aristotle discussed sinking rivers: 'That there exist such chasms and cavities in the earth we are taught by the rivers that are swallowed up' (*Mete*.13). Geographers and travel writers like Strabo and Pausanias, though writing much later, also provide links between sites, landscape and myth that often record references to age-long traditions, rituals and myths.

In parallel are iconographic images selected from rock reliefs, frescoes, sculptures, vases and rings. They reveal the importance of karst formations and ecosystems in the ancient world and how these were translated into meaningful symbols for communities. Here we can mention the role of mountains as a channel to the deities in the Hittite world, which are depicted as being under the feet of the Storm God of Hatti at Yazılıkaya (fig. 12) and pouring life-sustaining water at Eflatun Pınar (fig. 13). The Minoan frescoes at Akrotiri depicting crocus gathering for the goddess (fig. 28) occur in a landscape reminiscent of limestone outcrops, while the sculpture of a cave inhabited by nymphs accompanied by Hermes and Pan (fig. 56) places it in the realm of the numinous. Similarly, creatures of liminal zones illustrate transitional points between above and below, mortal and divine, as the orthostat relief of Illuyanka (fig. 74) and the bee maiden plaque (fig. 87) make clear.

DEALING WITH THE EVIDENCE

The similarity of overarching themes related to rural sanctuaries, karst landscape and transitional zones between these two cultures is often remarkable. In Part One, the investigation begins by studying the porous nature of karst hydrology linked to peripheral sanctuaries sited in unusual karst landscapes, identifying similar and different characteristics of landscapes chosen for sacred sites by Hittite and Greeks.

Part Two looks at how physical karst phenomena were a reference point in creating mythic landscapes, particularly those that intersected with mortal life or death, giving rise to transitional points between the earthly and the preternatural. Mythological texts and other evidence are then brought in as key channels of the way ancient people

regarded and interpreted karst geology, in which a diachronic view[15] takes into account evolving situations essential to the study of cults (Larson 2007:3; Harmanşah 2014:142).

Nevertheless, unorthodox localities do not fit easily into traditional methodologies. Therefore, the concepts and methodological aspects that follow have been drawn from a broader range of disciplines (Harmanşah 2014:141–142). In this study, rather than tracing the origins[16] or direct contact and influences between the two cultures (Rutherford 2019:392), similar karst phenomena will drive the comparison of and contrast between the Hittite and Greek worlds in order to identify leitmotifs between them. Rutherford's (2019) discussion regarding the pros and cons of comparative religion in 'From Zalpuwa to Brauron: Hittite-Greek religious convergence on the Black Sea' has assisted my approach.

In order to navigate notions of transition, I turned to the work of Arnold van Gennep on rites of passage (1960:11) and transition (1960:18) and Victor Turner's ideas on liminality. The French ethnographer Van Gennep (1873–1957) considered rituals around seasons and life-events as forms of community rebirth that were experienced by all cultures. He termed this process 'a rite of passage' and held that it always followed a three-stage structure (Van Gennep 1960:21), beginning with a rite of separation, followed by a liminal threshold state or the 'passage', and concluding with reintegration. Van Gennep used the term *limen* (threshold) to underpin the notion of liminality as a transition from one place or state to another (Turner 1974:72). Many anthropologists support Van Gennep's view that the rite of passage is an underlying, universal system applicable to all cultures (Szakolczai 2009:142). Turner (1920–1983) expanded on Van Gennep's theory by adding another breakthrough rationale: that the 'sequential order of a rite of passage is *the structure of lived experience'* (my italics) (Szakolczai 2009:147). The implications of his theory are expanded on below.

Anthropologists such as Turner, Bateson and Turnbull, among others, were confronted by evidence that could not be aligned with the favoured key theories of neo-Kantianism, neo-positivism and Marxist analysis (Szakolczai 2009:153). One of the tools that replaced these theories was Turner's idea of liminality. Scholars such as Turner, Girard and Bateson introduced fresh analytical concepts that drew inspiration from Platonic thought (Szakolczai 2009:155). Turner and Douglas saw rites of passage as being

[15] Evolving situations also reflect the underlying thread of movement intrinsic to this topic: karst geology itself is continuously changing due to water flow, while zones of transition are determined by a passage from one place, space or mindset to another.
[16] Although Rutherford (2019:393) notes that the issue of origins might include the question, 'Do they reflect universal patterns of human nature and culture?' which has a bearing on this topic. Van Gennep (1960) and Turner (1964) considered rites of passage to be an intrinsic aspect of lived human experience.

'transformative' (Szakolczai 2009:163) and dismissed the rationalist view that rites of passage were archaic and irrelevant.

It is not necessary here to revisit the complex process of theories that eventually led to Turner's concept. Suffice it to say that philosophers such as Dilthey and Nietszche attempted to break through the strictures of Kantian theory where human experience was seen as anarchic and thus required the imposition of constructed order (Szakolczai 2009:146). Dilthey realised that '…experience has a structure of its own' (Szakolczai 2009:146). Similarly, Van Gennep and Turner found the categorisation of Durkheim and Lévi-Strauss artificial and restrictive (Szakolczai 2009:147). Building on Van Gennep's (1960:11) tripartite phases of separation, liminality and incorporation, Turner's core concept, as noted above, is that the progressive nature of a rite of passage mirrors the framework of real-life experience (Szakolczai 2009:147).

Turner supports Van Gennep's view (1960:11) that transition from one state to another involves three stages: 1) separation, in preparation for change; 2) liminality, a median state between the existing and future state and 3) incorporation, where a changed state is achieved and accepted. Turner (1964:47) notes that rites of passage or transition apply to changes that impact on location, accepted position, social status or age; thus the term covers an individual, a community or a 'ritual subject'. For example, this is clearly identified when boys become men, peace gives way to war or drought and famine change to abundance. Turner developed a particular interest in the second stage of liminality.

Turner (1964:53) defines liminality as 'the realm of primitive hypothesis where there is a certain freedom to juggle with the factors of existence'. It is a place or interval of time that is 'betwixt-and-between' (1964:55), a space that is creative and fluid, a crossing of thresholds where usual life forms may reconfigure, a place of hybrid creatures (Turner 1964:53). Liminality is a meeting place where accepted norms can be transposed, where the unorthodox is ordinary (Turner 1974:73) and all is possible (Turner 1974: 75). It is also a paradoxical state that can be alarming, disordered and insecure (Turner 1974:77). In a zone of the unexpected, individuals may question the norm and reconsider their notions of accepted contexts.[17]

The use of liminality as a navigational tool is sympathetic to the layered nature of zones of transition and avoids grafting an artificial framework from post-industrial 21st century notions onto pre-industrial cultures (Snape & Spencer 2003:4) or forcing evidence into an unsuitable model (Rutherford 2019:392). This study deals with two

[17] A point made by Endsjø (2000:357) regarding Heracles' dismissal of the Eleusinian mysteries after his broad-ranging journeys.

pre-scientific regions in different periods with differing worldviews: the physical component of landscape and nuanced notions that emerged from the imagination of ancient peoples. Using the concepts developed by Van Gennep and Turner, the study examines evidence available in geology, archaeology, iconography and texts to show how the areas selected for discussion were regarded as transitional points. In this way, I aim to gain a holistic understanding of specific aspects of Hittite and Greek rural sanctuaries and myths manifesting liminality, and the concomitant evidence that transmits a consciousness of zones of transition.

OVERVIEW OF SEMINAL SCHOLARSHIP IN THE FIELD

It must be reiterated that studies specifically dedicated to my focus area are rare. On the Anatolian side, Gordon's (1967) article is unique in that he specifically discusses karst hydrology to make the connection between a karst underground watercourse, the Hittite D.KASKAL.KUR and the Greek *katabothron*. Harmanşah's (2014:142) approach and thinking on living rock and watery landscapes as 'an archaeology of place and place making' with constantly evolving repositories of memory and identity have been fundamental to this study and several of his works are referenced. A valuable benefit of Harmanşah's approach is his familiarity with the physical landscape, which is helpful in understanding the context in which ideas of porous zones arose. 'Hid in Death's dateless night: the lure of an uncanny landscape in Bronze Age Anatolia' by Sørensen and Lumsden (2016) advances the notion of a link between the physical landscape and the preternatural in Hittite myth, which dovetails with my own view regarding human interaction with unnerving or alluring karst landscapes.

On the Greek side, the greatest contribution to my study in this area was undoubtedly made by the work of Clenendon (2009), an environmental sciences scholar with a particular focus on ancient karst formations as linked to Greek mythology. Clenendon (2009:146) specifically seeks to address the lack of in-depth studies linking karst formations to ancient Greek mythology. She also co-published with Connors an article (supported by sound philological research) entitled 'Mapping Tartaros: observations, inference and belief in ancient Greek and Roman accounts of karst terrain' (2016). Some 60 years ago, Croon (1956:193) noted that there was no complete collection of Greek data regarding cultic activity linked to thermal springs, which are so typical of karst hydrology. This appears to remain the case, which makes his 1956 survey, 'Artemis Thermia and Apollo Thermios (with an excursus on the Oetean Heracles-Cult)' a useful resource. There is also one other article worth mentioning by Mariolakis and Mariolakis (2004) who discuss the link between the environment and its interpretation by ancient writers.

Useful information was combined from a number of fields linked to the present study. Material was accessed from four interconnected areas: 1) karst landscapes; 2) rural sanctuaries connected to karst hydrology and myths; 3) the use and perception of karst landscapes in mythology and 4) the physical and metaphysical characteristics that defined a zone of transition. Karst features, particularly caves, springs and wetlands, are visible gateways into the earth and were recognised as physical zones of transition. Like Sørensen and Lumsden, Connors and Clendenon, I regard the metaphysical aspects of transition as superimposed on the physical karst features in order to open a channel between worshippers and their deities.

GEOLOGICAL STUDIES

There is a large number of studies on the various geological aspects of karst landscapes which, for my purpose, can be sectioned into three categories: 1) geologists writing scientific articles on karst geology; 2) geologists with an interest in ancient karst hydrology or geomythology and 3) Greek or Hittite scholars writing on aspects of ancient cultures containing karst components. All three categories are relevant to understanding the nature of karst geology and its impact on pre-scientific people.

A good introduction to the field of karst environments has been LaMoreaux (1991), 'History of hydrogeological studies', Günay and Törk (2015), 'Turkish karst aquifers' and Ford and Williams (2007), 'Karst hydrogeology and geomorphology'. These studies were often highly technical and necessitated frequent consultation of Fields' 'Lexicon of cave and karst geology with special reference to environmental karst hydrology' (2002) for specialised terminology.

With this as a basis, various seminal articles have been used that pertain more specifically to the ancient context, although it must be said that modern scholars rarely connect karst phenomena and mythology (Clenendon 2009:146–7). Fundamental to the more general technical aspects of Mediterranean geology were therefore Papadopoulou-Vrynioti and Kampolis (2012) and Lewin and Woodward's (2009) chapter on 'Karst Geomorphology and environmental change'.

Then there are a large variety of articles which conveyed specialist knowledge of specific karst features, such as caves (Bayari & Özbek 1995; Fields 2002) or sinkholes (Batóri et al 2012) or karst influence on urban development (Crouch 1991). Certain geologists are becoming increasingly interested in the nature of karst geology as an explanation for Greek oracles (Pfanz et al 2014) and provide helpful detail on the effects of toxic gas and water. There were also a number of articles on its effect on vegetation, insect and animal life (Efe 2014).

CULTURAL STUDIES

On the cultural side, studies tend to fall into four categories: 1) allied subjects on aspects of rural sites; 2) rites of passage as zones of transition relating to cultic activity; 3) deities and sites related to initiation rituals and rites of passage and 4) mentions of my topic in mythology or as part of another subject, for example political frontiers and the emergence of the *polis*. Thus clues needed to be found from a broader base than purely archaeology and mythology. This applies to both Hittite[18] and Greek studies. As a result, my reading was extensive and wide-ranging, covering a large collection of articles and books where information was gleaned possibly from only a couple of lines, paragraphs or pages. This means that a compact literature review focused on a few key studies hardly reflects the spread of sources required.

There are certain scholars who touch on my topic in more than one article. Many of them were writing in the 1960s or earlier on period, history, culture and cult, with an enviable sweep of knowledge that seems to reflect the scholarly trend at that time. A few examples are Nilsson (1923, 1961), Elderkin (1939), Croon (1952, 1956) and Macqueen (1959, 1980). Along with other earlier scholars, they are continually referenced in more recent studies and this may point to a lack of later research on karst hydrology linked to rural sanctuaries. Articles from the 21st century tend to focus on narrower areas and the content rarely deals specifically with my topic. There are some exceptions such as Bonnechere (2007), who explores sacred groves as zones of transition, or Endsjø (2000), who investigates *eschatia* as fluid liminal space.

Hittite Scholars

Taracha's *Religions of second millennium Anatolia* (2009) has been a valuable guide to the diversity of belief systems in Anatolia, particularly in tracking Hattian religious influence where the link between water, karst ecosystems and transition seems to originate. Hittitologists are paying increasing attention to the effect of landscape on Hittite culture and in this field Ökse (2011), Erbil and Mouton (2012) and Harmanşah's body of work (as noted above) have provided stimulating points of view regarding sacred pathways to parallel zones, which are key to my hypothesis.

Ökse (2011) interrogates the links between water (female), earth, rock (male) and mountain on the belief system of the Hittites and covers the key shrines sited near springs and mountains. Rock outcrops may have been regarded as *huwasi* stones (Ökse 2011:228), and thus function as indicators of a liminal and/or a frontier zone, amongst

[18] Although the link between rock, water and deities is an intrinsic feature of Hittite belief systems and several scholars have discussed this aspect in detail, as noted below.

other things.[19] Where an important spring lacked a natural rock outcrop, a man-made formation was built (Ökse 2011:236) to ensure the synergy between rock and water. Ökse's discussion is a reminder of the point made by Turner (1974:61) that liminality reflects cultural patterns which are attracted to 'the binary "Yin-Yang" forms suggested by "natural" opposites' being, in this instance, water/rock, liquid/solid, feminine/masculine, mortal/divine.[20] This notion provided one of the ways to identify liminal markers in the landscape.

In 'Water in ancient Anatolian religions' (2012), Erbil and Mouton look at the meaning and ritual applications of water and water sources in Hittite culture in three areas: water as a path to the underworld (2012:54), water as part of cultic practice, and the obscure links between water and cultic places in archaeology (2012:53). Their aim is to confirm whether the relationship between water and early Anatolian cults represents a water cult (2012:53). Their article discusses the sacred pool at the Eastern Ponds of Hattusa in some detail (2012:87), emphasising the connection between the Südburg zone, the Great King and the Divine Earth Road into the underworld (2012:59). The notion of Seven Roads (7 KASKAL^{MEŠ}) that allowed deities and spirits to enter the mortal world is frequent in Hittite cuneiform texts (Erbil & Mouton 2012:60) and pertinent to my topic. While deities could travel from a mountain, valley, river, sea, grassland, the sky and the earth, mortal worshippers would make roads visible by laying down textiles, barley, oil or honey (Erbil & Mouton 2012:60). These two scholars show that mortals and deities were able to travel between divine and earthly spheres, with water serving as a pathway (Erbil & Mouton 2012:61).

The work of Hawkins, in particular, provided compelling information on water, pathways of the earth and channels to deities. His interpretation and discussion of the challenging Südburg inscription at Hattusa (Hawkins 1995) includes plans and drawings of the site, including the inscription. Photographs of the restored chamber with the inscribed stone blocks clearly show the resemblance to a natural cave with subterranean water. Why a late period Luwian hieroglyphic inscription used an antiquated style more suited to the reign of Hattusili III remains an enigma.[21] Hawkins (1995:21) raises the possibility of an intentional decision to follow an archaic style. 'Hittite monuments and their sanctity' (2015) provides information on the Ivriz site, particularly the spring.[22] His

[19] The implications of *huwasi* stones on liminality deserve a deeper discussion than can be provided here. Cammorosano (2015:224) notes that 'we are still waiting for a thorough and up to date research focused on their role and antiquity among local Hittite cults.'

[20] Rock formations, mountains, rivers and springs were places of cultic significance that recognised the male and female element and might be honoured with open-air altars and carved reliefs (Ökse 2011:221), including a KASKAL.KUR (Ökse 2011:225) or portal to the underworld.

[21] The inscription is reliably linked to the last king, Suppiluliuma II, thus dates to the 13th century BC c. 1207.

[22] The spring has attracted little interest from scholars other than Bier (1976) and Maner (2016).

investigation includes Hittite inscriptions, in particular D.KASKAL.KUR[23] as a sinkhole and subterranean water channel (2015:1) with references to Gordon's article (1967), the Bronze Tablet Treaty §7 and, as noted above, the remarkable spring in the cave at Ivriz (Hawkins 2015:7).

Subterranean water is closely tied to the genre of disappearing deity myths[24] and of interest to several Hittitologists who provide thought-provoking material on these transitional places. Early Hattian forms were tied to subterranean water, an association that remained rooted in the later Hittite myths and cultic events (Macqueen 1980:187).[25] I therefore searched for content that recognises the Hattian influence. Macqueen's article 'Hattian mythology and Hittite monarchy' (1959) remains relevant because he investigates the original watery attributes of Telepinu and the link between disappearing deities, holes in the ground (probably swallow holes), springs and subterranean rivers (1959:173).

The Telepinu myth supplies key material on zones of transition in the Hittite world. There are three surviving versions of the Telepinu myth, affirming that the myth remained relevant from the Old Hittite era to the imperial period (Kellerman 1986:117). Kellerman's article, 'The Telepinu myth reconsidered' (1986), notes that KUB 17.10, the tablet bearing the earliest, most readable version of the myth, is an Empire era copy amalgamated with an Old Hittite myth (1986:115). Kellerman (1986:119) discusses the translations of Goetze and Ivanov and explains the various cultural influences that affected deities and mortals in the myth. Della Casa (2010:100) interprets the Telepinu Myth using the theories of Eliade and Durand and comes to the conclusion that the myth emerged during times of crises that threatened the Hittite world (2010:112). She argues that Telepinu's return allowed for a type of rebirth mirrored by new, changed or expanded Hittite territory (2011:111), which is in itself a zone of transition or rite of passage, as defined by Turner (1964:47). She uses two examples: the context of Kaska incursions under Arnuwanda I, who ruled c.1400–1350 BC, and imperial expansion under the rule of Suppiluliuma I, from c.1350–1322 BC (2011:112).[26]

In Part Two, I move beyond archaeology to investigate the influence of karst terrane on imagined landscapes and mythic journeys. Two articles in particular have been crucial to my thinking: Archi's 'The soul has to leave the land of the living' (2008) and Hoffner's 'A scene in the realm of the dead' (1998a). KBo 22.178 + KUB 48.109 + 43.60 (CTH 457)[27] offers a poignant glimpse of a terrified soul's transition from life in

[23] A compound logogram meaning 'Divine Road of the Earth' (Hawkins 2015:7).
[24] The activities of the god Telepinu being the most familiar.
[25] Hoffner (1998:9) refers to Hattian myths as Old Anatolian; that is, myths in circulation amongst the local people, mainly Hattians, prior to the arrival of the Hittites.
[26] Dates for Hittite kings remain difficult to pinpoint and validate (Bryce 2005: xvi).
[27] Hoffner (1988:191–199) realised that the two fragments dealt with the same subject and joined them.

her human body to separation and the journey to potential rebirth (Archi 2008:191) through a landscape defined by intimidating karst terrane.

Greek Scholars

The number of books and articles relevant to my topic is extensive, so only a few of the most pertinent are reviewed here. Bakke's doctoral thesis (2007)[28] on landscape and memory in Tegea emerged from his involvement with the multidisciplinary Norwegian Arcadia Survey (NAS).[29] His approach and content has been an inspiring guide in managing diverse disciplines. Schachter's 'Cults of Boiotia' (1981–1994) has been a most useful resource in identifying pertinent rural sites in that region, while Larson's 'Ancient Greek cults' (2007) is a convenient point of departure, particularly when used in conjunction with mythology. The content deals with the Archaic and Classical periods and focuses on 'geographic and ethnic distinctiveness' (Larson 2007:3). Larson outlines the debate on definitions regarding ritual (2007:5) and myth (2007:7), amongst other terms. Her method emphasises a detailed examination of certain cities and regions. From this analysis, she connects the deities with ceremonies and the evolution of cults. While Larson recognises the innovative results of Jean-Pierre Vernant's structuralist method in contrasting Hermes and Hestia (2007:3), she notes that structuralism, being synchronic, can overlook relevant aspects of history – a pertinent point with this study. In her opinion, diachronic examination (2007:3), which takes note of evolving situations, is a necessary tool in the study of Greek cults.

De Polignac's 'Cults, territory and the origins of the Greek city-state' (1995) takes a fresh approach to the emergence of city-states in Greece, with a particular focus on the nature of sacred space, the role of non-urban and hero cults in the 8th century and their impact on the emergence of the *polis* (De Polignac 1995:9). He questions the accepted method based on Aristotle's notion of gregarious humanity forming family units, followed by hamlets and finally cities, in favour of an archaeological approach (De Polignac 1995:3). While De Polignac's theory emphasises the religious impact and is considered contentious in some quarters where the traditional political explanation for city-states is preferred, his approach provides valuable information for this study regarding rural sanctuaries, frontiers, cults and deities, although the aspect of transition points linked to karst landscape is absent.

Endsjø's methodology in 'To lock up Eleusis: a question of liminal space' (2000) adapts the concepts of Arnold van Gennep and Victor Turner in order to explore Greek notions of *eschatia* or physical frontiers. He posits that peripheral regions are 'betwixt and between' (Turner 1969:95), thus can be likened to an individual's transforming status

[28] 'Forty rivers: landscape and memory in the district of ancient Tegea'.
[29] Including archaeology, history, art history, geography, geology and botany (Bakke 2007:5).

during a rite of passage (Endsjø 2000:351). Wilderness reflected a fluid primeval zone where life forms were evolving and mortals were undefined, so could be indistinct from deities, the dead or animals (Endsjø 2000:351). For example, Heracles enters Hades, the realm of the dead, without dying and returns alive (Endsjø 2000:352). Endsjø (2000:351) proposes several ways in which the *eschatia* could be considered a liminal space: as an area between the *polis* and place of the dead, as mysterious lands beyond the civilised Greek world or as a divine sphere between Olympus and the chthonic realm.

Endsjø (2000:357) recognised the value of Van Gennep's theory in that communities assigned particular significance to wild border areas. He observes that Van Gennep's theories paved the way for the idea that frontier wilderness is a metaphor for a journey of transformation (2000:356). Endsjø explains Turner's theory of transitional space dialectically as being bracketed between opposites; thus 'a state of transition … is consequently defined by what it is not' (2000:354). For Turner, liminality was a state where social norms no longer applied and contradictions manifested: mortal/immortal, human/animal, living/dead, masculine/feminine and so on (Endsjø 2000:354). Turner's notion of transitional space has been key to my study, given his view that it is a place or state of potential, able to shift an accepted mindset in unusual directions (Turner 1964.53).

In regard to Heracles' dismissal of the Eleusinian mysteries after his wide-ranging journeys, Endsjø (2000:357) notes that the emotive quality of wild frontiers did not result from the practise of rites of passage. A mystical aspect was inherent within the place, a view I share in terms of karst landscapes. Endsjø (2000:382) observes that cultic rituals in the peripheral wilderness also reflect Van Gennep's opinion that rites of passage originated from the physical journey. My hypothesis favours the notion that ancient people perceived certain remarkable landscapes with openings into the earth (karst caves, springs, etc.) as being imbued with otherworldly, often chthonic dimensions that made them desirable locations for sanctuaries and mythic realms.

Similarly, Bonnechere (2007) uses the notion of an *alsos* or sacred grove at the sanctuary of Trophonios at Lebedeia as a way into the subject of rites, divination and myths involving zones of transition. As one of the zones of transition manifested in landscape, he refers to an *alsos* as 'a natural manifestation of a median place between two worlds' where 'a significant and divine modification of the normal landscape appears' (2007:26). His approach has value regarding the effect of karst phenomena on the imagination of ancient Greeks and Hittites, which is the focus of Part Two of this study.

A divine element was present in trees and springs, part of a landscape that was physically and metaphysically alluring (Bonnechere 2007:20). Trees had a mythic genesis with Cronus via the gelding of his father Uranus (Bonnechere 2007:27). As with springs, certain trees had oracular powers or were inhabited by mantic nymphs (Bonnechere 2007:29). In the parched landscapes of Greece, springs produced seductive havens of greenery, dappled shade and cool water favoured by both mortals and deities (Bonnechere 2007:19), and these characteristics are shared by the meadow or *leimon* (Bonnechere 2007:20). Springs, groves and wild meadows can occur in conjunction with caves, grottoes and crevasses. Openings in the earth were associated with portals to the underworld and added to liminal landscapes imbued with a sense of the divine (Bonnechere 2007:20). These physical features are all typical of karst geology.

Of the many articles cited that deal with specific topics, two in particular provided a guide on dealing with multiple connections covering archaeology, artefacts, myth and beliefs. Elderkin's article 'The bee of Artemis' (1939), a philological investigation into cultic aspects of bees, continues to be widely cited. As I consider bees as indicators of transitional zones in both the Greek and Hittite worlds, Elderkin's article provides crucial information for my topic in two areas: the role of bees in the Aegean world and the early period of cultic activity linked to Artemis. Similarly, Cook's article, 'The bee in Greek mythology' (1895), uses bee iconography and philology to explore their relevance in the Greek world (1895:1) including their oracular powers (1895:7), chthonic aspect as messengers (1895:6) and their ability to transcend boundaries. He takes his cue from depictions of bees found in jewellery, plates, plaques, an amphora and coins, and does not limit his topic to a particular period or location. Cook (1895:17) relates iconography to mythology, naiads and ancient observations of the lifestyle of wild bees in the countryside, including the caves preferred for their hives.

Finally, Marinatos and Wyatt's chapter in *A Companion to Greek Mythology* (2011) looks at the cultural overlap in the Levant, Egypt and Greece regarding notions of the Beyond and cosmic geography. In tandem with Marinatos' (2009) study, it is one of the few that specifically discusses my topic of imagined landscapes, transitional points and liminal frontiers. The context of these studies stresses the geography with its aspects of vertical/horizontal, light/darkness, nocturnal/daylight and the passage of the sun (Marinatos 2009:195), whereas my focus on karst phenomena means that darkness is not necessarily an indicator of night.

LIMITATIONS TO THIS STUDY

Two aspects presented major challenges: 1) lack of personal visits to the more remote sites[30] and 2) an inability to access primary sources via the original ancient language. The issue of language extended into modern studies, particularly in regard to Hittite and Indo-Europeans studies, where scholars can be writing in Turkish, German, Russian or Georgian.[31]

While both cultures made use of karst water sources for practical, political and religious purposes, I have selected only a few illustrative rural sanctuaries and myths. There are many more that demonstrate the influence of karst geology as shared, perceived and interpreted by the Hittites of Anatolia and the Greeks of the mainland and the Aegean c.1700–700BC. Cultic Hittite *huwasi* and Greek herms or *horoi* also have a bearing on liminal space and karst geology, as do static rock deities as a manifestation of certain types of karst activity. However, due to length, I have chosen not to pursue the subject of standing stones, boundary markers and stone gods.

STRUCTURE OF THIS STUDY

The main emphasis is on themes that occur in both cultures and, in order to keep a vast subject manageable, the themes are illustrated by a selected example from each culture. The topic is split into two broad categories working in synergy: Part One deals primarily with how landscape, archaeological sites and physical evidence manifested as zones of physical transition via three key locations: 1) mountains, 2) springs and caves and 3) openings into the earth. Part Two concentrates on textual evidence and artefacts to show how descriptions of karst phenomena attest to an ancient consciousness of metaphysical transitions. This aspect will be discussed via three themes: 1) imagined landscapes, 2) deities and 3) liminal creatures.

Evidence for the notion of a transitional zone derives from karst terrane, archaeological sites, and textual and material evidence. As noted previously, in this study the ideas of liminality developed by Van Gennep and Turner are used to define markers of transitional zones in the Hittite and Aegean worlds. Each chapter is therefore introduced by a relevant quote on liminality from Turner or Van Gennep to reflect the focus of the forthcoming discussion.

[30] Nevertheless, my extensive visits to the more familiar ancient sites in both Turkey and Greece over many years have provided a familiarity with their karst landscapes and ecosystems.
[31] This has been a source of frustration as I suspect that, given their proximity to the Caucasus and beyond, scholars from Eastern Europe would have been informative regarding the connections and influences between the Hittites and the people to the east.

Parker (2008:55) observes that over the last twenty years there has been increased interest in studying landscape as ‘the social construction of space and place’. She discusses the trend to segment landscape into a typical contemporary western ‘dualism between nature and culture’; between environments that are tangible and environments that are imagined (Parker 2008:56), resulting in a lack of integration in the experience of body and mind. I cannot put myself into the place and space of an individual’s experience in past millennia; neither will I have the opportunity to experience the physicality of several of the more remote sites personally. However, the unusual character of karst landscape clearly appears to have affected ancient imagination and I treat the tangible and the imagined as integrated aspects of the whole, rather than looking at nature and culture as independent entities.

CHAPTER 2: CULTURAL SETTING

This chapter presents an outline of the complexity of influences active during the Late Bronze Age Hittite and Greek worlds in order to provide a broad context for the impact of karst hydrology on the ancient mindset. Cultural diversity is contextualised by an outline of the cultural make-up that emerged from migrations and socio-political developments, and an overview of religion.

Both Anatolia and the Greek world were inhabited by indigenous people prior to the gradual arrival of Indo-European groups who probably emerged out of the steppe, with one group arriving in Greece and Anatolia at the start of the 2nd millennium, followed by successive 'infiltrations' (Warburton 2014:117). The Early Bronze Age (3000–2000) saw a shift of emphasis from seasonal fertility cults headed by a Mother Goddess to the Indo-European type of Sky God (Dietrich 1974:4), although all in all there is insufficient evidence to uphold the theory that Indo-European Mycenaeans brought a patriarchal system to an existing matriarchy in the Mediterranean world (Dietrich 1974:131). In Anatolia, goddesses retained a major role. Earlier Hattian traditions are discernible through later Indo-European influence and provide clues to the contrasting characteristics and habitat of Anatolian deities (Macqueen 1959:177).

On the central Anatolian plateau, Indo-European Hittites emerged at the beginning of the 17th century BC (Bryce 2002:8). Hittites were culturally diverse, spoke seven languages (Kuhrt 2003:232), displayed a cuneiform literary tradition, had a body of myths and erected monumental buildings (Kuhrt 2003:234). Diplomatic and trade relations existed with major foreign powers and Hittite princesses married into foreign royal families (Kuhrt 2003:263). Ruled by great kings from the capital Hattusa, this powerful multicultural empire lasted some 500 years, peaking around c.1400–1200 BC (Bryce 2002:9). Thus, unlike in the Greek world, the Hittite period is relatively finite and contained.

The Late Bronze Age Aegean world of the Greeks was not dominated by one powerful state. The region comprised small independent communities displaying their own local characteristics. In Minoan Crete, cultic activity of a basic type was focused on palaces

and peak sanctuaries, and linked to shepherds, flocks and herds (Peatfield 1983:273). Generally, artefacts found at peak sanctuaries include bone and pottery fragments and small terracotta figurines. During the same period, Hittite rural sites with springs were more sophisticated, often enhanced with sacred pools, tunnels, rock reliefs and complex water-management systems (Bachmann 2006:254). Furthermore, the Late Bronze Age Greek world lacks a crucial component required for this study: a written tradition of mythology. This is evident from the scripts that emerged c.1450–1400. Linear A is pre-Greek and may prove to be Minoan (Hammond 2003:33), if and when it is deciphered. Linear B or Mycenaean Linear Script emerged from the Greek-speaking elite at Knossos, while the Greek mainland appears to have remained pre-literate (Hammond 2003:33) until after c.1450 BC (Hammond 2003:45).

Once a written tradition in Greece emerged after the Geometric period during the 8th century, certain themes shared with the Hittites become clear.[32] It indicates that the early pre-scientific inhabitants of both regions made sense of perplexing karst features in a similar but not identical way – for example, the notion of caves and springs as entrances to the underworld and bees as messengers to the chthonic realm; the role of goddesses at liminal places; monsters and deities that could transcend cosmic zones; the anthropomorphism of natural elements and the use of boundary stones. All these aspects have attributes that support zones of transition.

THE ANATOLIAN CONTEXT

In Anatolia, this study revolves around primarily two groups: the indigenous Hattians (c.2500–2000/1700 BC) and the Indo-European Hittites (2100–1190 BC).[33] The early history and influences that surround the Hattians and Hittites are filled with different tribal groups and influences, elusive origins, fragmentary evidence and a variety of theories. A brief outline of the key groups is necessary to clarify Hattians, Hurrians, Luwians and Hittites in order to appreciate the diverse influences in perceptions of sacred springs and zones of transition even though the Hattian influence is the most important.

Anatolian geography plays a part (fig. 4), and four different Bronze Age cultural forms discernible in the eastern, south-eastern, central and western regions of Anatolia (Akurgal 2001:1). Each physical region has distinctive features. South-eastern culture was heavily influenced by Mesopotamia (Akurgal 2001:1). The eastern region developed a distinctive cultural form (Akurgal 2001:1), culminating in the Kingdom of Urartu (860–580 BC). In the central region, artefacts can date back to 8000 BC, while

[32] Although Hittite and Greek notions of the Beyond are richly described worlds both in text and iconography, it is important to stress that Hittite and Greek texts are not contemporaneous.
[33] As dated by Akurgal (2001).

artefacts in the west excavated to date rarely occur earlier than 3000 BC (Akurgal 2001:2).

Fig. 4. Physical features of Turkey.

Anatolia is a peninsula bounded by the Aegean, Mediterranean and Black Seas and forms part of the vast chain of mountains sweeping from the Himalayas to the Atlantic coast (fig. 4). The heartland of the Hittite Empire (c.1660–1190 BC) was the broad central massif soaring to over 900 metres (3000 feet), notably different from the mosaic of mountains and valleys in Greece (compare figs. 4 and 7). The plateau breaks into the rugged peaks, ravines and valleys of the northern Pontus Mountains and the southern Taurus range (fig. 4). The Pontic and Taurus ranges connect in the east to form a landscape of towering snow-capped peaks with precipitous gorges where the Tigris and Euphrates rivers rise (Sagona 2006:16).

Towards the end of the 3rd millennium, Anatolia developed into small kingdoms (Macqueen 1986:18) displaying fortified citadels reminiscent of Greece c.3000 BC, as evidenced at Dimini in Thessaly (Macqueen 1986:17). Akurgal (2001:6) favours the likelihood that local, pre-literate Hattians developed and populated these early principalities in central Anatolia, a view supported by Bryce (2005:12). In addition, a Hattian presence is evident in the south-eastern region (Akurgal 2001:6). Hattian culture developed a unique dual cosmos (Tatišvili 2007:9) that encouraged the notion of a porous world where deities were able to transit between cosmic zones (Tatišvili 2007:8) – aspects that are key to this study. Hattian culture, being pre-literate, is difficult to track (Bryce 2005:13). Clues are found in the literate Hittite culture, an evolving amalgam of many different influences, including Hattian. For example, certain Hittite ritual texts of the 14th and 13th centuries are annotated to show where Hittite ‘priests speaking in

Hattian' (Akurgal 2001:5) would support certain written passages.[34] Furthermore, the Hattian language can be discerned in the names of some deities, mountains, rivers and cities, and various mythological texts (Akurgal 2001:5).[35] After 2200 BC, the Indo-European Hittites gradually assumed control of these incipient kingdoms (Akurgal 2001:6).[36]

Macqueen (1986:32) debates the difficulty of establishing exact locations and dates for the Hattian people, noting that the elite at Alaca c.2500 BC, northeast of Hattusa, may have been affiliated to Indo-European *kurgan* people ruling over the Hattian populace.[37] He prefers to leave the subject of Hattian origins 'open' (1986:33). While *kurgan* people spoke an Indo-European language, Macqueen (1986:32) notes that southern Anatolia also had a Hittite presence, although a *kurgan* culture is not evident. As a result, it is unlikely that that the Alaca elite were proto-Hittites. Alparslan and Doğan-Alparslan (2015:103) consider the elite tombs of Alaca Höyük to be Hattian. In contrast, Akurgal (2001:19) has studied these burial forms and artefacts and argues that the Alaca tombs contained Hittite royalty, thus placing Indo-European Hittites in Anatolia c.2100–2000 BC. Bryce (2005:14) considers that further evidence is required to support the concept of a dynasty of immigrant rulers dominating local Hattian people.

Circumstances surrounding the presence of Indo-European tribes in Anatolia in the Early Bronze Age c.2000 BC remain elusive, as writing emerged on the Anatolian plateau and the south-eastern region about 1700 BC (Akurgal 2001:2). Several theories have been put forward based on the scant information available. As outlined below, Bryce (2005:13) provides a summary of the state of knowledge in order to clarify the evidence.

It is probable that a non-Indo-European local populace, the so-called Hattians, were in the majority in 3rd millennium Anatolia. However, incontrovertible evidence to this effect is lacking. The term 'Hattian'[38] is modern, as indeed is the name 'Hittite'[39]. As the

[34] CTH 671 §2 (obv.5–-11)…The GUDU-priest calls (in the Hattic language) three times down into the pit: *wi wi purusael purusael* Concurrently he speaks the word: §3 (obv. 12–14) "The Storm God of Nerik became angry and went down into the pit…" (Hoffner 1998:23).

[35] The myth known as *The moon god who fell from the sky* or *When the Storm God thunders frightfully* (CTH 727), has survived in Hattian and Hittite, and thus provides valuable information on the unique Hattian language which is distinct from both Indo-European and Semitic forms. Similarly, the myths of Illuyanka (CTH 321) and Telepinu (CTH 323–36) were Hattian in origin (Akurgal 2001:5).

[36] Bronze Age Anatolia was fertile, well watered and wooded (Macqueen 1986:11). Its mountain ranges are seamed with valuable metals (Macqueen 1986:19), including copper, lead, iron ore, silver and alluvial gold. Only tin, necessary to alloy copper to bronze, was in short supply (Macqueen 1986:19). Anatolia was trading as far afield as southern Russia and Mesopotamia c.2600–2300 and the Land of Hatti was positioned to become an international player (Macqueen 1986:18).

[37] From the metalwork in Alaca's royal tombs, including the so-called standards, the site may have been under the influence of a northern culture from the Black Sea region. Excavations show that northern-style metalwork bears affiliations to the Maikop culture located north of the Caucasus.

[38] The earliest use of the term 'Land of Hatti' is evidenced in texts during the Akkadian period (2350–2150 BC) in Mesopotamia and would remain a familiar title for the next 1,500 years (Akurgal 2001:4).

3rd millennium drew to a close, the documents of Assyrian traders contained Indo-European names and thus substantiate an Indo-European presence in the region (Bryce 2005:13), although there is no archaeological evidence that provides a firm date for the entry of the Indo-Europeans into Anatolia.[40] It seems likely that, over a few centuries, waves of various Indo-European tribal groups entered Anatolia, integrated with the indigenous populace and assumed aspects of the local culture (Bryce 2005:14).

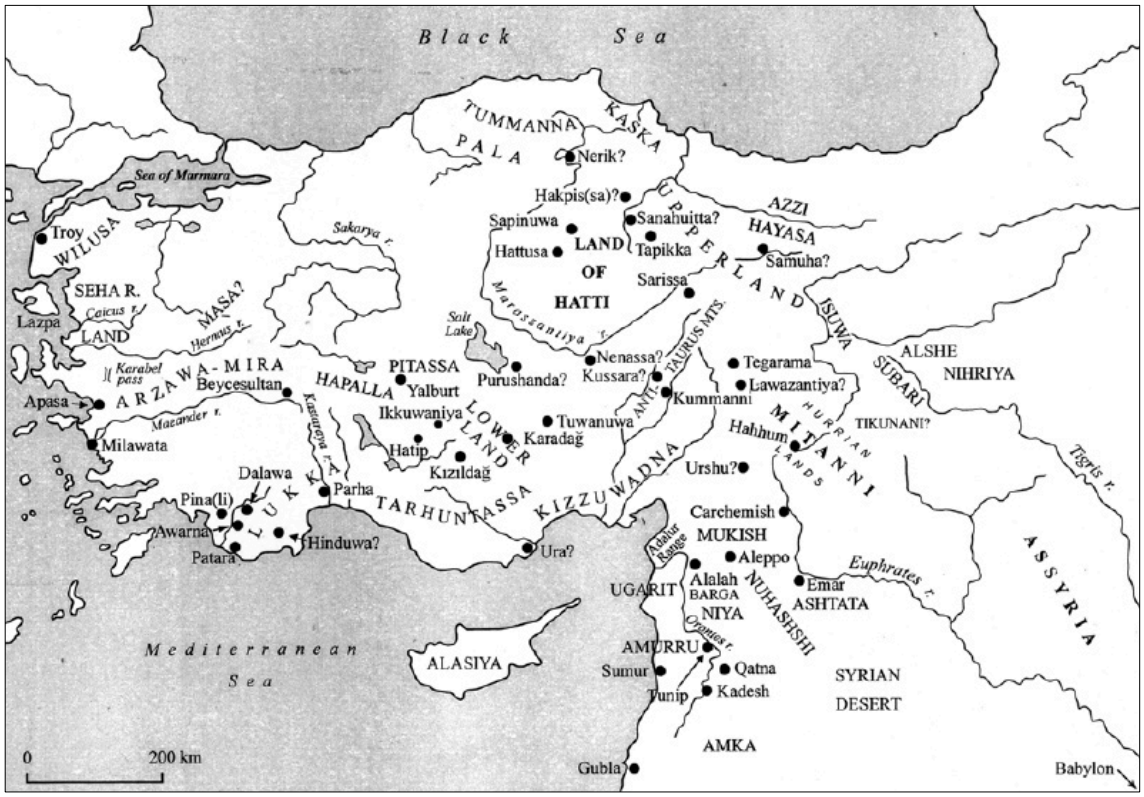

Fig. 5. The world of the Hittites.

Three ethnic peoples can be identified via language in the Old Assyrian texts: Hattians, Hurrians and Indo-Europeans (Hittites, Luwians and Palaians) (fig. 5) (Collins 2007:31). By the early 2nd millennium, Hattian territory on the plateau included the Kızıl Irmak basin with the settlement of Hattus and, to the north, Zalpa (Collins 2007:31). The Hittites were clustered further south, near Nesa (Kanes) and Kussar in modern Cappadocia (Collins 2007:31). Although Hattusa would become their capital, Nesa was regarded as the Hittite 'ancestral home' (Collins 2007:31). Akurgal (1962:15) notes that Hattian culture remained a key influence during the Hittite era.

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[39] The term 'Hittite' is adapted from the Old Testament '*Hittim*' and '*Heth*' (Akurgal 2001:4).

[40] By c.1940 BC Assyrian merchants were trading cloth and tin in return for copper, gold and silver (Macqueen 1986:19) via Anatolian trade entrepôts such as Kanesh. The Hattian elite, lacking a script or hieroglyphic system, probably used scribes familiar with Assyrian to conduct business dealings at these trade centres (Akurgal 2001:5).

The Indo-European languages of Palaic, Luwian and Nesite have a clear affinity; thus the speakers probably entered Anatolia concurrently, a few hundred years prior to written evidence of their languages in Anatolia. Nesite, the Indo-European language of the Nesian (Hittite) people, remained relevant and became the state language of the Hittite kingdom (Bryce 2005:14). The Hittite homeland remained centred on the plateau (fig. 5) in the loop of the Kızıl Irmak River (Red River), known to the Hittites as the Marassantiya River (Bryce 2005:44). Pala, the territory of Palaic speakers, lay to the north, probably in the region known by the Romans as Paphlagonia (Collins 2007:31). The language disappeared during the Old Kingdom (c.1650–1400 BC), surviving in only a few ritual texts (Collins 2007:31).

The Luwian language was prevalent across Late Bronze Age Anatolia and used a hieroglyphic writing system (Collins 2007:32). A seal bearing a Luwian name was excavated at Troy level VIIa; thus Trojans may have spoken Luwian (Collins 2007:32). The language moved south along the western coastal region and east into Lycia, Tarhuntassa and Kizzuwatna (Collins 2007:31). The Lukka in Lycia spoke Luwian and this may have encouraged the alliance between the Lycians and Trojans (Collins 2007:32).

The Luwians raise the question of a group of proto-Greek Indo-Europeans moving into northwest Anatolia towards the close of the 3rd millennium (Macqueen 1986:33). Some settled in the northwest and were still there when the Hittites created their empire. One theory, based on 'Minyan' ware pottery, suggests that another group, the Aeolic Greeks, migrated west to central Greece early in the 2nd millennium. A certain number remained in the coastal area and may have become the Trojans of Homeric epic (Macqueen 1986:34). These theories have given way to the preferred notion that Greek origins were influenced by the Baden culture of central and south-eastern Europe, and thus have affiliations to *kurgan* people (Macqueen 1986:34).

The Indo-European Luwians present another theory based on the evidence of proto-Luwian language occurring in western Anatolia and Greece (Macqueen 1986:34). For example, proto-Luwian may account for place names ending in *-anthos* and *-assos* on both sides of the Aegean Sea (Macqueen 1986:34). Thus, the Luwians may have crossed into Greece c.1900 BC in the early Middle Helladic period (Macqueen 1986:34) or possibly as late as 1600 BC during the Shaft Grave period (Macqueen 1986:35).

The Hurrians form another influential group, probably located in the southeast around the salty waters of Lake Urmia (Macqueen 1986:20). Their belief systems were influenced by Indo-European religion (Grant 1988:71) and their origins may have been in Transcaucasia (Collins 2007:32). By the end of the 3rd millennium, horses had been

tamed in southern Russia and it is possible that the Hurrians brought them into Mesopotamia (Grant 1988:70). Certainly, the Hittites used horses to great effect in chariot warfare (Grant 1988:74), probably introduced c.1600 BC (Bryce 2002:111).

By 1790 BC, the increasing presence of Hurrians in northern Mesopotamia had resulted in a power shift in their favour, disturbing the lucrative metal trade between Assyria and Anatolia (Macqueen 1986:21). With the passage through the Anti-Taurus Mountains blocked, Anatolia would look to the route via Cilicia and the Euphrates to trade with southern Mesopotamia (Macqueen 1986:21). The Hurrians would evolve the Kingdom of Mitanni (c.1500–1360 BC), extending its influence to coastal Syria and Cilica (Grant 1988:71) to pose an ongoing threat to the Hittites (Collins 2007:32).

Based at Kussara in the east, the first recorded king, Pithanas, followed by his ambitious son Anittas, exploited the rise of Hurrian control (Macqueen 1986:36). Anittas broke the power of the small kingdoms in the central, northern and southern regions around the Kızıl Irmak basin, bringing them under his dominion (Bryce 2005:39). From his new capital further west at Nesa, he vanquished, destroyed and cursed the city of Hattus (Hittite Hattusa) by invoking the Storm God of the Sky (Collins 2007:30). Anittas died around 1750 BC and his kingdom appears to have been destroyed in turn by invaders, possibly originating from Zalpa near the Black Sea (Macqueen 1986:21). The trail goes cold at this point, as evidence for the next 100 years is lacking (Macqueen 1986:21).

Following the collapse of the Kussaran dynasty, there is evidence of a new power that would evolve into the Late Bronze Age kingdom of the Hittites (Bruce 2005: 40). Its king, Hattusilis (c.1650–1620), refers to his grandfather dealing with a revolt thus his family must have wielded power for at least two generations (Bryce 2005:62) before any written record. Hattusilis (‘man of Hattusas’) recognised the strategic potential of Hattusa and risked the curse of Anittas to erect a fortress, claiming the city as his capital (Macqueen 1986:36).

Akurgal (2001:1) segments the Bronze Age in Anatolia into three periods: the Early Bronze Age (3000–2500 BC), Middle Bronze Age (2500–2000) BC and Late Bronze Age (2000–1200 BC). There are certain unique difficulties in dating events and people in ancient Anatolia. For example, unlike textual evidence from Egypt, Assyria and Babylonia, the Hittite records do not provide the length of rule of Hittite kings (Bryce 2005:376) and scribes did not develop a dating system (Bryce 2005:377). As there are no king-lists, lists of sacrifices in honour of deceased royalty have to suffice. The same royal name can be given to different kings, certain kings are ignored and names are not organised in logical chronology across the seven different lists (Bryce 2005:376). Where possible, information can be compared with international material, for example,

the battle of Kadesh c.1274 BC against Rameses II and the battle of Nihriya against Assyria c.1230 BC (Bryce 2005:377).

Scholars vary in dating methods. Kuhrt (2003:231) notes that the accepted dates and terms for the phases of Hittite history remain fluid and will undergo revision as new information emerges. The generally accepted view has been to place the Old Assyrian period at the advent of the Hittite Kingdom between c.1800–1650 (Kuhrt 2003:225), the Hittite Old Kingdom c.1650–1500, the Hittite Middle Kingdom c.1500–1430/1420 and the Hittite Empire period from c.1430/1420–1200 (Kuhrt 2003:231). Bryce (2005) prefers to assign two Hittite periods: the Old Kingdom (c.1650–1400 BC) and the New Kingdom (c.1400–1190 BC). The chart below is adapted from Bryce (2005:xv-xvi) and offers clarity on the chronology of Hittite kings. No dates are absolute (Bryce 2005:xvi).

HITTITE OLD KINGDOM c.−1650–1400 BC		
KING	**DATE**	**RELATIONSHIP**
Labarna	–1650	
Hattusili I	1650–1620	grandson?
Mursili I	1620–1590	grandson, adopted son
Hantili I	1590–1560	brother-in-law?
Zidanta I	1560–1525 Ruling dates unknown	son-in-law
Ammuna		son
Huzziya I		brother of Ammuna's daughter-in-law
Telepinu	1525–1500	brother-in-law
Alluwamna	1500–1400 Ruling dates unknown	son-in-law
Tahurwaili		interloper
Hantili II		son of Alluwamna?
Zidanta II		son?
Huzziya II		son?
Muwattalli I		interloper

Fig. 6. Chronology of Hittite kings (continued overleaf).

HITTITE NEW KINGDOM c.1400–1190		
KING	**DATE**	**RELATIONSHIP**
TudhaliyaI/II	1400–1350 Ruling dates unknown	grandson of Huzziya II?
Arnuwanda I		son-in-law, adopted son
Hattusili II?		son?
Tudhaliya III		son?
Suppiluliuma I	1350–1322	son
Arnuwanda II	1322–1321	son
Mursili II	1321–1295	brother
Muwattalli II	1295–1272	son
Urhi-Teshub	1272–1267	son
Hattusili III	1267–1237	uncle
Tudhaliya IV	1237–1228	son
Kurunta	1228–1227	cousin
Tudhaliya IV (2nd ruling period?)	1227–1209	cousin
Arnuwanda III	1209–1207	son
Suppiluliuma II	1207–	brother

Fig. 7. Chronology of Hittite kings.

The Hittite kingdom included four types of territory: 1) the heartland in the Kızıl Irmak basin with the capital Hattusa and local centres of administration; 2) outlying regions ruled by the king or his functionaries; 3) regions under vassal rulers and 4) under Suppiluliuma I and later rulers, the provinces of Carchemish and Aleppo in northern Syria (Bryce 2005:44). Harmanşah (2015a:33) observes that frontier areas played a crucial part in establishing the range of the Hittite homeland.[41] Not only did rock monuments allied to springs stress the perimeter of a frontier area but the choice of location ensured they were '…deeply embedded in the very special geology of landscapes' (Harmanşah (2015a:33). Thus, the issue of frontier regions and rock monuments allied to springs is fundamental to a discussion on transitional points.

[41] Hittite frontier zones provided bulwarks against attack, as the Hittite plateau was vulnerable to hostile action from the hawkish Kaska in the Black Sea region and the opportunistic Hurrians to the southeast. To the west, peoples of Arzawa, reduced to vassal status during the New Kingdom, tended to rebellion (Bryce 2005:47). By the 13th century, the Ahhiyawans were actively encouraging rebellion in the west (Bryce 2005:59). Based on fresh interpretations of Hittite texts, the theory of a strong Ahhiyawan–Mycenaean connection is gaining favour (Bryce 2005:58), raising the possibility of an Ahhiyawan power base at Mycenae, Argos or Boeotian Orchomenos (Bryce 2005:60).

A noteworthy challenge is the difficulty of pinning down locations of certain ancient places. Mellaart's much quoted comment in 1977 summed up the situation trenchantly as 'the guessing game known as Hittite geography'.[42] It still applies. Bryce (2005:41) uses term *homophonic* to describe the way scholars assume later, similar-sounding place names can provide clues to the location of ancient sites or areas; thus the Late Bronze Age region of Lukka corresponds to Greek Lycia. Progress in identifying sites is ongoing. Survey projects are producing a great deal of information on the Hittite period, including the recently verified site of Nerik at Oymaağaç Höyük (Harmanşah 2015a:90) in the mountains north of Hattusa. The Great Kings of the 2nd millennium regarded Nerik as the most sacred of all Hittite cities, making it a vital component in zones of transition. Other key sacred cult cities included Arinna, Zippalanda and Samuha (Bryce 2005:46).

Cultural diversity is a pertinent factor underlying the Hittite period (Bryce 2005:18) and different influences are evident in cultic texts. As noted, the term 'Hittite' is modern and can be misleading. A variety of ethnic groups mixed and existed concurrently: Hattic and Hurrian people, Indo-European Nesites and Luwians, and Syro-Mesopotamian components (Bryce 2005:19). The Indo-European Hittites styled themselves as 'people of the Land of Hatti', a designation probably in use prior to their settlement in Anatolia (Bryce 2005:19). The influence of women is an intriguing element in Hittite Anatolia and is evident in mythology and the status of women in Hittite royal families. The role of the *Tawannana* is a unique element in the Hittite hierarchy. This was a title and an office, possibly originating as a personal name, held only by royal women, usually the king's wife (Bryce 2005:92). The position of Tawannana offered the chosen woman considerable status and power. The benefits of the position lasted for her lifetime, irrespective of the ruler's lifetime (Bryce 2005:92). She became the highest priestess of the land, was responsible for palace administration (including finances) and may have involved herself in local and international politics (Bryce 2005:92).[43]

Under the culturally inclusive Hittites, the sense of identity of these diverse groups came from living under the aegis of the king within the Hittite heartland (Bryce 2005:19). In the early 12th century, the Hittite Empire disintegrated and the impressive

[42] Mellaart, J.1977. 'Troy, a re-assessment'. Paper presented at the *IVth International Colloquium on Aegean Prehistory* at Sheffield University (cited in Bryce 2005:42).

[43] One Tawananna, possibly the king's sister, overstepped her sphere of influence. Her offence remains unknown, although it seems feasible that she and her children were plotting against the king (Bryce 2005:93), a threat that provoked a furious decree from Hattusili, the ruler:

> In future let no-one speak the Tawananna's name . . . Let no-one speak the names of her sons or her daughters. If any of the sons of Hatti speaks them they shall cut his throat and hang him in his gate. If among my subjects anyone speaks their names he shall no longer be my subject. They shall cut his throat and hang him in his gate. (KBo iii 27 (CTH 5) 5–12)

fortified capital of Hattusa was abandoned (Bryce 2005:374). Hittite culture would live on under the Neo-Hittites.

THE GREEK CONTEXT

Three seas surround the Greek mainland: the Aegean in the east, the Ionian in the west and the Mediterranean to the south. Proximity to the sea is an obvious point of difference between Greece and Anatolia (compare figs. 4 and 7). Greeks then as now, are familiar with the sea,[44] while the Hittites had little direct interaction with the sea. Their heartland was on the sweeping Anatolian plateau. In the Aegean world, the sea was rarely far away. Even the most distant place on the mainland was no more than 115 kms from the sea (Hughes 2006:227).

Although both the Greek world and Anatolia are underpinned by karst geology, the landscape of the Greek world differs substantially. There is no large central plateau and, as less than 18% of the mainland was farmed (Hammond 2003:4), most of the population occupied the arable but thin-soiled lowlands. As with Anatolia, geology makes the region susceptible to landslides, earthquakes and volcanic eruptions, all of which may be associated with the catastrophe that overcame Thera c.1650–1500 BC (Higgins & Higgins 1996:189). Earthquakes occur more frequently in the Aegean area than anywhere else in Europe (Higgins & Higgins 1996:211).

At the southern end of the Balkan Peninsula, the Dinaric Alps become the Pindus mountain range and form a steep spine running the length of Greek mainland. Mountainous regions make up some 80% of the landscape (Grant 1988:97) and the lack of valley corridors made travel and interaction between ancient settlements arduous (Grant 1988:98). Stony mountain peaks enclose many highland plains, adding to the isolation and independent nature of ancient settlements (Grant 1988:97). Timber-rich mountainous regions, particularly in the north, lacked the mild Mediterranean climate of the lowlands and, while high pastures provided good forage for livestock, life was harder (Hammond 2003:22). Expanding populations could not be sustained; thus the traditional pattern of movement was from highland to lowland (Hammond 2003:4).

Similarly, the islands that flecked the surrounding seas lacked easily cultivated land. Homer's Odysseus describes the situation in Ithaca: 'For not one of the islands that lean upon the sea is fit for driving horses, or rich in meadows, and Ithaca least of all' (Hom. *Od*. 4.608–9). No doubt the harsh beauty of the terrain, sculpted by water and soluble limestone, made the rivers and springs flowing through these landscapes all the more beguiling.

[44] There was interaction between the Greek world and Western Anatolia, occurring as early as 6000 BC (Grant 1988:26). Early settlers from the northwestern coastal plains of Anatolia formed the hamlet of Argissa in Thessaly, possibly bringing domesticated dogs (Grant 1988:28).

Fig. 8. Physical features of the Greek world.

The terrain of the Greek world played a part in the strong regional development of distinctive cultures (Hammond 2003:20). For example, the Minoan civilisation emerged on Crete c.3000 BC, the Cycladic civilisation in the islands of the Cyclades c.3000 BC and the Helladic on the mainland c.2800 BC (Hammond 2003:21). Archaeological excavations reveal that the use of bronze weaponry 'was adopted at different times in different regions' (Hammond 2003:20), which highlights that these regional cultures advanced independently.

Population diversity in the ancient Greek world is no less complex than that of Anatolia. Philologists and archaeologists surmise that early populations were non-Indo-Europeans. On the mainland, particularly in Thessaly, the Early Neolithic period was heavily influenced by the east, while the later Neolithic period shows evidence of 'barbotine' pottery from the central Balkans (Hammond 2003:36). Given the evidence of female statuettes, Neolithic cultures may have focused on a mother goddess and been matriarchal (Hammond 2003:37).

Like Anatolia, the Greek world would receive Bronze Age migrations of Indo-European tribes over several centuries (Hammond 2003:22) that would influence the cultural development of the region. In the Aegean, people appear to have originated in two streams: one from northern Armenia and the other from southern Russia (Hammond 2003:21), although artefacts of a similar type may have moved via trade and not necessarily through migration (Hammond 2003:22). DNA research supports an eastern connection. Lazaridis et al (2017:214) tested a small sample of 19 individuals from Minoan Crete, mainland Mycenaeans and south-eastern Anatolia, and found significant

similarities: Minoans and Mycenaeans gain the bulk of their genetic markers from Western Anatolian Neolithic farmers, with the balance coming from Iran and the Caucasus. In addition, Mycenaeans show a connection to Siberia and Eastern Europe via Armenia or possibly the Eurasian steppe.

People were on the move in the Early Bronze Age (3000–2000) and groups from Anatolia arrived in the Aegean to make homes along the coasts of the Cyclades and Crete (Hammond 2003:24). The culture of the seafaring people of the Cyclades lagged behind Crete and developed its own form (Hammond 2003:25), based on trade in obsidian. In Crete, immigrants initially favoured the warmer east before moving to the central region (c.2000–1750) and would develop the stable long-standing civilisation, c.3000–1400 BC, termed 'Minoan'[45] by scholars (Hammond 2003:24). Based on evidence supplied by artefacts, Hammond (2003:22) notes that no large foreign groups entered Crete during 2700–1330 and eastern Crete until 1150 BC. Archaeology is bearing out certain information contained in Hesiod, Herodotus, Homer and Thucydides; thus, the oral tradition of Greek origins is proving to have a factual basis (Hammond 2003:22).

Knossos and Phaistos reached their cultural height c.1900–1700 and exerted a strong influence across Crete. The Minoans smelted bronze, created a road network, developed a writing system using pictograms and worshipped primarily a female divinity within houses and at peak and cave sanctuaries. Two earthquakes, one c.1700 and another c.1600, resulted in the expansion of Knossos and Phaestus, with new hamlets opening further north. A linear non-Greek script replaced the pictographic style (Hammond 2003:26). On the Greek mainland, a written tradition of mythology emerged after c.1450 BC (Hammond 2003:45) while Linear B texts deal with commerce, not mythology.

The arrival of fierce Indo-Europeans into Greece is evident c.2100 BC, with the torching of ancient Lerna[46] (fig. 8) in the Argolid (Grant 1988:100). Although their origins remain unclear, waves of pastoral Indo-Europeans emerged from the Black Sea region c.2500–2000 and settled in northern Macedonia, western Albania and Leucas (Hammond 2003:39). These distant predecessors of the Greeks would take some two centuries to move out of Epirus and southern Macedonia (Hammond 2003:40), to settle and integrate with the existing population further south (fig. 8). One of these places was Mycenae, near Lerna (Grant 1988:101).

[45] On the meadowland of Phaestus, large, round funerary buildings appeared and point to North African connections, while the last phase of the Early Bronze Age saw Egyptian influence on Cretan artistic styles (Hammond 2003:25). House styles, burial methods, the presence of new weapons above a burnt layer and different genetic types are helpful in building information (Hammond 2003:22).
[46] Near modern Napflio.

Fig. 9. Regions of the ancient Greek world.

The immigrants spoke a form of early Greek, as evidenced in the prevalence of Indo-European place names in northern Greece such as the rivers Aoös, Acheloös, Acheron and Apsos, among others (Hammond 2003:39). In the 2nd millennium three dialects, probably formed at the close of the Early Bronze Age, would define three types of Greek people: Ionic, Aeolic and Doric (Hammond 2003:40). Non-Indo-European place names persist in the eastern mainland area, the Aegean, and west and southern Anatolia, with words that end in *-ssos*, *-ttos, -inthos* or *–indos*. Similarly, some names of Mediterranean plants and animals remain pre-Greek, as in *melissa* (bee), *terebinthos* (terebinth) and *kissos* (ivy) (Hammond 2003:39).

Patriarchal Indo-Europeans brought their masculine sky gods to mainland Greece, particularly in the north, where Zeus became allied to Mount Olympus and Dodona (Grant 1988:100). Here the sky god spoke through a revered oak or the crashing thunder typical of the region (Grant 1988:100). With the Mother Goddess and Mistress of the Animals goddesses overshadowed by sky gods (Hammond 2003:39), Zeus would become the head of the Greek divine pantheon (Grant 1988:100).

The cultural combination of the higher-level existing populace and less numerous, less civilised but more dominant immigrants created an innovative Middle Helladic culture with trade links to the Cyclades, Crete and Troy (Hammond 2003:41). Cultural advancement flourished in south and central Greece while Thessaly and Macedonia stagnated (Hammond 2003:41). The regions of Epirus, Arcania, Aetolia and possibly Corcyra (fig. 8) retained the most primitive type of Macedonian pastoral culture (Hammond 2003:41).

Tumuli burials defined these early nomadic warriors and, during the Middle Helladic period, are evident in western Serbia and Albania and on mainland Greece in Elis, Messenia, Attica and the Argolid, among others (Hammond 2003:42). These ancestors of the Mycenaean elite showed a great talent for organisation and warfare (Hammond 2003:42). Golden masks recovered from opulent Mycenaean tumuli burials (Hammond 2003:42) suggest a different physical type to the willowy, clean-shaven Cretans (figs. 9 and 10). These were broad-faced men sporting beards and moustaches, similar in type to those of the Caucasus and Iran (Grant 1988: 102).

Fig. 10. Hammered gold death mask from a shaft grave at Mycenae c.1700 BC.

Fig. 11. Minoan 'Prince of the Lilies' mural in relief c.1600–1450 BC. Knossos palace.

After 1500, Mycenaeans built corbelled tholos tombs, the so-called beehive tombs, which showed similarities to a simpler stone dome found in Epirus at Vodhinë (Hammond 2003:43), and possibly used the corbelling technique evident c.1600 in the southern Peloponnese and Crete (Grant 1988:102). Based on parallels in tomb-building and weapons, current thinking posits that the origins of the Mycenaean elite harked back to tribes of Greek-speaking Indo-Europeans based in the highlands of Illyria (central Albania) during the Early and Middle Helladic eras (Hammond 2003:43).

The term 'Mycenaean civilisation', which implies being centred at Mycenae, is somewhat misleading. Evidence of the Mycenaeans' presence is broad-ranging and includes Pylos, fortified Tiryns, Corinth, Athens, Thebes and wealthy Orchomenos in Boeotia (Grant 1988:104). Culturally, they drew on a variety of influences from Crete, Cyprus, the Levant, Anatolia and Syria and, in turn, they would exert a lasting influence on Greek belief systems (Grant 1988:106).

The Mycenaean writing system emerged on Crete, where it was used for the Mycenaean ruling elite. This system entered the mainland c.1300 and excavations at Pylos and Thebes have revealed baked tablets bearing this early form of Greek language. There is little information on religious matters in these texts. The focus is on administration (Grant 1988:107). In the main, scholars agree that this language form grew out of the centuries-old interaction between Indo-Europeans and locals. Non-Greek-speaking, pre-Indo-European people[47] lingered in remote, often backward northern regions (such as Boeotia and Arcadia) into the Classical period, and their connections to karst hydrology seem more evident.

The current archaeological record tracks the movement of people into and across the mainland (Hammond 2003:56) with some success. In summary, post-c.2500, Indo-European tribes speaking a very early form of Greek occupied Macedonia, Thessaly and Epirus, where they evolved various dialects, of which Ionic was the earliest. The largest group spoke dialects belonging to the Achaean family. A tribal group moved into Boeotia and the Argolid and, post-1900, probably spoke Ionic. Sometime after 1400, Achaean-speaking groups were on the move. Aeolic speakers settled in eastern Greece, pushing the original Ionian speakers into Attica. Arcadian speakers dominated the greater proportion of the Peloponnese, forcing earlier Ionic speakers to relocate to Achaea and Cynuria (Hammond 2003:56).

Towards the close of the 2nd millennium, fresh waves of migration across Greece, the Aegean and the Near East become evident. General consensus supports the theory that these were groups of so-called Sea Peoples.[48] Egypt and Ugarit are the two regions that specifically reference an invading seafaring people (Cline 2014:155). While their origins remain difficult to track, Sardinia and Sicily seem to be likely locations for two immigrant groups: the Shardana and the Shekelesh (Cline 2014:8).

Mycenaean cities show increased fortifications (Grant 1988:110). Pylos, Mycenae, Tiryns, Thebes and Knossos, among others, were destroyed c.1200 (Cline 2014: 110). The theory that invading Dorians from the north were the instigators has lost favour, as their arrival did not coincide with these events (Cline 2014:149). Athens survived, albeit in a reduced form (Grant 1988:110). In Anatolia, Thracian Phrygians probably torched the Hittite capital of Hattusa (Hammond 2003:72). The familiar lifestyle, the broad-

[47] These include the Pelasgians and Tyrseni, early settlers who had occupied the mainland and islands by the Early Bronze Age or earlier, possibly in the Neolithic period. As Thucydides (1.3.2) noted, '…the country went by the names of the different tribes, in particular of the Pelasgian'. The ancient language of Pelasgian survived near Mt Athos in the Chalkidike, on the islands of Lesbos, Imbros and Samothrace and in Anatolia around Cyzicus and Troy. Pelasgian speakers are also associated with Thessaly and Dodona in Epirus (Hammond 2003:57).

[48] Zangger (2016:152) makes a compelling case for the Luwian petty states of western Anatolia being a key part of the so-called Sea People.

ranging diplomatic connections and established trade routes of the Late Bronze Age came to an end (Cline 2014:164).

Reasons for the collapse of the established Late Bronze Age civilisations are not clear. A variety of factors – famine, plague, earthquake, climate change and internal conflict – may have contributed. Marauding immigrants may have tipped the balance and provoked a 'systems collapse' (Cline 2014:165). Alternatively, being under pressure themselves, the immigrants may have taken advantage of cities that were already in crisis or abandoned (Cline 2014:156).

By c.1225–1130 BC (Cline 2014:172), Late Bronze Age civilisations had disintegrated. The transition to the smaller city-states of the Early Iron Age (Cline 2014:173) would commence. In chapter 3, Hammond (2003) discusses the details of complex ongoing invasions or dispersals across the Greek world and into the western coastal lands of Anatolia well into the 10th century. The ancient world was facing a typical phase of liminality as a median place 'betwixt and between', where an accepted structure has disappeared and a new form has yet to solidify.

For Greece, like Ugarit, the 12th century heralded the end of gracious palaces, writing and literacy, effective administration (Cline 2014:173) and international networks (Cline 2014:174). Current thinking prefers the notion of a period of Greek transformation rather than a sterile Dark Age (Cline 2014:175). The style of Proto-Geometric pottery, initiated in Athens, is found in the wider Aegean world and points to the resumption of networks (Hammond 2003:85). Ionians migrating to western Anatolia took their familiar cults with them, as is evident at Ephesus (Hammond 2003:86) and Miletus (Hammond 2003:87). For the Hittites, the strategic role of their heartland faded with the abandonment of their capital Hattusa. Hittite culture continued in a modified form under the Neo-Hittites based in Hittite outposts in south-eastern Anatolia and northern Syria (Cline 2014:175).

By the time the ancient world had entered Van Gennep's third stage of incorporation (1960:11), where a different state or structure is accepted, the picture had changed. In Greece the Athenians and Spartans would gain ground, bringing new thinking and systems to the Greek world (Cline 2014:176).

Conclusion

Both regions experienced continual movements of immigrants who might retain or adopt ancient cultural peculiarities, as is evident in the continuation of pre-literate Hattian cultic practice under the Hittites. The term 'Hittite' assumes a homogenous group when, in fact, this was not the case. Similarly, the pre-Greek and Greek world

comprises a large number of different people and, due in part to the patchwork nature of the terrain, certain isolated areas retained ancient practices. Thus, the Greek world emerged as a similarly rich tapestry of diverse cultures and influences that continued to evolve over millennia. This cultural diversity lays a shifting foundation for the complexity of deities and cults associated with water that present in Late Bronze Age Anatolia and Greece.

RELIGION

The Late Bronze Age world of Anatolia and Greece lived in the close company of elemental gods and goddesses, divine springs, rivers and mountains, daemons and the dead (Bryce 2002:135), in conjunction with the land, flora and fauna (Beckman 1989:100). The air, the earth and the underground pulsed with a divine presence in one form or another, requiring attentive worship from mortals trying to exert some control over the natural elements. Certain watery karst landscapes, mountains and gorges were imagined as points where the membrane separating the real world from the imagined world became as porous as the landscape.

These borderline landscapes were to be found beyond the city, in the *eschatia* (Cole 2004:233 sv *eschatia*) for the Greeks and in the *gimra* (Beckman 1999:163) for the Hittites. Such places can create microenvironments supporting specific flora and fauna, and ancient people populated these liminal areas with particular deities or daemons. For Hittites, wild watery landscapes presented tempting places for vexed deities, a concept evident in pre-Hittite Old Anatolian myths and possibly related to their notion of a binary cosmos. Deities could enter and exit the realm of the dead at will and risk-free (Tatišvili 2007:8) and, as evidenced at Ivriz (Chapter 6), the reason for deities to disappear was related to karst phenomena. In the Greek world there are a variety of deities associated with remote landscapes and transitions – Artemis, Hermes, Poseidon and Pan, among many others. Unlike the Hittites, who considered natural phenomena as divine and sentient, the ancient Greek world developed nature spirits attached to natural phenomena, particularly nymphs embodied in sweet and salt water (Kopestonsky 2016:715). Nymphs can be associated with bees, another liminal chthonic creature linked to caves and water, in both Greece and Anatolia. Like Hittite bees, Greek bees were messengers between the mortal and immortal realms and are linked to goddesses (Elderkin 1939:204), while Hermes has intriguing similarities to the functions of the Hittite bee.

While Greeks were alert to the unexpected when entering a numinous place, Old Anatolian myths seem to hint that Hittites did not consider porous zones of transitions out of the ordinary. They seem to be a familiar part of the Hittite world and simply existed alongside stable, predictable areas. Ancient Greeks experienced porous liminal

zones as unusual places where contradictions might manifest and normal rules of the universe did not apply. The underworld was a forbidden zone and regarded with dread. Heroes and deities entered this realm only with good reason, possibly under duress or as a last resort. Mortals and deities tended to pay a price for entering this zone. On the other hand, heroes returning from the underworld usually acquired higher wisdom, as did acolytes making symbolic journeys to the land of the dead, evident in the cult at Eleusis (Endsjø 2000:356).

In the Greek material, liminal themes are not limited to any particular period. Deities, myths, hymns and sites with older roots are more pertinent, although the early identity of deities remains elusive. Lopez-Ruiz (2015:376) notes that close inspection shows relatively few Greek deities have clear Indo-European roots. Mycenaean texts reveal Dionysus as an entrenched Mycenaean god and not a fresh oriental import (López-Ruiz 2015:374), and Demeter was an ancient 'Mother Goddess' connected to the earth with Poseidon as her original spouse (López-Ruiz 2015:375). Artemis and Hermes, as liminal deities associated with watery landscapes, are therefore of particular interest.

Certain areas in Greece, for example, Arcadia, retained elements of ancient cults (Baleriaux 2015:38; Dietrich 1962:13). [49] As societies evolved and technical understanding of karst characteristics increased, ancient beliefs appeared to be subsumed and spring deities lost prominence. Earlier folk deities of liminal zones acquired additional divine duties, as seen with Hermes (Larson 2007:148), Pan (Larson 2007:151) and Hecate (Larson 2001:166). By the 5th and 4th centuries, water had an increasingly popular medical aspect, dominated by Poseidon's son, the healing physician Asclepius (Larson 2007:194).

ANATOLIAN RELIGION

Early Hittite religion was heavily populated with localised Hattian deities from the region. As the empire expanded the Hittites added the deities of the conquered, transporting local cult images to their temples, thereby making their victories both visible and respectful. Deities with similar characteristics were not subsumed into one divine individual and, by the New Kingdom, this practice manifested in a plethora of gods and goddesses. For example, every local storm god was identified by place of origin and added to the growing collection of storm gods (Bryce 2002:135).

Hattian emphasis on water and water deities retained a key role in Hittite belief systems (Macqueen 1959:175). Arguably, the Hattian era favoured a dominant mother goddess

[49]Ancient cults might be dominated by later cults, as seen with a double fire and thermal spring cult at Mt Oeta in central Greece. The earlier chthonic fertility spirit was subsumed by the thermal springs cult of Hercules, protector against chthonic threats, at the foot of the mountain (Croon 1956:215). Often, the cult of Asklepios replaced earlier guardians of thermal springs, as happened with the cults of Herakles and Artemis at Antandrus and Pionia (Croon 1967:245).

surrounded by a variety of water gods who were rendered with the sign for Weather God in texts from the Hittite period (Macqueen 1959:178). When upset or angry, the so-called vegetation god Telepinu retreated to underworld portals in the form of a spring, river or wetland (typical Hittite zones of transition) and Macqueen (1980:186) makes the case for this god having originated as a water deity. Anatolian deities are unusual in that they combine combine opposing characteristics and this seems to foster their ability to roam freely across cosmic zones, another indicator of transition. For example, the Sun Goddess of Arinna[50] (and the Earth) was a solar deity with chthonic links to earth,[51] water and the realm of the dead (Macqueen 1959:178; Haas 2006:2022). As explained by Haas (2006), the characteristics of the Anatolian underworld reflect porous cosmic zones.

Excavations have revealed cultic figurines and cultic images on seals and rock reliefs. However, none of the opulent state cult statues that resided in the *šiunaš per,* the 'house of god(s)' (Beckman 2013:85), have survived. The description below gives an idea of a rural cult statue in a temple at the border village of Lapana and reflects the emphasis on country life evident in Hittite religion (Beckman 1989:99). The goddess Iyaya's divine image was recorded in an inventory (Beckman 2013:88) and reveals the use of valuable metals:

> … a female statuette of wood, seated and veiled, one cubit (in height). Her head is plated with gold, but the body and throne are plated with tin. Two wooden mountain sheep, plated with tin, sit beneath the deity to the left and the right. One eagle plated with tin, two copper staves and two bronze goblets are on hand as the deity's cultic implements. She has a new temple. Her priest, a male, is a holdover (KUB 38.1.iv 1–7).

Inevitably, foreign imports overwhelmed local Hattian gods and goddesses as territorial acquisition expanded to southern and eastern Anatolia and certain cities in Syria and Mesopotamia. The pantheon embraced Hurrian deities from Samuha, Karkamis and Aleppo and Luwian deities from Huspena, Istanuwa and Lallupiya. By the 13th century BC, the Hittite state, under Queen Puduhepa (wife of Hattusili III c.1267–1237), restructured the 'thousand gods of Hatti' into *kaluti* or groupings of gods and goddesses. As depicted on a relief at Yazılıkaya, a considerable number of traditional deities remain familiar, yet the hieroglyphic inscriptions mark their titles in Hurrian. Puduhepa's prayer clarifies this change to Hurrian names (Beckman 1989:99):

> Sun-Goddess of Arinna, my lady, you are queen of all lands! In the land of Hatti you have assumed the name Sun Goddess of Arinna, but in respect to the land which you have made (the land) of cedars[52], you have assumed the name of Hebat (KUB 21.27 I 3–6).

Powerful female deities are a feature of this region. The all-dominant mother goddess

[50] Arinna was probably the Hittite sacred city sited at Alaca Höyük, northeast of Hattusa (Bryce 2005:10).
[51] Hecate displays similar characteristics, as discussed in Part One page 111.
[52] Syria (Beckman 1989:99).

type is endemic to Anatolia, the eastern Mediterranean and western Asia, and gods never seem to quite out-rank her (Macqueen 1959:177). In Hattian myth, several goddesses appear to be the power behind the throne. Goddesses such as Hannahanna or Inara, not the Sun God or Weather God, are the guiding force behind the return of a missing deity (Macqueen 1959:177). As mother goddesses, they have control over zones of transition and succeed where the nominal male head of the pantheon fails. Arguably, as the primary mother goddess, the Sun Goddess of Arinna was head of the Hittite pantheon, with a higher status than any god, including the highest-ranking Weather-god of Heaven (Macqueen 1959:177).

Fig. 12. Seated Hittite goddess and child, possibly the Sun Goddess of Arinna, due to her circular headdress. [53] **Gold pendant c.14th-13thcentury BC.**

Over a third of Hittites deities can be confirmed as female and, in Laroche's *Catalogue des textes hittites*, over 50% of the names associated with ritual practice are female (Beckman 2000:20). The Hattian Sun Goddess of Arinna (fig. 11) continued to reign supreme over this plethora of divinities (Archi 2013:16; Beckman 2000:21).[54] Her nature was both solar and chthonic and her responsibilities included guiding the mortal king and queen in their duties (Beckman 2000:21). According to Beckman (2000:21), the Sun Goddess of Arinna, originally Hattian Wuru(n)semu, held the highest rank of all, although Bryce considers that she is the highest ranking female deity, with the Storm God heading the gods (Bryce 2002:143). Collins (2007:174) agrees that the Storm God of Hatti led the male Hittite pantheon in his role as consort to the Sun Goddess of Arinna (and the Earth). She was named 'Queen of the Earth' due to her chthonic aspect and linked to Lelwani, Queen of the Gods of the Infernal Regions

[53] Although the gold figure of a seated woman and child in fig. 11 is not firmly attested as the Sun Goddess of Arinna, it has all her familiar attributes. Her circular headdress is reminiscent of the sun, feline paws define her chair and the child would represent the chthonic aspect of fertility and earth.

[54] The location of the sacred city of Arinna has not been confirmed. Based on Hittite texts, the current theory favours Alaca Höyük, a day's walk from Hattuša (Alparslan & Doğan-Alparslan 2015:103).

(Bryce 2002:142).[55] Between sunset and dawn the sun disappears; thus a sun goddess who could move between the opposing zones of Heaven and Earth provided a plausible explanation for ancient people (Bryce 2002:142). Collins (2007:177) postulates that she may have merged with Hurrian Allani, gatekeeper at the transitional point between the earth above and the earth below. Bryce speculates that an indigenous earth-mother cult may have been amalgamated with a foreign Indo-European sky-god cult (Bryce 2002:142), a theory proposed for Greek religion in the 2nd millennium. Her role regarding transitions between cosmic zones is discussed in more detail in Chapter 10.

Her consort and son were sky gods, respectively the Storm God of Hatti (or of the heavens), derived from the typical Indo-European sky god (Beckman 2000:21) and the Storm God of Nerik. During the Old Kingdom, the divine couple's core family included their sons, the storm gods of Nerik and Zippalanda, and two granddaughters, Mezzulla (Hattian) and Zintuhi (Beckman 2013:89).[56] Telepinu was another son and, although a minor god during the Empire period, he played a key role in the vanishing god myths. Originally a Hattian god with a strong presence during the Old Kingdom (Collins 2007:175), by the 14th century his cult had expanded to include southern Anatolia (Bryce 2002:145). Scholars are not in agreement regarding the characteristics and functions of this intriguing minor deity. Bryce (2002:145) considers him a 'vegetation and grain god'. Collins (2007:175) defines him as a 'lesser storm god' while Schwemer (2008:31) notes that Telepinu is a vegetation god with storm god attributes. Most persuasive is Macqueen (1980:173), who unpicks his origins linguistically in some detail and concludes that he is a Hattian water god who evolved into a Hittite storm god.

Fig. 13. Rock relief at Yazılıkaya: the Storm God of Hatti (left) stands on mountain gods with the Sun Goddess of Arinna or Hebat (Hurrian) on her lioness (right).

[55] This goddess was favoured for her healing ability by Queen Puduhepa in the late Empire, who invested considerable effort in ensuring the health of her sickly husband Hattusili III (Bryce 2002:142).
[56] The familial relationship is unclear; possibly a daughter and granddaughter or niece (Bryce 2002:156; Collins 2007:175).

The divine family triad ruled the immortal world; the mortal king, queen and family were their representatives on earth (Beckman 2000:21). Besides the key role of the Tawannana, women fulfilled a variety of roles in the state cult, from musicians to priestesses. Beckman (2000:19) notes that priestesses may have been in charge of certain rites, as reflected in the titles AMA.DINGIR.LIM (Mother of God) and NIN.DINGIR (Lady or Goddess). Experienced wise women, termed 'old women', were affiliated to magic and women's health, particularly pregnancy and birth (Beckman 2000:20).

Both Greeks and Hittites strove for cosmic harmony and balance. A harmonious Hittite universe required both male and female elements. In Anatolian myth, it is the divine grandmother Hannahanna who reinstalls correct functioning of the cosmos when it is disturbed (Beckman 2000:21), assisted by her familiar creature, the bee (Collins 2007:175).[57] Gender equality is shown in the rock relief (fig. 12) at the sanctuary of Yazılıkaya, a short walk from Hattusa, where the Storm God of Hatti and his cortège of some 30 gods join the Sun Goddess with her retinue of about 20 goddesses (Beckman 2000:21). He wears the horned cap of divinity; she wears the tall *polos* headdress (Beckman 1989:98). Behind her is their son, the Storm God of Zippalanda, also on a feline. The Hurrian names denote restructuring during the Empire period: the Storm of God of Hatti (and the heavens) acquires the name Teshub, the Sun Goddess of Arinna becomes Hebat and their son is titled Sharruma (Beckman 2013:89).

The weight of the functioning cosmos rested on the shoulders of the king (Beckman 1989:101). As viceroy of the deities and key priest of the Sun Goddess of Arinna, he represented the intersection of mortal and immortal worlds and carried weighty obligations to both sides (Beckman 1989:101). He mediated divine grace towards humanity and proper piety towards the deities (Beckman 1989:101) who controlled the forces of nature (Beckman 1989:100) as elemental forces themselves. The Sun God and Storm God tasked him with caring for the land (KUB 29.1 i 17–19). The king was closely associated with the Sun God, while the queen had a personal link to the Sun Goddess of Arinna (and the Earth). The king ruled as a mortal on earth, becoming divine only on death (Beckman 1989:101), as did the queen (Collins 2007:99). The pantheon participated in legal duties with the king and his officials. All 'thousand gods of Hatti' witnessed treaties with vassal states; thus, any breach of contract was judged by the highest powers and could bring a verdict of death (Beckman 2013:90).

Divinities were associated with certain animals familiar to people in an agricultural society (Beckman 1989:99). Thus, the chief Storm God was affiliated to bulls and the

[57] According to Collins (2007:175), the bee was 'a symbol of hearth and home'. I suggest that the bee was more than that. She was a creature able to access all cosmic zones – sky, earth and thresholds to the underworld.

Sun Goddess of Arinna to a lioness (figs. 11 and 12). In some instances, deities might be represented by a symbol, as seen with the gold disk for sun deities, or an object, for example a standing stone or stela (*huwasi*) (Collins 2007:174). These standing stones are also found on mountains, in meadows and in groves near flowing water (Bryce 2002:157).

Mountains (male), rivers (female) and springs (female) were divinities and addressed as cognitive beings.[58] They could be depicted in composite form and Eflatun Pınar (fig. 13) has particularly good examples of divine mountains (Bachmann 2006:251) as half-human, half-mountain peaks. Transforming a mountain into a scalloped 'skirt' from which the human torso emerges presents a remarkably successful design solution.

Fig. 14. Mountain gods at Eflatun Pinar. Detail from larger image.

Hittites had a wealth of sun gods and sun goddesses and more than 50% of royal prayers were directed to solar deities (Bryce 2002:141). The Mesopotamian notion of one all-seeing Sun God as head of the pantheon and dispenser of cosmic justice is absent in Anatolia, as is the idea of the primary solar deity being masculine (Bryce 2002:141). The Sun God of Heaven held a key judicial function but was not the head of the pantheon (Collins 2007:175). As with many Anatolian deities, different people knew him by different names. He was Eshtan (Hattian), Istanu (Hittite), Shimegi (Hurrian), Tiwat (Luwian), Tiwaz (Palaic) and Shamash (Akkadian) (Collins 2007:173).

Storm gods were held in high esteem across the Ancient Near East and Greece due to their elemental power to enhance or destroy crops (Bryce 2002:143). Anatolia had a huge multitude of storm gods who were recognised for their control over rainfall and the flow of rivers and springs (Beckman 2013:88). While some were linked to particular

[58] Hawkins (2015:1) notes that, as with the ancient Greeks, Hittites divinised mountains, rivers and springs and regarded their landscape as hallowed. Hittite springs, rivers and mountains appear in anthropomorphic form and mortals addressed them as though they were human.

locations, for example, Nerik, Samuha, Zippalanda and Manuzziya (Bryce 2002:144), other storm gods might protect the army, the barracks, the latch on the palace door or pastures and meadows, to mention a few (Bryce 2002:144). Storm gods inhabited mountain peaks close to their primary zone of the heavens, as depicted on the relief at Yazılıkaya. Teshub stands on Hazzi and Namni (Akurgal 2001:124), two sacred cloud-gathering mountains located in Syria. Mount Hazzi (Greek Mt Kasios) is one of modern Jebel Aqra's two limestone peaks; the lower peak is equated to Hittite Nanou (Lane Fox 2008:259) or Namni. The Storm God was Hattian Taru and Luwian Tarhunt- (Bryce 2002:144); in Hurrian territory he was Teshub, with two immortal bulls, Sherri and Hurri, to pull his chariot (Collins 2007:174).[59] He was Akkadian Adad, west Semitic Hadad, Ugaritic Ba'lu (Lord) and shared similarities with the biblical Yahweh, Greek Zeus and Roman Jupiter (Bryce 2002:144).

Inara, another Old Kingdom deity and daughter of the Storm God, is goddess of the hunt, the wilderness and wild creatures, and thus shares certain attributes with Artemis. One theory favoured by some scholars is that Inara may have originated as Hattian Teteshapi (Great Goddess), thereby following the ancient Anatolian preference for powerful goddesses (Collins 2007:175).

Minor deities resided at their regional locations while temple priests cared for individual deities incorporated into cult statues in the *šiunaš per* (Bryce 2002:154). Cult statues were living divinities, so they were fed, clothed and housed (Beckman 1989:102) either in their urban house or their rural estate (Bryce 2002:154). However, deities could exit their cult statues at will to travel through the cosmos (Bryce 2002:154). When their presence was required at a ceremony, deities were ritually summoned and the pathway to the temple was decked with bright fabric and sprinkled with high-quality flour and oil (Bryce 2002:154).[60] These inducements ensured that the deity did not falter on a stony path or linger too long on a mountain near the temple (Bryce 2002:154), emphasising the connection to topography.

Deities made contact with mortals via dreams while mortals communicated with deities through oracles (Beckman 2013:92). Divine intervention might encourage a mortal to prophesy, or result in unusual natural phenomena (Beckman 2013: 93) and even strange human or animal conduct (Beckman 2013:92). Hittites laid great store by divination, extispicy and augury (Beckman 2013:93). Magic played a key role in ensuring a healthy life in mind and body. The magic texts at Hattusa were collated from urban folk remedies gathered across Hittite territory and provide a glimpse into the habits and beliefs of rural folk (Beckman 2013:95). Sickness, misfortune and infertility could be

[59] Hurri (Night) and Seri (Day), according to Akurgal (2001:125).
[60] Cedar gods seemed particularly susceptible to fashion, as they were tempted with a scarf that matched one of their full-length gowns (KUB xv 34. CTH 483. Transl. Goetze, in Pritchard 1969:352).

the result of sorcery (*alwanzatar*) or contamination (*papratar*) (Beckman 2013:94). These were treated with sympathetic magic, coupled with an incantation and a ritual, usually directed at the chthonic deities (Beckman 2013:95).

The Dark Earth was regarded as a secure place to imprison negativity (Beckman 2013:95). The term 'Dark Earth' has several meanings, including the underworld and is discussed in more detail in Part Two. Water was the liquid pathway to the subterranean world and Hittite sanctuaries and rock reliefs were usually sited at springs and rivers and, where necessary, enhanced by innovative water systems (Collins 2007:157).

The divine pantheon reflected the hierarchy evident in Hittite society. Hittite beliefs supported the desire for order (Beckman 2013:96) over the ever-present threat of chaos. Deities exercised total control over the cosmos and were responsible for unleashing misfortune and natural disasters on worshippers who transgressed wittingly or unwittingly (Beckman 2013:96). Thus mortals, led by the king, needed to keep chaos at bay by maintaining high levels of piety via the correct rituals and prayers (Beckman 2013:96).

RELIGION OF THE GREEK WORLD

Between approximately 2000–1000 BC various migrating Indo-European tribes brought different belief systems into the Aegean world and, over time, these were amalgamated with the existing indigenous forms (Guthrie 2006:852). As with the Near East, the deities of the Aegean world were closely linked to elemental nature in one form or another (Larson 2007a:56). While it is impossible to separate these various cults and deities, there are noticeable differences between sky and earth cults. At the risk of simplifying a highly complex subject with many different influences, certain broad characteristics define the two forms. Guthrie (2006:852) notes that Olympian or Uranian cults in Homeric epic appear 'suited to a race of roving warriors'. In contrast, chthonic cults were rooted in nature and the earth, reflecting the activities of farmers, shepherds and hunters living from the land (Guthrie 2006:853).

Homeric epic reveals a hierarchy of forceful immortals imbued with mortal characteristics, each with their own personalities, strengths and weaknesses (Guthrie 2006:853). Mortals offered pious acts of prayer and sacrifice to gain divine favour (Guthrie 2006:853) and to propitiate against divine anger or mischief-making. In contrast, chthonic cults tended towards mind-altering ecstatic worship and a striving for unity with the divine (Guthrie 2006:853), and probably had ancient origins – for example, the notion of Elysium and the cult of Eleusinian mysteries originated in a pre-Greek context (Guthrie 2006:854). Thus, as is evident with the Hittites, the basis of Greek religion was a fusion of beliefs between Indo-European migrants and local

inhabitants of the Aegean world, including the culture of Minoan Crete in the early 2nd millennium (Guthrie 2006:854). [61]

> Indeed, the majority of the gods, the Cretans say, had their beginning in Crete and set out from there to visit many regions of the inhabited world, conferring benefactions upon the races of men and distributing among each of them the advantage which resulted from the discoveries they had made. Demeter, for example, crossed over into Attica and then removed from there to Sicily and afterwards to Egypt… (Diod. Sic. 5.72.4).

Unlike Diodorus Siculus writing in the 1st century BC, modern scholarship requires reasonable evidence and is hampered by the lack of decipherable texts from Crete during the Minoan period (c.1990–1375BC). While Crete interacted with and was influenced by Egypt, Anatolia and the Aegean (Marinatos 2013:239), it remains speculative to use Eastern Mediterranean cults, particularly those of Asia Minor, to extrapolate theories about Minoan belief systems (Hammond 2003:30). Similarly, popular modern perceptions of a peaceful tree-worshipping utopia dominated by an age-old Mother Goddess of nature are difficult to prove. Linear A script awaits decipherment and no 2nd millennium myths are accessible (Marinatos 2013:240). Currently there is no hard evidence in the 2nd millennium BC for such a nature goddess (Marinatos 2013:239).

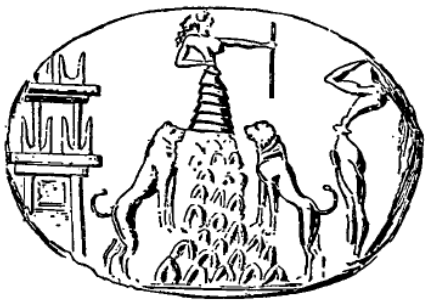

Fig. 15. Drawing of a seal from Knossos showing the Mistress of the Animals. The goddess on a mountain is flanked by two lionesses, with the horns of consecration behind her and, in front, a male worshipper.

Nevertheless, Minoan wall paintings, figurines, seals and jewellery show many images of a goddess (or different goddesses), priestesses and a beardless youth, probably a god or possibly a king. Certainly, this figure's association with composite creatures and lions would point to his status as a god (Guthrie 2006:868) and a Master of the Animals (Guthrie 2006:869). Similarly, like Artemis (Guthrie 2006:869), the goddess is a Mistress of Animals (*potnia theron*), dominating both lions and lionesses in a cordial association, as seen in the seal from Knossos (fig. 14). However, Marinatos (1993:119) warns that without evidence of a cult image showing the attributes of the goddess, the notion of a Minoan *potnia theron* must remain supposition.

[61] As noted previously, recent DNA research (Lazaridis et al 2017) is of great interest in showing connections to western Anatolia, the Caucasus and Iran although, with a total of 19 individuals accessed from Crete, mainland Greece and western Anatolia, the sample is too small to be conclusive.

Perhaps more pertinent to this topic is Marinatos' (1993:164) mention of the link between Minoan goddesses (if indeed they are goddesses) and the sea. Her views are thought-provoking. A seal impression from Knossos (fig. 15) shows a relaxed goddess floating along on the waves, and a ring from Molchos (fig. 16) depicts the goddess in a boat with a tree, arriving on the shore where a treeless shrine is visible. Egyptian and Mesopotamian deities could make use of rivers for their arrivals and, she notes, it is logical that on the island of Crete deities would arrive from the sea. The sea has a dual aspect: it can connect and separate an island from the greater world, while on a metaphysical level the sea was 'a liminal zone through which one reaches the "beyond"' (Marinatos 1993:164). It is possible that, again, water provides the path to interact with the divine.

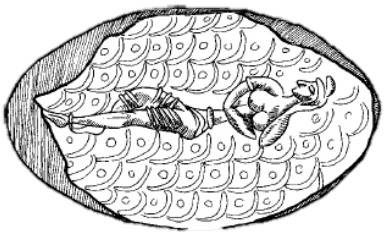

Fig. 16. Goddess floating on waves. Ring from Knossos.

Fig. 17. Goddess arriving with a tree in a boat. The shrine is on the shore (right). Seal impression from Molchos.

The role of other human figures, whether as deities, priests or acolytes, remains unclear (Hammond 2003:30). The belief system appears to be anthropomorphic (Hammond 2003:30) and a Great Goddess, symbolised by the double axe, was the primary deity, with her son being subordinate to her (Marinatos 2013:249). Guthrie (2006:880) proposes that monuments probably depict three different goddesses: a nature/vegetation goddess, a Mistress of the Animals and a domestic goddess, linking these to Demeter, Artemis and Athena (via the Mycenaean shield goddess) respectively.

The goddess is usually depicted in the typical Minoan flounced skirt and is strongly associated with the natural world, in particular snakes, trees, birds, bulls (Hammond 2003:30) and flowers (fig. 17), in both open-air sanctuaries and palaces or houses.[62] Snakes accompany her usually in a domestic context, an obvious chthonic connection (Guthrie 2006:871). While Guthrie (2006:871) proposes that she may have been a 'Mountain Mother type' responsible for flora and fauna, the living and the dead, Marinatos (2013:247) notes that Evans argued for her dominion over sky, earth and

[62] Crocuses and lilies are frequently depicted.

underworld. If so, she would be comparable to the Hittite Sun Goddess of Arinna (and the Earth).

By the early 2nd millennium, Minoans regarded caves as sacred spaces (Guthrie 2006:857) where aniconic worship focused on stalagmites (Marinatos 2013:247), as evidenced in the cave of Eileithyia at Amnisus (Guthrie 2006:863). Sacred caves feature in a variety of Greek myths and as early as the Mycenaean period on Crete, as attested on a tablet from Knossos. It bears the title 'Dictean', honouring Zeus' birth in a cave on Mt Dicte (Guthrie 2006:857). Ritual activity in caves had less emphasis on the mainland during the Mycenaean era (c.1400–1225 BC) and, other than Mt Oros on Aegina and Mt Kynortion close to Epidauros, peak sanctuaries are scarce (Rutherford 2013: 264).

Standing stones, worked pillars and cairns (resembling later Greek *hermaion*) held sacred significance (Guthrie 2006:863). Pillars were associated with the double axe and frequently include foliage; thus a link to a tree cult seems likely (Guthrie 2006:865). A recurrent image on engraved Minoan gems is a pillar between a pair of protective animals such as goats or lions (Guthrie 2006:864). Minoan iconography is reflected in Mycenae's Lion Gate, a fine example showing a pillar flanked by two lionesses (Guthrie 2006:864). [63]

The so-called twin-peaked 'horns of consecration' (fig. 17) associated with sacred spaces were thought to be linked to a bull cult; currently the symbol is considered to represent the great sacred mountain and Marinatos (2013:244) suggests it may symbolise the *axis mundi*.[64] Sanctuaries appear on mountains at the start of the Middle Minoan era (Guthrie 2006:857), as evidenced by votive offerings found in ash layers on Mt Juktas and Petsophas. These may have resulted from recurrent bonfires, and Guthrie (2006:858) recognises some similarities with the yearly fire festivals celebrated on the mainland, noting that these were often in honour of Artemis. Although proof is lacking (Marinatos 1993:119), the mountain sanctuaries of Minoan Crete may have honoured the Mistress of the Animals.

Minoan kings have similarities to Hittite rulers, being divine viceroys on earth and intercessors between humanity and deities (Marinatos 2013:241). Deities were venerated in the ruler's palace, in the houses of the elite and at open-air sanctuaries (Guthrie 2006:858). 'House' of the deity is therefore a more appropriate term than 'temple'. The room in the palace at Knossos assumed to be the throne room is rather small. However, if it also functioned as a sanctuary, the small size might make sense.

[63] In fact, these flanking felines are not lions but lionesses, and there is clear evidence that the Minoans recognised the difference (fig. 17). Mycenae's Lion Gate is actually the Lioness Gate.
[64] This makes sense, given that towering mountains cover 52% of the island, with Mt Psiloritis (Idi) at 2 456 metres, the White Mountains at 2 452 metres and the Dikti Mountains at 2 148 metres (Bowman 2018, web).

The theory proposes that the physical throne formed the seat of authority for both king and deity; thus, the king ruled in union with his goddess (or god), witnessed by his courtiers seated on the benches nearby (Marinatos 2013:242). The lack of temples in Minoan Crete supports this notion (Guthrie 2006:858). A tree often defined an outdoor sanctuary (fig. 18) (Marinatos 2013:244) and was a familiar focal point in nature cults of the Eastern Mediterranean (Parke 1967:21).

Fig. 18. Minoan seal ring. Two female figures bearing lilies. To the left: a set of horns of consecration resting above the portal.

Fig. 19. Drawing of two gold rings from Mycenae depicting tree-cult scenes.

Minoan iconography contains depictions of ecstatic rituals focused on a tree (fig. 18). Worshippers dance before a tree and hold or shake leafy branches. Marinatos (2013:247) references the expression, 'a word of a tree and a whisper of stone' (CAT 1.3.iii 18–32), used in the 13th century Ugaritic Ba'al Cycle, and posits that when the tree is shaken, the rustling leaves become the 'word of the tree' and, one can extrapolate by extension, the word of the deity. Boughs appear on altars and double axes may sprout foliage, as do the columns depicted on the sarcophagus from Hagia Triada, assuming that they are not, in fact, trees (Guthrie 2006:865). Guthrie (2006:866) theorises that this was 'a type of rustic vegetation-worship such as commonly meets us in primitive religion'.

Similarly, the preliterate primitive 2nd millennium people of Dodona revered a storm god embodied in an oak tree (Parke 1967:20). Recognised as oracular, this oak was associated with Zeus by the time of Trojan War (Parke 1967:23). In the *Iliad* Achilles addresses a prayer to the god: 'Zeus, thou king, Dodonaean, Pelasgian, thou that dwellest afar, ruling over wintry Dodona,—and about thee dwell the Selli, thine

interpreters, men with unwashen feet that couch on the ground' (Hom. *Il*. 16.235). However, there is no evidence of Minoan or Mycenaean influence at Dodona (Parke 1967:21). Influence is more likely to be from an Indo-European sky god that manifested as an oak tree.[65]

On Crete, non-Greek Linear A script was replaced by the increasing use of Greek Mycenaean Linear Script or Linear B (Hammond 2003:33), providing evidence that the rulers at Knossos and the mainland were speaking Greek c.1450 to 1400 BC. Thus, Mycenaean culture (c.1400–1225 BC) had risen to a dominant position (Hammond 2003:33), with key centres in the Peloponnese at Mycenae and Pylos, in Boeotia at Thebes and on Crete at Knossos (Rutherford 2013:256). Despite the decipherment of Mycenaean Linear B in 1952, the script is difficult to understand (Rutherford 2013:257), textual material is limited and narrative content is lacking; a clearer grasp of both Minoan and Mycenaean religion therefore remains elusive. Linear B texts reveal that two, possibly three, deities occur in both cultures at Knossos and Pylos: Poseidon (*po-si-da-o*) and Zeus (*di-we*), with Dionysos as the third, as attested at Pylos and Khania (Rutherford 2013:260). Greek names of divinities known from later periods were in use during the Mycenaean period (Guthrie 2006:880); Pylos attests Artemis (*a-ti-mi-ti*), Hermes (*e-ma-a*) and different styles of Potnia (Rutherford 2013:260).

Greek Artemis is considered to be Cretan Britomartis (Elderkin 1939:203; Guthrie 2006:870) and Britomartis, literally 'sweet maiden' (Guthrie 2006:884), is likely to have meant 'bee maiden' originally, according to Elderkin (1939:204), who adds that 'the bee is a Minoan hieroglyph' and offers Evans' notion of 'bee-keeper'. Bees, beehives and honey in Cretan contexts feature in Greek myths and texts in chthonic and rejuvenating contexts; the infant Zeus was fed on honey (Elderkin 1939:204) and Glaukos almost drowned in a jar of honey. His tomb was depicted in the 5th century in the beehive or tholos style (Elderkin 1939:206) of the Mycenaean era, thus hinting at the key role played by bees and honey in the fate of the deceased (Elderkin 1939:207), to mention merely two examples from a wealth of options.

Minoan cultic motifs and techniques are evident in Mycenaean gems, rings, seals and frescoes, although there is no way of knowing whether Minoan religion was localised on the mainland (Rutherford 2013:260). For example, bees and butterflies are familiar motifs in both Minoan and Mycenaean iconography, and occur in funerary contexts (Dietrich 1974:126) and on engraved rings depicting ecstatic rituals, as seen with the ring (fig. 19) from Hagia Triada (Marinatos 2013:249). The image on the ring shows a goddess leaning against a rock and gesturing towards a pair of facing butterflies. The

[65] Italy and northern Europe had local Indo-European tree cults where sky gods were embodied in sacred oaks (Parke 1967:21).

element on the extreme right is unfamiliar; the element above the butterflies suggests a snake. The meaning attached to butterflies and bees is unknown in both Minoan and Mycenaean contexts. Theories vary between them being purely decorative and being symbols for the soul in the afterlife (Dietrich 1974:126).

Fig. 20. Ecstatic ritual with woman leaning against a rock with two butterflies (centre). Drawing of ring from Hagia Triada.

Mycenaean religion on the mainland has noticeable differences. Predominantly female clay figurines, both large and small, represent a very distinctive feature of Mycenaean cult activity (Rutherford 2013:259). Female processions and the warrior goddess linked to a figure-of-eight-shaped shield belong to the Mycenaean world (Rutherford 2013:260), as does the griffin held by a woman wearing a helmet (Rutherford 2013:262) and griffins with lions (Rutherford 2013:260). The focus on a warrior god, rather than a goddess, increases on the mainland and beards also make an appearance (Guthrie 2006: 879). Marinatos (2013:254) notes that while Zeus, Poseidon, Hera, Athena and Dionysus are attested in Linear B tablets, curiously they do not dominate in iconography on the mainland. The visual emphasis in wall paintings and rings remains focused on the 'Great Goddess' type; thus, Marinatos (2013:254) suggests that the Minoan mother and son trope remains relevant in Mycenaean beliefs.

Despite the Indo-European origin of Greek, there is little evidence of Indo-European belief systems other than Diweus (Zeus) and the term *potnia* that references Sanskrit *patni* ('mistress') (Rutherford 2013:263). It is possible that the traditions of Minoan and Mycenaean religion were carried into the deities, myths and cults of later Greek periods, particularly within the same location, although no proof has come to light (Marinatos 2013:241). Marinatos (2013:241) points out that Greek and Minoan mythology did not emerge in isolation; they were formed within the Eastern Mediterranean religious *koine*, so Near Eastern myth is probably a more relevant paradigm than Greek myth. The accepted view is that 16th century BC Minoan belief systems impacted Greek religion and subsequently this influence dwindled (Rutherford 2013:269).

Explanations for the radical change that occurred across Greece and the Aegean world between 1200 and 950 BC are complex and wide-ranging. Suffice it to say that the syllabic Linear B writing system disappeared, probably with the decline of the major power centres. No textual evidence of any kind has been found during this period. Settlements were vacated and later often short-lived settlements lacked the durable ashlar buildings of the Mycenaean era. While Karphi on Crete has evidence of permanent structures during this period, the building style is different to that of the previous era. On the mainland, monumental architecture returns around 1000 BC, as seen at Lefkandi's remote heroön, while temples constructed in a new form emerge in the 8th century. Similarly, a new writing form using an alphabet appears in the 8th century (Osborne 1996:30).

In terms of cultic practice, the predominance of female clay figurines vanishes from mainland tombs and sanctuaries between the 12th to 10th centuries. Only Karphi on Crete continued to produce statuettes of female figures in the Minoan-style flounced skirt. Sanctuaries that became important in the Classical era and had been important in the Mycenaean age – including Olympia, the Argive Heraion and the Samian Heraion – show no evidence of cultic activity during the so-called Dark Age. Interestingly, Delphi may be an exception, as the site was probably occupied during the Dark Age, although at this point unbroken cultic activity remains difficult to prove (Osborne 1996:31).

Nevertheless, worship of the deities continued in the Dark Age in settlements and remote rural areas (Osborne 1996:88). Cults at certain sanctuaries continued in a traditional manner, as is evidenced at the Polis cave on Ithaka and the spring sanctuary of Kato Syme on Crete (Osborne 1996:31). Cult activity becomes visible during the 10th century at a variety of sanctuaries, including that of Poseidon at Isthmia, Athena Alea at Tegea, Artemis at Mounykhia and Brauron in Attica (Osborne 1996:88).

The earliest textual evidence emerges in the Archaic Age with Homer's epics the *Iliad* and the *Odyssey* and Hesiod's poems *Works and Days* and the *Theogony*, and none reveal any detail or knowledge about the Dark Age (Osborne 1996:32). Hammond (2003:63) notes that the context of the Homeric epics relates to the era prior to 1190 BC, a Heroic Age (2003:61) at the close of the Bronze Age and therefore before the Greek migrations (2003:67).[66] Homeric heroes cremated their fallen comrades with their weapons and honoured them with feasts and games; acts that might reflect an earlier time when the dead required nourishment and their shades appeasement (Hammond 2003:71). This was a time of transition, where established civilisations fade and new forms have yet to find focus.

[66] Hammond (2003:61) describes heroic ages generally as the rise of an unsophisticated, aggressive warrior elite in a refined but weakened society, usually lasting only a few generations.

The deities of Homeric epic are immortal and powerful, yet human in character and behaviour (Hammond 2003:70). Some deities are linked to particular locales, possibly harking back to earlier cults, as seen with Hera's connection to Mycenae, Sparta and Argos, Zeus to Dodona, Mount Ida and Olympus, and Poseidon to Aegae (Hammond 2003:71). Cultic activity escalated during the 8th century; walls were added to define sacred spaces, sanctuaries acquired monumental temples and dedications increased (Osborne 1996:207).

Osborne (1996:208) notes that dedicatory images offered to the deities in the 7th century show a shift in focus away from life-sustaining flora and fauna to the human form. On Crete, in the mid 7th century, human figures were depicted in clay reliefs or as statuettes, in the style we term 'Daedalic' and this style spread across the Greek world. The figures are often nude and the pose is formal and front facing, suggesting eastern influence with Egyptian undertones (Osborne 1996:208). Daedalic style became a key visual indicator of the radical shift in the appearance of sanctuaries (Osborne 1996:208). The earliest *kouroi* emerged at the close of the 7th century BC (Osborne 1996:209). Standing with one foot forward, the slim yet powerful nude male figures are reminiscent of the Egyptian style (Osborne 1996:211). Interestingly, unlike the Daedalic style, the female figures (*kourai*) are clothed.

The focus on the human figure revolutionised the worshipper's encounter with a sanctuary (Osborne 1996:211).[67] In urban and rural sacred settings, monumental temples and human figures swept aside older themes from the natural world. Divine authority was not imagined through fickle nature and menacing creatures but rather through human capacity, particularly the power of the community (Osborne 1996:214). Yet, natural phenomena continued to be part of the physical and metaphysical religious landscape. The great gods and goddesses of the Greek pantheon retained their elemental associations (Larson 2007a:56) – Zeus the rain-bearer, Poseidon the earth-shaker, Artemis roaming wild places and Hera's chthonic origin as a localised 'Earth-mother' (Guthrie 2006:900) discerned in her affection for Argos, Mycenae and Sparta. Nature deities continued to flourish alongside the great Olympian deities and manifested in springs, rivers, mountains (Larson 2007a:56), caves and other emotive sites and, as a key part of this study, will be discussed in Parts One and Two.[68] Sanctuaries built in

[67] More than 100 *kouroi* were excavated from the remote rural sanctuary of Apollo Ptoieus at Akraifnio in Boeotia (Osborne 1996:211); for an ancient Greek supplicant the vista must have been awe-inspiring.

[68] Nymphs were ubiquitous to the wilderness and, as Artemis, Apollo, Hermes and theriomorphic Pan (Larson 2007a:62) were linked to rustic pursuits, they were often found in the company of nymphs. Nymphs inhabited caves (*Od.*13.102–12), meadows (*Hom* Il.20.8), majestic trees on high mountains (*HH*.5.265–8), the sea (*Od.* 5.417–22; Hdt. 7.191) and especially springs (*Od*.17.205–11), probably their original home (Larson 2007a:61). Usually worshipped at specific places (Larson 2007a:61), nymphs were associated with weaving, pastoral activities of herding and beekeeping (Larson 2007a:63), and access of raw materials often found in remote areas (Larson 2007a:62).

outlying rural places recognised the eternal presence of nature deities in the landscape. The shrine did not confer sanctity on the site; rather, the shrine recognised and revered the intrinsic divinity of the place (Larson 2007a:57). That notion of divinity was due to karst phenomena.

In summation, it becomes clear that many layers and influences were woven into Greek religion over the millennia and there were a great many cults to be found in the Greek and Aegean world. A definitive view of Greek belief systems remains open to debate, even where documentary evidence survives. Pre-literate beliefs and cults can be explained only in theory and must wait, perhaps, for a better understanding of Linear B or new discoveries. The same applies to the so-called Dark Age, where writing disappeared and, to date, little archaeological evidence has been found. Although Osborne (1996:355) is discussing the history and evolution of Greece between 1200–479 BC, his pithy quote could equally apply to the elusive evolution of Greek religion: 'Classical Greece has two pasts, the actual past and the past it shaped for itself out of the pasts which successive generations had already shaped for themselves'.

Conclusion

I have touched very briefly on the most obvious in order to paint a very broad background for the aspect I will consider: physical and metaphysical zones in remote rural sanctuaries where deities and mortals might meet. In Hittite and the earlier Aegean world periods, I consider that the impact of karst terrane was a key similarity of the two belief systems.

As part of 'the thousand gods of Hatti', Hittites regarded numinous karst features as divine in their own right. To the south, on Crete, the cultic importance of mountains, vegetation and water is clearly evident in Minoan culture, although deciphered texts are lacking. Water carried crucial power in both belief systems. Hittites and Greeks recognised that water circulated above and below the ground, and both connected subterranean water to the netherworld. Both cultures stress the role of goddesses in close conjunction with landscape and karst hydrology. Arguably, Hittite goddesses had greater control over the cosmos than their masculine counterparts or Aegean deities. In the Greek world after the 7th century, depictions of flora and fauna were overtaken by human figures (Osborne 1996:208), yet the Olympian deities retained epithets that tied them to the natural world and nature daemons continued to roam wild places.

PART ONE

PHYSICAL ZONES OF TRANSITION

The phenomenon of a *transition* may be noted in many other human activities, and it recurs in biological activity in general, in the appreciation of physical energy, and in cosmic rhythms (Van Gennep 1960:182).

CHAPTER 3: POROUS KARST LANDSCAPES

> So great is the incompatibility between the profane and sacred worlds that a man cannot pass from one to another without going through an intermediate stage (Van Gennep 1960:1).

Part One ('Physical zones of transition') deals with the physical aspect of karst geology that gives rise to landscapes in transition; the physical characteristics that define it; the flora and fauna that are drawn to it and the interaction of humanity through the sanctuaries that made use of it. Examples from the ancient world will be linked to arresting karst features to lay the foundation for the themes identified in Part Two ('Metaphysical zones of transition'), which deals with the way the ancient imagination used karst environments to create unknown zones.

Transition of one sort or another is the norm in our universe (Van Gennep 1960:182). Planets move across the sky, day follows night, summer turns to winter; plant life rests and regenerates; animal life procreates, ages and dies; volcanoes erupt; rivers silt up; soil erodes; coastlines change. Some shifts may be too gradual to notice, some are quick, some appear static; some are accepted as normal while others are recognised as extraordinary and awe-inspiring. Heraclitus recognised the continual mutation of matter, its 'coming and going', when he is reported as saying, 'it is impossible to step twice in the same river' (Plut. *De E* 18.392b). Forged through transition, karst landscapes (fig. 20), by their nature, remain in unceasing states of transformation between flowing water and dissolving rock (LaMoreaux 1991:216).[69]

Karst geology is intrinsically 'dynamic' (LaMoreaux 1991:216), meaning that the action of water on soluble rock formations such as limestone, dolomite and gypsum provokes ongoing change (Ford & William 2007:I). The rate of dissolving rock depends on several factors: the quality of the rock, the horizontal or vertical folds and faults of the rock, the arrangement of fractures within the rock, the levels of carbon dioxide carried in the water, the level of heat and cold, and the type of climate (LaMoreaux 1991:221).

[69] More than 150 million years ago, during the Jurassic period, tectonic movement across the Mediterranean world folded and fractured rock slabs, forcing them upwards to form impressive massifs, deep gorges and independent outcrops. The limestone and dolomite Rock of Gibraltar is a result of this type of tectonic movement (Lewin & Woodward 2009:294).

Subterranean spaces continually expand due to flowing water that dissolves rock (fig. 20), thereby increasing its porosity (Ford & William 2007:5).

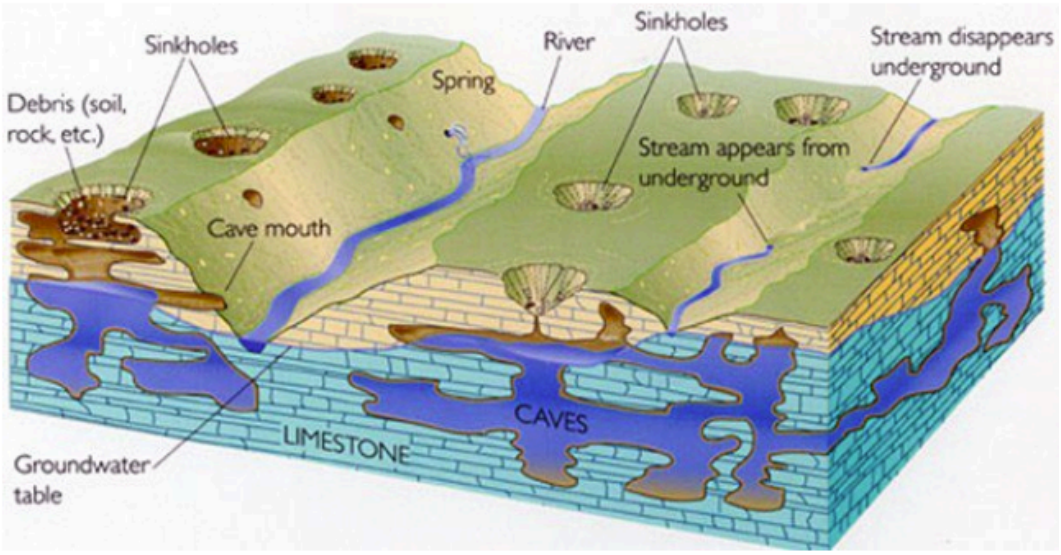

Fig. 21. Karst topography.

Karst landscapes can manifest dramatic, mysterious transition points between the earth's surface and the underground that have piqued human imagination over millennia. Karst is unique in that the landscape above and the water system below develop in synergy (fig. 20); one does not provoke the other (Ford & William 2007:5). Karst geology produces remarkable topography where rocks may break through the skin of the soil, sculpting dramatic crags, rock shelters and many-chambered caves. Lakes, rivers and particularly springs (Lewin & Woodward 2009:295) may be erratic, as subterranean water flows from the earth below to the land above and back, encouraging the idea that certain places were meeting points between the mortal and immortal worlds, porous places and 'intermediate stages' between two disparate realms (Van Gennep 1960:1). Hawkins (2015), Erbil and Mouton (2012) and Harmanşah (2014a), among others, consider that Anatolian karst features influenced political boundaries, notions of the underworld and the evolution of the disappearing deity genre. Similarly, Connors and Clendenon (2016), Baleriaux (2015), Pfanz et al (2014) and Mariolakis and Mariolakis (2004), to mention a few, make connections between karst geology and ancient beliefs, sanctuaries, myth and ritual in ancient Greece.

The Mediterranean region is particularly rich in soluble rock geology, clearly evident in fig. 1 (page 3), the map provided by Lewin and Woodward (2009:288). Landscapes of limestone are endemic to the region (Lewin & Woodward 2009:287), resulting in a patchwork of unique, individual environments shaped by dissolving rock, water and

local climate conditions (Lewin & Woodward 2009:287).[70] Dramatic karst landscapes tend to be localised, displaying remarkable formations within a certain place that are distinct from the surrounding geology and landscape (Tourloukis & Karkanas 2012:4). Lewin and Woodward (2009:287) observe that '[t]his mosaic includes both active and relict terrains; with each component operating within different boundary conditions (mainly reflecting variations in climate and relief) and each with a distinctive history'. Water above and below ground is endemic to certain karst landscapes; thus vegetation will be verdant with appealing woodland (Atalay et al 2008:9) and specialised plants. These places are characterised by particular features: a cave and springs, cliffs, a gorge, a river, woodland, a meadow or wetland. The environment changes from the usual to the unusual (fig. 21), encouraging the idea among ancient people that, because certain arresting karst zones were out of the ordinary, they were thresholds to the divine realm.

Connors and Clendenon (2016) discuss terms employed by Strabo and Pausanias that reflect certain karst features associated with water. *Limnē* can be a wetland or a lake (Connors & Clendenon 2016:154); *dinē* is a maelstrom or whirlpool in a river, although also in a lake or the sea; *koilos* is a hollow in the landscape, a depression enclosed by mountains, also a mountain defile or connected subterranean caves (Connors & Clendenon 2016:155). *Barathron* is a pothole, pit or deep ravine (Connors & Clendenon 2016:157) and can be linked to wetland, sinkholes, volcanic activity and noxious fumes (Connors & Clendenon 2016:158).

Rivers may sink into holes in the ground (Fields 2002:117 sv lost river), disappear and re-emerge kilometres away. Rivers can flow into caves and continue underground (Fields 2002:201 sv underground river) (figs. 20 and 21). Springs may be large or small and may have one mouth or many. The Dumanli spring in Turkey is rated one of the largest in the world, pouring out at a staggering mean rate of 50 cubic metres per second (Fields 2002:175 sv spring). Thermal springs can contain health-giving minerals while ponds may give off toxic gases (Fields 2002:158 sv rimstone pool). With submarine springs, fresh water can emerge within the sea (Fields 2002:178 sv spring, submarine). Coastal springs may alternate between sweet water and salt water (Fields 2002:165 sv sea estavelle). Karst springs may be strong, may dry up and may even have a 'pulsating flow' (Fields 2002:177 sv spring intermittent). Dolines or sinkholes may contain lakes (Fields 2002:62 sv doline lake) and a lake in a depression may drain away for no visible reason (Fields 2002:144 sv ponor). Entrances to caves could also have microclimates (fig. 23) with noticeable differences in temperature (Fields 2002:122 sv microclimate).

[70] In Greece, karst geology is pervasive across the islands, the Peloponnese, Arcadia and Boeotia. In Turkey, karst geology sweeps across the southern area and narrows along the western coast, with extensive, localised karst formations on the central plateau, the Hittite heartland. There are four karst areas located in 1) the Taurus, 2) south-eastern Anatolia, 3) central Anatolia (the Hattian location) and 4) north-western Anatolia, including Thrace (Günay & Törk 2015:217).

Fig. 22. Pinargözü Cave with a subterranean river near Beyşehir Lake, Turkey. Within the cave the icy water is 4–6°C and circulating winds can reach over 160 km/hour.

The physical properties of karst ecosystems can create unique zones in not only the landscape but also the type of flora and fauna. Plants may develop specialised forms and interactions with insects (Vokou et al 1989:130). Microclimates can emerge in particular areas, making them distinct from their surroundings (Lewin and Woodward 2009:287), and sinkholes, in particular, may foster singular environments with specialised species (Bátori et al 2012:127). The wider and deeper the sinkhole, the more marked the distinct micro-ecosystem will become (Bátori et al 2012:131). Subterranean water supports the growth of woodland and *maquis*[71] while springs and rivers can encourage meadows or wetlands. In dry environments, the presence of water attracts birds, insects, animals and humans; yet, as will become clear, there are several reasons karst landscapes, for all their allure and drama, are not necessarily benign. For example, seismic activity associated with fault lines creates natural features deemed suitable for the construction of buildings. Unfortunately, these were utilised by pre-scientific settlers, often with fatal consequences (Stewart & Piccardi 2017:711).

[71] *Maquis* is the woody evergreen shrub vegetation typical of karst landscapes (Atalay et al 2008:3).

CHAPTER 4: NATURAL FEATURES

> This coincidence of opposite processes and notions in a single representation characterises the peculiar unity of the liminal: that which is neither this nor that, and yet is both (Turner 1964:49).

The action of water on soluble rock opens portals that link the surface landscape to the subterranean earth via caves, sinking rivers, springs and sinkholes, creating physical porous zones between the visible, known surface and the unknown, invisible underground. Subterranean vertical shafts are a particular feature of Mediterranean karst geology and the region is noted for having some of the deepest shafts recorded to date (Lewin & Woodward 2009:299). Caves, chasms and subterranean water networks are distinctive defining features of karst landscape (Ford & William 2007:1). By connecting the seen to the unseen, they became archetypal zones of transition to the underworld.

Humans have interacted with mountain caves for millennia. Caves and subterranean water systems can be extensive, occurring both along the seashore and inland on mountain slopes.[72] In Crete, Mount Ida, at 2 456 m has two caves of impressive size carved out of the limestone by water: the Idaean cave to the east and the Kamares cave to the south. Their entrances are roughly halfway from the summit, and the dark mouth of the Kamares cave would have been visible from the plain and palace of Phaistos. Both were considered sacred in antiquity. The Idaean cave gained special honour as the home of the infant Zeus and retained its sanctity from the 15th century to the 6th century BC.[73] The cave interior represented a key transitional channel as a womb, a nurturing hidden space, connecting to the primal landscape beyond its entrance (Segal 1997:84).

Lying between the villages of Nestani and Sagas, the Argon Field is a polje or flat-bottomed depression (fig. 22) situated at the north-eastern end of a larger depression on

[72] The Selinitsa Cave and the Drakos cave with its underground river form an impressive karst cave network located along the western coast of the Messenian Mani Peninsula in southern Greece (Papadopoulou-Vrynioti & Kampolis 2012:17). The system stretches over 4 kilometres above and below the earth's surface. In the older Selinitsa cave system, some 3 000 metres of passages, chambers and halls have been charted, while the length of the Drakos subterranean river, flowing below sea level, is estimated at 1 232 metres (Papadopoulou-Vrynioti & Kampolis 2012:17).

[73] Polychrome pottery sherds suggest that activity in the Kamares cave was of shorter duration and occurred between 2000–1700 BC, possibly ending with the destruction of Phaistos by earthquake (Higgins & Higgins: 1996:204).

the Arcadian plateau, a region rich in poljes (Mariolakis & Mariolakis 2004:1146). The Artemision, Ktenias, Lyrkeion and Alision mountains enclose the Argon Field or Untilled Plain (Paus.8.7.1) and its periphery is dotted with karstic springs. During the rainy season, the combination of run-off from the mountains and increased flow from the springs results in severe flooding (Mariolakis & Mariolakis 2004:1146).

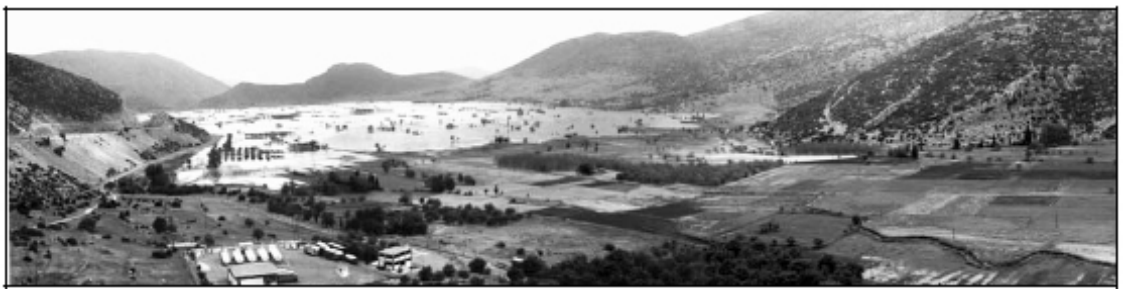

Fig. 23. The Argon Field, flooded during the winter of 2003.

Pausanias (8.7.1) describes why the plain was not turned into a lake:

> …the Untilled Plain, whose name well describes it, for the rain-water coming down into it from the mountains prevents the plain from being tilled; nothing indeed could prevent it from being a lake, were it not that the water disappears into a chasm in the earth (Paus. 8.7.1).

As science has shown (Mariolakis & Mariolakis 2004:1147), Pausanias' chasm is a cave and sinkhole in limestone bedrock. In karst terminology, this is referred to as a 'swallow hole' (Fields 2002:189 sv swallet, swallow hole), where water trapped in a closed depression may find an opening and disappear underground. The Nestani sinkhole and cave forms part of a substantial subterranean system where water from the Argon Field emerges some 50 km away, near the village of Kiveri on the Argolic Gulf. Called Dini[74] by the ancient Greeks (Mariolakis & Mariolakis 2004:1146), this fresh-water spring bubbled up through the sea close to the shore.

> … it rises again at Dine (Whirlpool). Dine is a stream of fresh water rising out of the sea by what is called Genethlium in Argolis. In olden times the Argives cast horses adorned with bridles down into Dine as an offering to Poseidon. Not only here in Argolis, but also by Cheimerium in Thesprotis, is there unmistakably fresh water rising up in the sea (Paus. 8.7.2).

Inland, at the tiny village of Milia near Nestani, archaeologists have uncovered a modest temple to Poseidon Hippios. Baleriaux (2015:195) highlights the connection in eastern Arcadia between karst terrain, flooding and the location of cults to Poseidon Hippios. Because the god was associated with the earth's subterranean activity and all forms of water, Mariolakis and Mariolakis (2004:1147) suggest that Poseidon utilised karst hydrology and would travel between the Argolic Gulf and the mountainous interior below the earth's surface, making use of the subterranean watercourses that flowed inland from the coast.

[74] Now known as the Mikros Anavalos or Agios Georgios Springs (Mariolakis & Mariolakes 2004:1146).

Near the temple of Hippios Poseidon lies Mantineia. Pausanias (8.10.4) mentions an intriguing tale concerning its original wooden sanctuary, reputedly built by legendary Agamedes and Trophonios (who would be swallowed by the earth at Lebadeia). A powerful wave of salt water periodically erupted within the sanctuary at Mantineia. Pausanias assures us that, being quite far from the sea, it could have been caused only by divine will. So forceful was this surge of water that a thread of wool was stretched over the entrance to deter visitors, a warning that Aepytus ignored (Paus. 8.10.3) when he cut the thread and entered. The wave blinded him 'and forthwith his life left him' (Paus. 8.10.3). Pausanias does not explain the cause of death because this surely was the power of the god made manifest through water. This tantalising description of karst hydrology resembles an intermittent karst spring (Fields 2002:177 sv spring, intermittent) where subterranean caves and siphons are constantly filled by an underground water source. When filled to capacity, the siphon activates and a pulse of water shoots into the air. The phenomenon repeats every time the cavities fill up.

Another remarkable early depiction of a subterranean spring in a sacred cave survives on the Balawat Gates (figs. 24 and 25) commissioned by the Assyrian king Shalmaneser III (858–824 BC). The 'Source of the Tigris', also known as the Tigris Grotto (Radner 2012:261) and the Tigris Tunnels (Harmanşah 2015a:127), was a cave system located north of modern Diyarbakir. The region was Hurrian territory by the mid 2nd millennium (Harmanşah 2015a:132) and a Hurrian state by the 1st millennium (Radner 2012:261); thus the Tigris Grotto lay at the south-eastern edge of Hittite territory in an area known as Šubria.

Dramatic karst features are extraordinarily prolific in this mountainous region, including caves with collapsed roofs, natural bridges of rock, closed or blind valleys, ravines, swallow holes and a large number of karstic springs (Harmanşah 2015a:127). The Dibni River, a tributary of the Tigris, is one of the karstic marvels of the region (fig. 23). As illustrated here, it flows through a natural underground tunnel beneath the Korha Mountain for over 1 000 metres before emerging above ground to swirl southwest, along a deep ancient riverbed carved out over millennia (Harmanşah 2015a:127).

The springs are particularly relevant as they dive down sinkholes, continuing to run underground through a riverine system of caves and tunnels known today as the Birkleyn cave system (Harmanşah 2015a:127). Harmanşah (2015a:132) makes the connection between these features and Hurro-Anatolian notions of the underworld, noting that the physical features of these caves and the river grotto indicate a cult of the Divine Road of the Earth (DINGIR.KASKAL.KUR). Radner (2012:264) points out that the Tigris was a key Hurrian god and argues that the Tigris Grotto in Šubria and the temples of the storm god at Kumme and Haldi at Musasir, all clustered in the

mountainous region between Urartu and Assyria, were respected internationally as sacred sites for millennia prior to the Urartian period c. 9th –7th centuries BC.

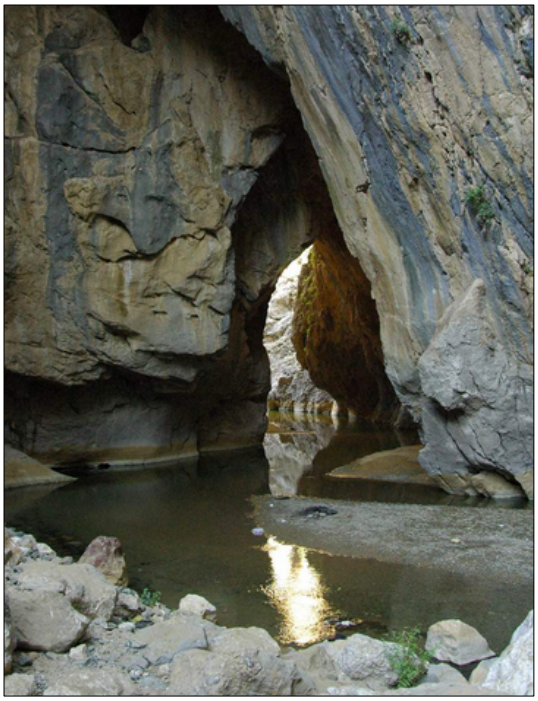

Fig. 24. The Dibni River emerges above ground.

The region comes into sharper focus due to mentions in Assyrian texts where, as early as the 11th century BC, Assyrian kings paid visits of veneration to the Tigris Grotto (Harmanşah 2015a:130). The double register on Band X of Shalmaneser's Balawat Gates (figs. 24 and 25) shows the unique nature of the Tigris Grotto in exquisite detail, possibly the most descriptive image of karst topography from the ancient world.

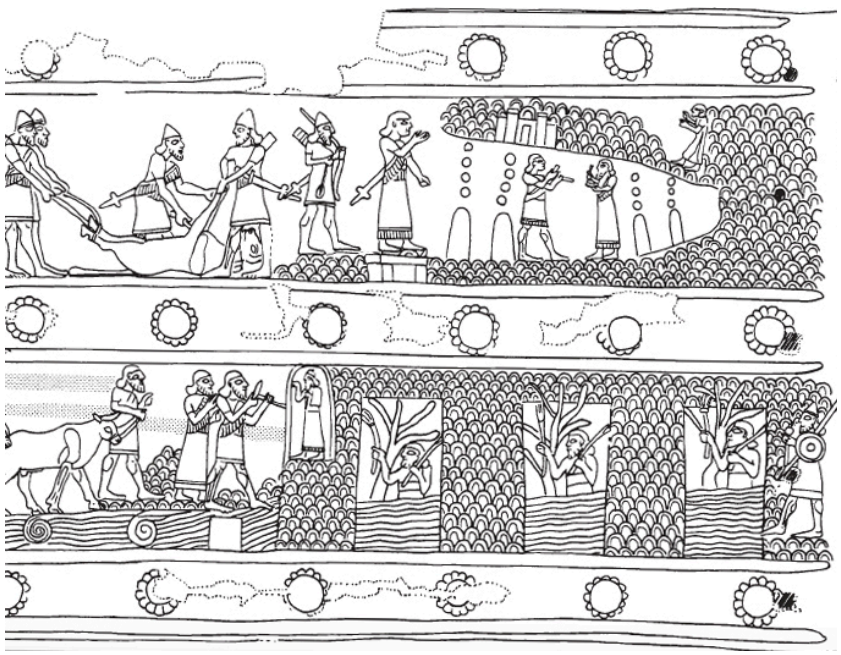

Fig. 25. The Tigris Grotto. Band X, Balawat Gates.

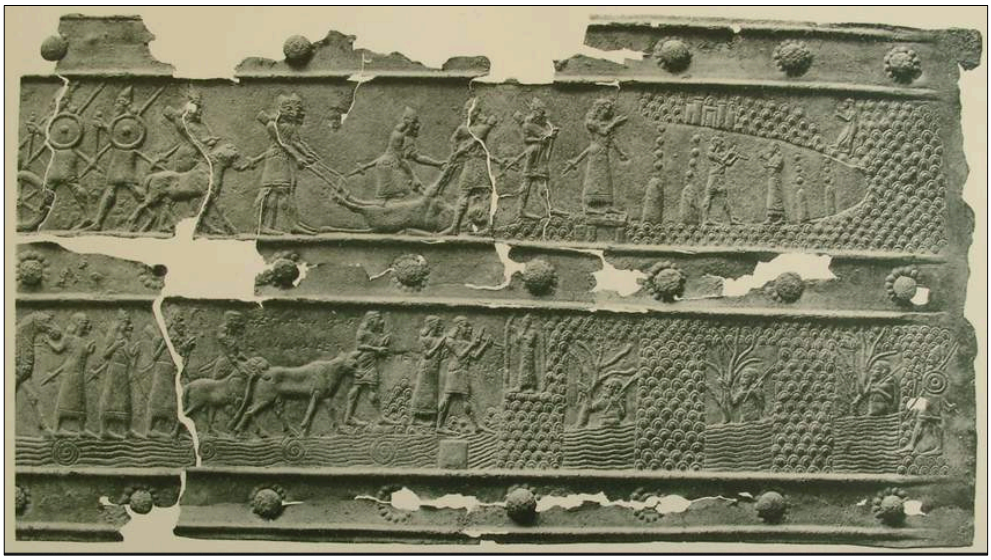

Fig. 26. The Source of the Tigris, Band X, Balawat Gates.

The upper register depicts the mountain and the yawning cave mouth. Within the cave are standing rocks, possibly stalagmites. Above each one is a vertical row of dots, which suggest water dripping from the cave roof in the early stages of forming a stalactite. The lower register shows the subterranean river exiting the cave system and flowing above ground. Harmanşah (2015a:135), who is familiar with the site, notes that the illustration is '…remarkably commensurate with the topography of the Birklinçay caves'.

In the Greek world, rivers were not necessarily benign, as some of them were assumed to be portals to the underworld from which no mortal could return. The Styx River that flowed from Hades was particularly dangerous and, according to Herodotus (6.74), its source was a spring near the city of Nonacris in the Aroania Mountains of the northern central Peloponnese (fig. 26). In a wild, bleak landscape of caves, deep ravines and towering cliffs, the chilled waters of the Styx witnessed the sacred oaths of the deities (Hes. *Th.* 400; Mayor & Hayes 2011:9). Rivers in ancient Greece were usually male, yet the Styx was considered female (Hes. *Th*. 395). The icy stream plunges 200 metres over a sheer limestone cliff (fig. 26) and into a dark pool circled by stones before joining the Krathis River. Called Mavroneri or Black Water today, ancient Greeks believed that its cold waters were so toxic that drinking from them would cause death in animals and humans (Paus. 8.18.4–6), and so corrosive that only a cup made from a horse's hoof (i.e., keratin) could hold it.[75] Its pernicious reputation lived on through the millennia. Up until the last century local people continued to avoid drinking the water of Mavroneri (Mayor & Hayes 2011:4).

[75] Motifs of the oracles of the dead were attached to certain rivers and lakes and, like the Acheron in Thesprotia, Nonacris is indicative of a *nekyomanteion* (Dimakis 2015:33).

Fig. 27. The Styx River cascading over the limestone cliff.

There are several possibilities to support the fact of toxic river waters. River waters can contain caustic minerals such as sulphuric acid or uranium and hot springs can contain arsenic (Mayor & Hayes 2011:10). Toxic plant matter such as aconite, hellebore or oleander, swept into the water during the rainy season, might render the water temporarily poisonous; bacteria from these plants could provoke the same effect and decomposing vegetable matter in still pools can trigger botulism (Mayor & Hayes 2011:12).

Limestone and water may encourage the formation of caliche, hardened calcium carbonate 'crusts' (Mayor & Hayes 2011:12), creating an ideal environment for the toxic soil bacterium *Micromonospora echinospora* (Mayor & Hayes 2011:11). The bacterium can contain calicheamicin, a deadly secondary metabolite (Mayor & Hayes 2011:13).[76] Calicheamicin is an extremely potent cytotoxin or cell destroyer and ingesting it would result in organ shutdown and death (Mayor & Hayes 2011:13). While specific geochemistry tests are still to be conducted on the Mavroneri cataract and pool, it is scientifically feasible that in ancient times calicheamicin rendered the waters of the Styx fatal.

Similarly, toxic chemicals lie behind the oracles of the Pythia at Delphi. The cave of the Pythia at Delphi is one of the most famous because its oracle was considered the 'most truthful' (Strab. 9.3.6). Caves were not only safe havens; they were favoured as oracular sites of mantic wisdom, particularly when they hosted mind-altering vapours. Strabo's description (9.3.5) of the Delphic oracle is typical of karst geology and describes the gas that rises from a crevice:

[76] Recently calicheamicin has aroused the interest of scientists as a possible chemotherapy, if its virulent toxicity can be controlled (Mayor & Hayes 2011:13).

> They say that the seat of the oracle is a cave that is hollowed out deep down in the earth, with a rather narrow mouth, from which arises breath that inspires a divine frenzy; and that over the mouth is placed a high tripod, mounting which the Pythian priestess receives the breath and then utters oracles in both verse and prose…

Plutarch (*De def. or.* 432D10), having served a term as the chief priest at Delphi, has a character in a dialogue who describes how the sweet-smelling gas flowed, as though from a spring (De Boer 2014:83), into the unventilated *adyton* of the Temple of Apollo. In fact, there was a spring, the Kerna, on the hillside above the temple, formed by rising ground water along the volatile Delphi fault line (De Boer 2014:87). Judging from the presence of substantial travertine coatings (De Boer 2014:86), there had been four springs, now extinct, inside the temple (De Boer 2014:87). Chanton, a geochemist, tested the area at the close of the 1990s and found traces of carbon dioxide, ethane, methane and ethylene in the travertine coating, the ground water and the Kerna spring (De Boer 2014:87). Ethylene is distinguished by its sweet smell (De Boer 2014:89). The tests suggested that hydrocarbon gases travelled with the groundwater into the *adyton*, resulting in the mind-altering vapours noted by writers of the ancient world (De Boer 2014:87). The findings were supported by another study undertaken in 2006, which discovered that the limestone contained bitumen (De Boer 2014:87), adding another layer of potentially noxious gas. The presence of ethylene and ethane would induce intoxication without necessarily harming the recipient fatally; the debate continues as to whether sufficient amounts of gas would have been present to induce a hallucinatory experience.

THE KARST ECOSYSTEM

There are five Mediterranean ecosystems found between latitudes 30° and 40° in northern and southern hemispheres. The largest area is the Mediterranean Basin, which comprises almost half of the biome globally and displays distinctive vegetation, often with iron-rich red soil (Atalay et al 2008:8) known as *terra rossa.* The ancient Greeks associated red earth with the possible presence of entrances to the underworld (Croon 1952:68). Vegetation is a factor in the formation of karst landscapes, as acids in plant detritus can increase the degradation of limestone (Efe 2014:677). Rock fissures widen as a result of trees and shrubs taking advantage of soil deposits to root in cracks and crevices (Efe 2014:677) in the search for underground water (Atalay et al 2008:9).

Known in the Mediterranean as *maquis* and in South Africa as *fynbos,* the prevailing vegetation is drought-tolerant, evergreen shrubland showing regional variations (Atalay et al 2008:3) and rarely taller than 8 m (Hughes 2006:231). For example, Turkey's vegetation differs from that of other Mediterranean forms (Atalay et al 2008:11). In the Mediterranean karst ecosystem, trees tend to be woody with small tough evergreen

leaves and include cork, kermes and holm oaks[77] (Atalay et al 2008:3) and myrtle [78] (Efe 2014:678). *Pinus brutia*, the fire-tolerant red pine, is plentiful in the Taurus Mountains (Efe 2014:678) and southern Greece (Atalay et al 2008:16). Higher altitudes attract pine, juniper and cedar trees.[79]

Fragrant woods such as cedar and tamarisk had cultic value in Anatolia and across the ancient world (Turgut 2018:24). Forests could be regarded as sacred spaces and certain Hittite rituals took place in forests. CTH 617 (KUB 2.8), a fragment dated to the late Empire period, records the rites in a forest for the LAMMA of Taurisa as part of the AN.TAH.SUM festival. The Sumerian ideogram LAMMA referred to male or female protective deities, usually depicted by a *kursa*- or hunting bag (Bryce 2002:148). This LAMMA resided in a temple in the forest of Taurisa near the springs of Kalimma and Mother of Kalimma (Galmarini 2015:53).[80] The forest of Taurisa features in another AN.TAH.SUM festival for the Ishtar/Sa(w)uska of Hattina, and mentions an intriguing secret garden possibly associated with woodland sacred sites (Galmarini 2015:54).

Similarly, woodland is associated with sanctity and mystery in Greek mythology. Pythian Apollo chose to erect his altar in a shady grove near a brook (*HH* 3.385); Hermes weaves his marvellous sandals from leafy myrtle and tamarisk twigs (*HH* 4.80); the forest echoed with the noise of Dionysus and the nymphs (*HH* 26.10) and Odysseus needed to walk through sacred woodland to reach Circe's house (Hom. *Od*. 10.275). As Bonnechere (2007:18) points out in regard to the *alsos* at Nemea, sacred groves were not necessarily wild and may have been cultivated. At Nemea, on the southern side of Zeus' temple, 23 holes containing burnt cypress or fir-tree roots were excavated. The glade is being replanted, guided by Pausanius' description. Similarly, the sanctuary of Apollo at Kourion on Cyprus possessed an *alsos*, although restitution is not possible (Bonnechere 2007:19).

Distinctive features of karst flora extend beyond woodland and forests. These landscapes host a wide variety of aromatic and flowering shrubs, including sage, thyme, salvia, marjoram, asphodel, rockrose and germander (Atalay et al 2008:17), favoured by birds, butterflies and bees.[81] In his *Historium Plantarum* (3.18.1), the Greek scholar Theophrastus (c.372–286 BC) recognised that species can be highly location-specific. Of the 150 shrubs that flourish on the heights of Mount Olympus, about 12 are specific

[77] *Quercus suber*, *Quercus coccifera* and *Quercus ilex* (Atalay et al 2008:3).
[78] *Myrtus communis* (Efe 2014:678).
[79] *Pinus nigra*, *Cedrus libani* and *Juniperus excelsa* (Efe 2014:678).
[80] The location of the city of Taurisa has not been confirmed. One option is near Mt Daha in the southeast of Hittite territory (Galmarini 2015:53).
[81] Vegetation comprising these scented, low-growing shrubs is called 'garigue' or 'rock heath' and emerges in areas where *maquis* is overgrazed, burnt or unable to flourish (Hughes 2006:231).

to this mountain (Hughes 2006:232).[82] *Jankaea heldreichii* (Boiss.), belonging to the species of Gloxinia, is an ice-age survivor and 'living fossil' (Vokou et al 1989:126) endemic to Mount Olympus (fig. 27). Found on the northern and eastern limestone slopes, it thrives in shady spots near flowing water and is pollinated only by certain types of bumblebee (Vokou et al 1989:130).

Fig. 28. *Jankaea heldreichii* growing on limestone rock.

In both Greece and Turkey, many species of crocus thrive on the foothills and slopes (Gokchen 2018 web) of limestone-bearing mountains. Seemingly delicate, the plant is winter flowering, known for its resilience to cold weather and fierce winds. The bulbs are poisonous (Gokchen 2018 web) but the stamens are valued for their flavour and remarkable health benefits (Ferrence & Bendersky 2004:208), although they can be toxic in the wrong doses (Ferrence & Bendersky 2004:210).

In Minoan frescoes of Xeste 3 at Akrotiri, girls can be seen gathering crocus flowers or stamens (Marinatos 2013:247) from the mountain slopes, possibly as part of a healing cult to a goddess (Ferrence & Bendersky 2004:205).[83] One image (fig. 28) shows a young Minoan woman sitting on a rock attending to her cut foot. Next to her foot is a crocus flower. While Marinatos (2013:247) posits that the bleeding foot 'most likely marks her symbolic status as a woman', Ferrence and Bendersky (2004:207) draw the logical parallel between the bleeding foot, the crocus flower under it and the excellent healing properties of crocus stigmas in staunching wounds. In regard to the crocus-themed frescoes of Xeste 3 at Akrotiri, Ferrence and Bendersky (2004:207) make a compelling case for saffron's key role in a medicinal healing cult headed by a goddess who gifted the precious plant to humanity (fig. 29).

[82] In Greece, in excess of 60 000 species of flowering plants are recognised. In comparison, the British Isles has 2 113 (Hughes 2006:230).
[83] The Aegean Crocus *cartwrightianus* (Ferrence & Bendersky 2004:205).

Fig. 29. Young woman holding her bleeding foot. Under her foot there is a crocus flower and, I suggest, a sharp chip of stone. Fresco lower level Xeste 3 Akrotiri, Thera.

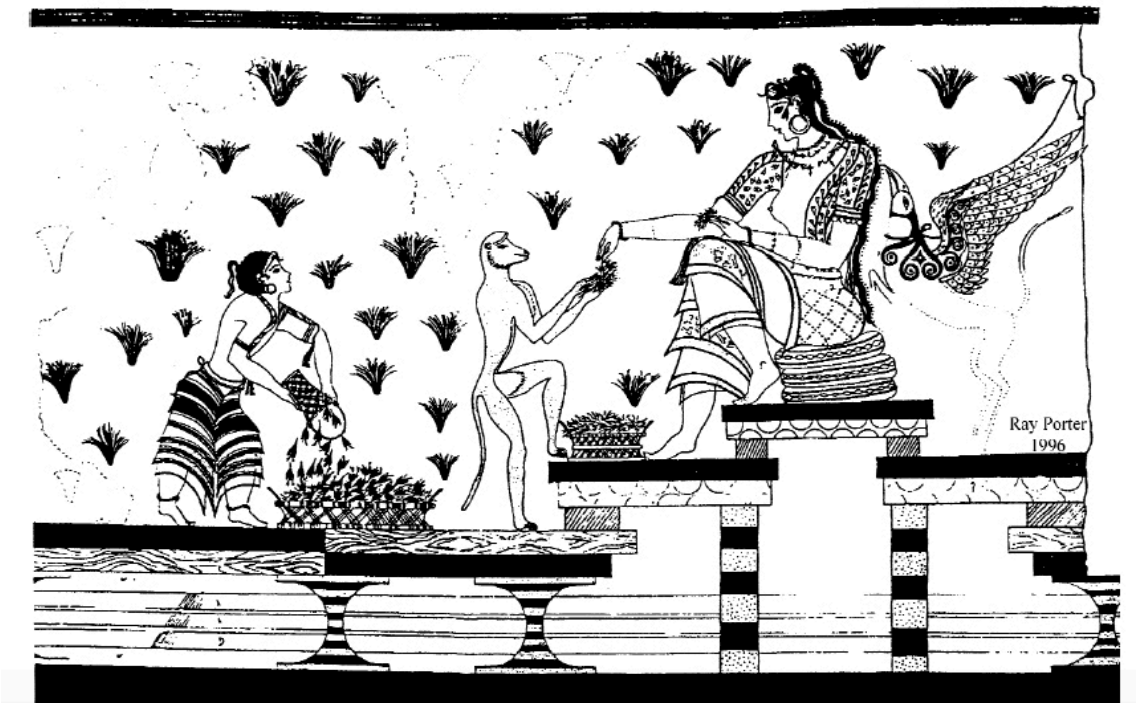

Fig. 30. Reconstruction drawing of a segment of the Xeste 3 fresco Akrotiri. The goddess (right) receives crocus stigmas from the monkey while a young girl tips the flowers into a basket (left).

Similarly, the crocus has significance for Hittite cults. The Festival of the Crocus is one option for the translation of the old Hattian-Anatolian (Görke 2012:49) spring festival of AN.TAH.SUM (Güterbock 1997:89) that originated in the Hattian period (Archi 2015:18). Relevant deities had a crocus laid in their temples (Archi 2015:11), although it is unlikely that these were in flower. In Greek mythology, the crocus is linked to the

so-called *Grottoes of Kōrykos*,[84] two vast vertical karst shafts[85] that feature in the battle between Zeus and Typhon (Gordon 1967:80 n. 27). Strabo (14.5.5) considers that the best crocus[86] grows in the Corycian cave, and describes a landscape that is typically karst:

> Going down into it, one comes to a floor that is uneven and mostly rocky, but full of trees of the shrub kind, both the evergreen and those that are cultivated. And among these trees are dispersed also the plots of ground which produce the crocus. There is also a cave here, with a great spring, which sends forth a river of pure and transparent water; the river forthwith empties beneath the earth, and then, after running invisible underground, issues forth into the sea. It is called Picrum Hydor.[87]

Mind-altering plants can be found growing in or near caves, one example being the shade-loving toxic mandrake (*Mandragora microcarpa* Bert.), which could be used benignly to enhance fertility (Gordon 1967:80 n. 27). Circe, born of the elemental forces Helios and Oceanid Perse (Hom. *Od*. 10.140), understood the potential of mind-altering plants. She used her knowledge to turn Odysseus' companions into swine and back into human form (*Hom.* Od. 10.390). Similarly, Hermes dug up a black-rooted plant with milk-white flowers (*Hom*. Od 10.305), a drug to protect Odysseus from Circe. Lightfoot (2009:273) supplies this translation from the Scholiast on Apollonius of Rhodes, *Argonautica* fragment 41a, which provides an explanation for another highly toxic plant, aconite or wolfsbane, located on

> …a headland in the vicinity of Heraclea, which the locals call Acherousion. Herodorus and Euphorion in the *Xenios* say it was there that Cerberus was fetched up by Heracles and vomited gall, from which grew the drug aconite.

Even honey can be mind-altering, raising interesting questions regarding its use in Hittite and Greek rituals. 'Mad honey', particularly from the Pontus, is mentioned by several ancient authors, including Xenophon (*Anab.* 4.8.20). The Black Sea region of Turkey remains a key producer. Bees collect pollen from the toxic *Rhododendron ponticum* and *Rhododendron luteum* that grow abundantly in the region, and produce honey that can be beneficial or lethal (Harissis & Mavrofridis 2013:730), depending on the amount consumed.

Located beyond the safety of settlements and cities, certain rural places were recognised as remarkable and centred on an arresting geological feature of natural beauty (Larson 2007a:57) such as a cave, sinkhole or spring (Harmanşah 2015a:58), often with healing attributes (Larson 2007a:65, Harmanşah 2015a:2). These few examples highlight the contradictory nature of karst landscapes and their ecosystems. In these places the environment could heal or harm, be lush and appealing, attract water-loving insects,

[84] Located in the Turkish province of Mersin, the current name is Cennet-Cehennem (Heaven and Hell).
[85] The karst term is an aven'. Similar to a pothole, this is a hole in the roof of a cave tunnel (Fields 2002:14 sv aven).
[86] Saffron-bearing *Crocus sativus*.
[87] Bitter Water.

birds and animals, and provide a pleasant haven for humans; equally, these landscapes could be unstable, volatile and potentially dangerous. Imbued with a sense of the divine, such arresting places manifested natural contradictions (Turner 1974:61) – wet/dry, light/shade, healing/toxic, benign/dangerous, wild/cultivated – and were set apart by their unique ecosystems and geological features. Because these elements presented visible thresholds into the subterranean realm, they were 'that which is neither this nor that, and yet it is both' (Turner 1964:49) and were regarded as avenues of communication to the world beyond – the realm of ancestors and immortals (Harmanşah 2015a:58).

CHAPTER 5: RURAL SANCTUARIES

> They give an outward and visible form to an inward and conceptual process (Turner 1964:48).

Karst landscape, as we have seen, has an intrinsic opposing duality. On the one hand it is geologically dynamic and potentially unstable but on the other hand it is benevolent and life-sustaining due to karstic water sources. Several scholars emphasise the link between karst, nature and exurban sacred sites. A distinctive natural element (trees, rocks, caves and springs) was a more important indicator of sacred space than a temple building or a *temenos* (Pakkanen 2001:73; Sourvinou-Inwood 1993:8); thus unusual natural elements, coupled with human notions of the sacred, turned certain areas into potent deified landscapes (Horster 2010:445; Kalogeropoulou 1970:191). The following three chapters explore the combination of natural phenomena, built environments and human notions of the divine.

The visible form of certain sacred environments could transmit a variety of concepts, including the liminal (Sørensen & Lumsden 2016:69; Harmanşah 2015a:42; Schachter 1992:51), supporting Turner's view (1964:48) that the 'liminal *persona*' is poised between the known and unknown, the familiar and unfamiliar – a situation requiring its own set of indicators. In this study, indicators include natural features such as mountains, rocky outcrops, springs, caves, meadows, marshes and groves. A sacred grove or a standing stone could signal a transition from profane to sacred space (Harmanşah 2015a:58; Horster 2010:438; Bonnechere 2007:41; Sourvinou-Inwood 1993:7) and landscape monuments might define it (Harmanşah 2015a:92; Sørensen & Lumsden 2016:85). Water-loving animals, plants and bees attracted to these elements can also be liminal indicators and will be discussed further in Part Two in conjunction with mythology. In particular, I consider the bee as one such liminal symbol in both Anatolia and the Aegean world (KUB 33.5 ii 15–16; KUB 33.24 ii 2–11; Dietrich 1974:126; Elderkin 1939; Cook 1895).

Different forms of interaction are possible between people and remarkable natural places with a cave, springs, sinkholes, a mountain and so on (Harmanşah 2015a:92). Such places operated on multiple levels: physical, metaphysical, horizontal and vertical

(Sørensen & Lumsden 2016:82; Bakke 2007:230). They were perceived as places of portent, ambiguity and transition (Connors & Clendenon 2016:155), and thus aligned to liminality as 'the realm of primitive hypothesis, where there is a certain freedom to juggle with the factors of existence' (Turner 1964:53).

Marginal sanctuaries, discussed in more detail in the following three chapters, present a horizontal and a vertical dimension. The sites were embedded within the physical landscape and the wider area, and thus connected horizontally (Sørensen & Lumsden 2016:83) to geographic access points, other settlements, trade routes, territorial boundaries and so on. In societies yet to draw hard boundaries and produce maps, rural sanctuaries in distinctive landscapes could define political frontiers (Sørensen & Lumsden 2016:87; Harmanşah 2015a:103; Harmanşah 2007:196; Cole 2000:471; De Polignac 1995:36; Schachter 1992:46), promote state propaganda (Harmanşah 2015a:94), offer way stations for troops on the move (Ullman 2014:114; Harmanşah 2014:7) or offer refuge for the vulnerable (Sinn 1993:70).

The vertical connection was a metaphysical one (Sørensen & Lumsden 2016:82; Bakke 2007:230). Openings in the earth were perceived as gateways to the underworld and connections between the living and the dead (Mlekuž 2019:49; Sørensen & Lumsden 2016:68; Gheorghiu & Nash 2013:9; Harmanşah 2007:196; Macqueen 1959:173). Therefore, a cave, spring, sinkhole, disappearing river and so on was perceived as a passage connecting the underworld to the earth. The earth was bound to the sky by mountains, hills or rocky outcrops. Such a place was anchored vertically. It became an *axis mundi*, uniting the tripartite cosmos of underworld, earth and sky (Sørensen & Lumsden 2016:82; Marinatos 2013:244), or, in the case of the Hattian view, uniting a bipartite cosmos (Tatišvili 2007:190).

Dramatic karst topography could acquire anthropomorphic qualities to manifest as nature daemons of trees, springs, rivers and mountains. Natural elements (mountains, rivers, springs, winds, clouds and so on) were so intrinsic to Hittite life that that they were called upon to witness treaties concluded by the Great King (Beckman 2012:154), as evidenced by §20 of the treaty between Mursili II and Tuppi-Teššup of Amurru (CTH 62). Similarly, at the Palici-sanctuary in Sicily, Greeks might swear a binding oath at a sacred lake made toxic by gas bubbling up from two craters in the lake floor (Croon 1952a:118). Often, protective deities associated with these sites had chthonic aspects and were connected to transitions (Schachter 1992:50), as evident with Telepinu and the Sun Goddess of Arinna and the Earth in Anatolia (Tatišvili 2007:189), and Artemis, Hermes and Poseidon in the Aegean world. Rituals and festivals at rural sanctuaries (Gheorghiu & Nash 2013:10; Sørensen & Lumsden 2016:85) channelled the

supernatural and purification rites to prevent polluting influences entering the sacred space (Horster 2010:441).

De Polignac (1995) notes that in the Aegean world, as in Anatolia (Harmanşah 2007:196), exurban sanctuaries were usually sited '*on a threshold to the territory'* (De Polignac 1995:33). He therefore proposes they represented a variety of concepts: a contact point between mortal and immortal; ordered civilisation in opposition to untamed, threatening wilderness (1995:34); control of territory (1995:34) and a social rendezvous and trading point between settlements (1995:39). While Malkin (1996:76) agrees that rural sanctuaries are useful in investigating notions of authority and control, he warns that 'our assessment of what was centre and what was periphery is too relative' and factors such as the territorial growth of a state or the influx of another group can change the location of a centre and a frontier (Malkin 1996:81). On the other hand, Cole (2004:7) considers ancient Greek settlements based on the way they 'inhabited three landscapes: the natural, the human, and the imagined'. Her holistic approach has particular relevance to this study.

The physical landscape dictated the farming potential and size of a community and influenced the politics and frontiers of settlements (Cole 2004:8). The imagined landscape included two aspects. Beyond the worked fields were landscapes at the edge of the mortal world, inhabited by mythical beings such as Amazons and centaurs (Cole 2004:8); even more distant was the land of the dead, beyond the Ocean and below the earth. Here lurked terrifying, deadly sirens, gorgons and fearsome Cerberus. Cole (2004:9) considers these elements of the ancient Greek world to be connected in 'a dynamic, three-way relationship between the natural landscape, the cultivated landscape and the world of the dead'. In this living landscape imbued with deities, specific areas were assigned to the deities 'as sacred space for communication between human and divine' (Cole 2004:15); in effect, the creation and recognition of a liminal zone. Deities protected the community in return for their place on earth. Exurban sanctuaries defined territory and, as proposed by De Polignac (1995:34), emphasised the community's authority over the space. One of the key components for a sacred space was flowing water. Referring to the area of Olympia in his *Geography*, Strabo (8.3.12) notes:

> The whole country is full of temples of Artemis, Aphrodite, and the Nymphs, being situated in sacred precincts that are generally full of flowers because of the abundance of water. And there are also numerous shrines of Hermes on the roadsides, and temples of Poseidon on the capes.

Nilsson (1961:5) outlines a gradual urban social evolution that began in the Aegean world towards the close of the archaic age. He notes that, while the economies of key Greek cities grew, certain Greek regions were not exposed to expanding mercantile activity and, due to their agricultural nature, retained early forms of religion affiliated to natural features. I support his view that unsophisticated rural areas were precluded from

the advance of urban civilisation; thus they hold the key to the 'history of religion'. I would argue that the landscape impacted early belief systems and this close connection between natural karst phenomena and human sensibility is more evident in earlier sanctuaries.

In areas such as Arcadia, Boeotia and Laconia, among others, the effect of landscape on belief can be more obvious. Deities and semi-deities such as Artemis, Demeter, Poseidon, Hermes and the heroes, composite creatures like Pan, and a variety of nature daemons, particularly nymphs, retained intrinsic affiliations to the landscape (Nilsson 1961:11; 16; 18; 21). Artemis, in particular, is a goddess of liminal zones, both physical and metaphysical (Schachter 1992:50) and her virginity was not an indicator of static sterility; rather it promises dynamic fertility (Rangos 1995:2).[88] The rural sanctuaries of these supernatural beings, where they survive, reflect connections to the earth (Nilsson 1961:21), a connection so strong that it continues to this day. Heroes morphed into saints (Nilsson 1961:20), and the belief in nymphs (Nilsson 1961:17; Kondis 1970a:102) and sacred springs (Hawkins 2015:8; Harmanşah 2014:154; Touloupa 1970:121) live on in Greece, Anatolia and beyond.[89]

Fig. 31. The Hittite sanctuary of Yazılıkaya, demonstrating the incorporation of rock reliefs and chambers into the karst rock formation.

The connection is clearer in Hittite Anatolia where the link between karst topography, site and belief remains evident in physical location and texts. For Hittites, water was the key component of life (Beckman 2012:153) and springs in particular were regarded with reverence (Beckman 2012:157). Ethnic diversity (Alparslan & Doğan-Alparslan 2015:95) and religious tolerance (Akurgal 1962:75) suggest that local cults functioned alongside state religion and continued through the reorganisation of cults and deities

[88] Rangos (1995:2) considers Artemis as embodying the force of natural dynamism, rather than a goddess of thresholds. I find the idea of Artemis as a natural dynamic force intriguing because Artemis is associated with natural water sources (Croon 1956) and karst hydrology is notably dynamic. However, Rangos does not focus on karst hydrology; rather, he examines the perception between the Homeric Artemis and the ferociousness exhibited in local cults (Rangos 1995:1) and looks to explain how the two opposing aspects can be successfully integrated (Rangos 1995:208). Nevertheless, the idea of Artemis personifying dynamic karst hydrology would be worth exploring.

[89] In 2006 at the ruined sanctuary of Aphrodite at Pergamum, I saw an olive tree festooned with strips of cloth. It seems the goddess is still petitioned in matters of love and fertility.

under Tudhaliya IV (1237–1228 BC). Open-air sanctuaries (fig. 30) with rock monuments, springs and ponds were rarely overbuilt through the centuries. Although reliefs on living rock are not as plentiful in the Aegean world, there are some examples of sanctified rocks, such as the stalagmites (Dietrich 1974:124) in the cave sanctuary of Eileithyia at Amissos. Rock surfaces bearing reliefs could survive natural upheavals such as floods and earthquakes, whereas Greek wooden or stone buildings and cult images might not.

IDENTIFYING SITES

The choice of exurban physical sanctuaries was driven by three requirements: the proximity to distinctive localised geologies with water; material evidence and texts; and, most importantly, human interaction via notions of transition. There are many sanctuaries that are relevant, too many to be discussed in this study, so the sites below regretfully represent a very small selection. Sites in the Aegean world are particularly plentiful, given that polytheistic sanctuaries remained active and evolving over many more centuries that the Hittite sites. This is not to say that acts of reverence at these locations necessarily ceased in either region – a topic worth examining on its own. At some of them, for example the sacred spring at Ptoion, veneration continues to this day. Modern humanity retains a sense of wonder and reverence for dramatic landscape.

Hittite open-air sanctuaries can be broadly categorised into four types: 1) natural springs sited on steppe land or mountain; 2) manmade ponds; 3) rock outcrops near a spring and 4) territorial and cultic iconography sited at springs and/or rock formations near a key road, where a suitable rock surface would be carved, usually with a relief of a god and a king (Ökse 2011:222).

Identifying Greek rural sites impacted by karst landscape is more challenging, as many evolved into grander environments during the Classical period and their deities acquired additional functions and characteristics (Nilsson 1961:16; Petrovic 2010:226). Schachter (1992:36) notes that Greek deities are allied typically, but not exclusively, to either the city or the countryside and can be segmented into four categories. City deities include Apollo, Athena and Aphrodite. Zeus, Demeter, Hera and Poseidon are country deities responsible for issues regarding territory. Artemis, the heroes and Dionysus had a presence in the city and the country. Hermes presents a unique case as he is the only Greek god ‘who can journey between all three plateaus of existence’ (Bakke 2007:297), raising the question of whether he retained early prehistoric characteristics. He received fewer formal built sanctuaries than other key deities. Hermes is characterised by herms and cairns, in keeping with a god of ambivalent borderlands (Bakke 2007:298), a god always on the move who functions ‘*between* places’ and is at home everywhere and nowhere (Bakke 2007:299). Although many of the famous Greek sites fit my criteria

(Delphi, Artemis Orthia at Sparta, the sanctuary of the 'Great Gods' at Samothrace, Olympia, among others), where possible, sites discussed have a visible earlier cult with sharper connections to the landscape.

The chart below (fig. 31) shows the Hittite and Aegean sites that will be grouped via key physical and metaphysical themes that display points of transition. Although categorised by a key element, it will become clear that many of them display characteristics which correspond to a greater or lesser degree with all three themes: holy mountains or high places, sacred springs and caves, and portals to the immortal realm. I have identified other key features related to transitional zones which are a direct result of water; meadows, marshes and sacred groves are therefore discussed within the three main themes.

SITE	LOCATION	EARLIEST PERIOD	RELEVANT DEITY	WATER SOURCE AND CAVES
HIGH PLACES				
Gavurkalesi	Haymana region, northern Turkey, southwest of Ankara	c.13th century BC	One seated female, two larger male figures	Karst springs, thermal spring, rivers
Mount Oeta: Sanctuary of Herakles	Modern name Mt Oiti, Iti or Katavothra. Bordering Thessaly and Central Greece	c.8th century cult, remains from 3rd century BC	Herakles (hero)	Springs, rivers, aquifers, sinkholes, dolines, poljes, temporary ponds, caves
SACRED SPRINGS AND CAVES				
Ivriz	Ancient Tabal. South-central Turkey near Ereğli	Late 13th century BC	Sacred spring, Storm God of Tarhunzas	Karst springs, cave, river
Brauron	Eastern coast of Attica, near the Erasins River	c.8th century BC	Artemis, Iphigenia	Karst spring, stream, cave
THRESHOLDS				
Südburg sacred pool complex	Boğazköy, near Hattusa, northern-central Turkey	Late 13th century BC	Suppiluliuma I as deified ancestor or Storm God as Great King	Built chambers and ponds
Lebadeia: Trophonion	Western side of Lake Kopais	c.7th century BC	Trophonios (hero), Herkyna (nymph). Apollo, Athena, Poseidon, Pan	Springs, river, grottoes

Fig. 32. Nominated Hittite and Greek sites.

CHAPTER 6: HIGH PLACES

… the reformulation of old elements into new patterns (Turner 1964:49).

GAVURKALESI

Located in a valley on a rugged plateau south-west of Ankara, the peak sanctuary of Gavurkalesi comprises rock reliefs of two male figures opposite a seated goddess, a rocky chamber, sacrificial pits, buildings and a processional way, probably dating to c.1267–c.1228 BC (Akurgal 1962:106). The area has evidence of Early Bronze Age sites; thus, the peak sanctuary at Gavurkalesi (fig. 32), despite the lack of EBA archaeological evidence, was probably a sacred site before the Hittite era (Sørensen & Lumsden 2016:72). Activity at the site ended in the Roman period (Lumsden 2002:113).

The Hittite sanctuary was built on a hill (fig. 33) that rises cleanly some 60 metres above the Gavurkalesi valley (Akurgal 1962:105). Hittites favoured hills that reach up from the surrounding landscape, as is evident at ancient Tapigga (modern Maşat Höyük), Sarissa (Kuşaklı) and Nerik (Oymaağaç) (Alparslan & Doğan-Alparslan 2015). The valley is remarkably rich in streams and gushing springs (Sørensen & Lumsden 2016:75), including the thermal springs 15 kms away at Haymana (Sørensen & Lumsden 2016:71), providing the highly desirable combination of male mountain and female water favoured by Hittite kings for their liminal sanctuaries (Macqueen 1959:178).

During the Hittite period, the peak's crown was levelled to form an area 35 x 37metres and surrounded by cyclopean walls (Akurgal 1962:105). Below the rock reliefs, a series of retaining walls were stepped down the southern slope to form a processional way (figs. 32 and 34) that extended into a dynamic landscape of springs, rivers, gorges and hills (Sørensen & Lumsden 2016:85). On the southern side, at the base of the peak, is a marsh formed by the confluence of a stream and the waters from an impressive spring (Sørensen & Lumsden 2016:75). Marshland, so typical of riverine areas, can be an indicator of a liminal zone (Della Casa 2011:265), transforming it into a preternatural place 'betwixt and between' (Turner 1974:73) mortal and immortal worlds. Marshes are

attractive refuges for Hittite deities; thus we have a mortal landscape potentially inhabited by an immortal.[90]

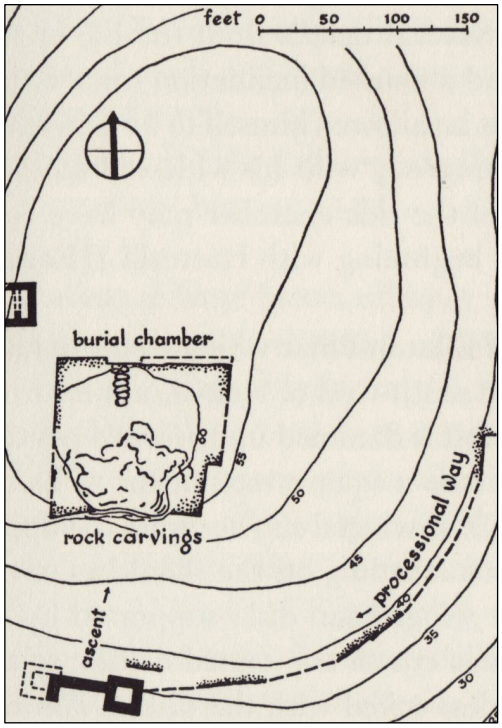

Fig. 33. Gavurkalesi Hittite mortuary monument.

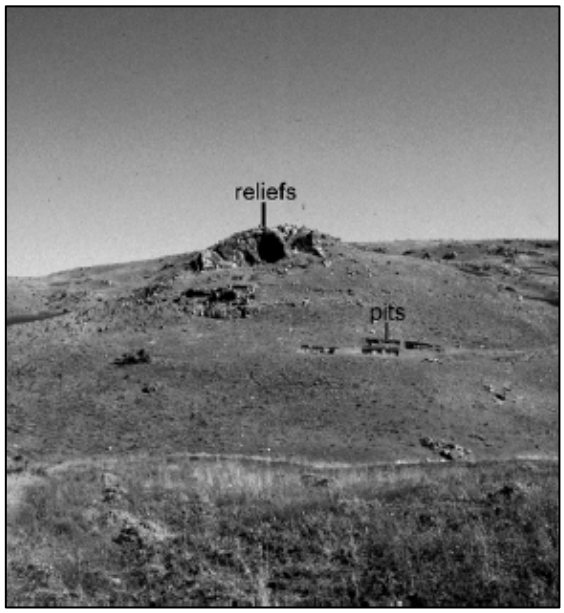

Fig. 34. Gavurkalesi from the south.

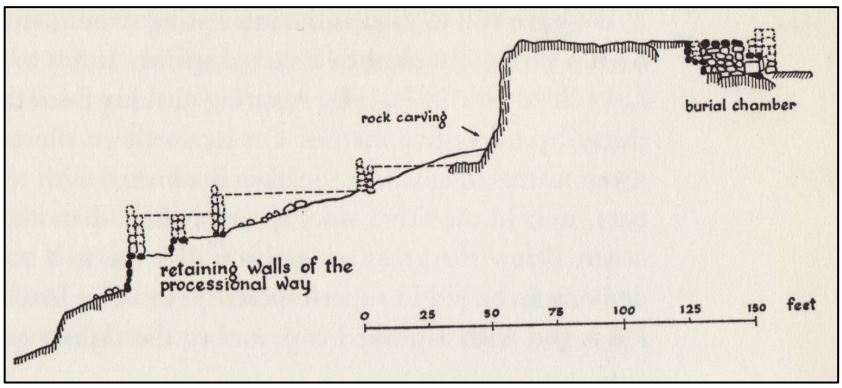

Fig. 35. Cross section of the sanctuary at Gavurkalesi.

The chamber is considered funerary and lies to the north, on the highest point of the peak, directly behind the rock cliff with its reliefs (fig. 36). It is constructed around a natural hollow in the outcrop (Sørensen & Lumsden 2016:80).[91] The few buildings associated with the site point to a settlement that managed the cult of the deceased and

[90] This is evident, for instance, when the god Telepinu vanishes in irritation, a characteristic of Hittite deities of Hattian conception (Tatišvili 2007:190). Hoffner's translation (1998:15) of the Telepinu Myth (version 1 §3 Ai 10–15) provides: 'Telepinu too went into the moor and blended with the moor. Over him the *halenzu*-plant grew'. A bee is sent to locate the errant god and finds him asleep in the *marmar(r)a*-(Hittite), a term with watery connotations (Della Casa 2011:268), possibly a marsh, swamp or wetland (Kimball & Slocum 2019). The god's anger at being disturbed shows that the marsh is so familiar and comfortable that he would rather remain.

[91] The vaulted chamber is 3 x 4 m and finished with cyclopean masonry (Akurgal 1962:105).

current king (Collins 2007:194). Although skeletons have been found at Osmankaya near Yazılıkaya, the Hittites favoured cremation (Akurgal 1962:103), with a focus on a cult of the dead and cult images, over the mortal remains of the deceased (Van den Hout 2002:74). It seems likely that the chamber (fig. 35) would have contained the cremated remains of a deceased king, although not a Great King, since, as Beckman (2012:156) notes, there would be no reason to entomb a Hittite great king so far from the Hittite capital of Hattusa.

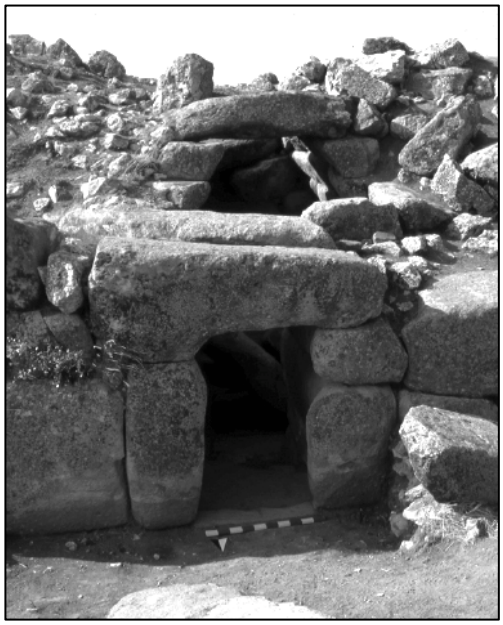

Fig. 36. Entrance to the funerary chamber.

The death of a king triggered a particularly dangerous state of transition for his people and for his soul because he was the conduit between the deities and his subjects on earth, and thereby ensured their well-being (Bryce 2002:18; Taracha 2009:161). The Hittite rite of passage from the world of the living to the world of the dead meant the separation of the soul and spirit from the body (Bryce 2002:179; Taracha 2009:158). The soul travelled from one world to the next along a watery subterranean path (Bryce 2002:180; Taracha 2009:160) to a new life in a bright, immortal meadow, hopefully avoiding the gloomy netherworld of mud-eaters inspired by Babylonian notions (Taracha 2009:161–162). The remains of Hittite kings were interred with a sod from an actual meadow to represent the desired final destination, the eternal meadow (Bryce 2002:177). Ideally, the immortal meadow would reflect the benefits of the earthly meadow, as seen in KUB 30.24 (CTH 450) ii 1–4: 'And have this meadow duly made for him, O Sun-god! Let no one wrest it from him or contest it with him! Let cows, sheep, horses, (and) mules graze for him on this meadow!'[92]

[92] Translated by Beckman, in Collins (2007:194).

The emphasis on fire and cremation presents one clue to the dearth of royal tombs found during the Hittite period (Van den Hout 2002:73). The monument at Gavurkalesi is of great interest as it may be a rare example (Van den Hout 2002:91) of both an ^{NA4}*hegur*, a divinised mountain peak that received a sanctuary, and an E.NA$_4$DINGIR-LIM, a 'Divine Stone House' (Van den Hout 2002:75), meaning a tomb that contained the mortal remains of royalty (Van den Hout 2002:86; Taracha 2009:164). A hieroglyphic inscription of Suppiluliuma II mentions an unnamed eternal peak in connection with his father Tudhaliya (Balza & Mora 2011:215).[93] The king notes his active involvement: 'I built an Everlasting Peak. I made the image and carried it into the building called Everlasting Peak; I installed and (…)' (KBo 12.38 obv. Ii 17–21). The interesting point here is the desire to create a metaphysical dimension over a physical place. I suggest this represents a conscious determination to enhance the spiritual quality imbued in the landscape.

Fig. 37. Gavurkalesi reliefs and cyclopean masonry. The female deity is to the left of the fissure, the young male deity is to the right.

Gavurkalesi may have been a '*hekur* mortuary precinct' (Hawkins 2015:2) comprising an 'eternal peak' with a funerary complex that connected the holy mountain, the tomb, funerary buildings and watery landscape to the immortal world. Connected horizontally and physically, vertically and mythically (Sørensen & Lumsden 2016:80), Gavurkalesi was one of the Hittite transitional points between earth and heaven. Sørensen and Lumsden (2016:81) propose that the rocky chamber was 'an artificial cave' (2016:82) and possibly a Divine Road of the Earth, despite the lack of water within it. This term is rendered from cuneiform DINGIR.KASKAL.KUR, meaning 'a path to the subterranean world' (Harmanşah 2014:154). While Gordon's seminal article (1967) presents a

[93] Nişantepe is a possible contender (Van den Hout 2002:88).

densely argued case for ^{D}KASKAL.KUR being a *natural* subterranean waterway[94] (1967:76) leading to the underworld, Hawkins (1995) has raised the notion of an artificial ^{D}KASKUL.KUR at Boğasköy, Chamber 2 (Südburg), where a portal had been built and water was artificially delivered. Sørensen and Lumsden (2016:81) argue that the chamber at Gavurkalesi is above a spring and a brook in a 'highly ambiguous and emotionally charged' environment (2016:83), a transitional zone between the living and the dead. Hittites had many sanctuaries built in numinous karst landscapes of mountains, rock and water, for example, Ivriz, Yazılıkaya and Osmankayası, although not all of them were necessarily divine roads of the earth.

At Gavurkalesi the placement of key deities on either side of a vertical cleft in the rock face (fig. 36) emphasises the chthonic connection to the netherworld (Sørensen & Lumsden 2016:72). Unlike most Hittite rock monuments, where inscriptions identify relief figures, the relief figures at Gavurkalesi are unidentified and the weathered images are difficult to decipher. Collins (2007:128) suggests that the two male figures might be the king with his patron god striding towards a seated goddess. Deities wear practical Hittite footwear: tip-tilted ankle boots provide protection in rock-strewn terrain (Akurgal 1962:113). Given the divine insignia (Akurgal 1962:110) on their headdresses, Akurgal (1962:106) considers both male figures to be gods: the Storm God wears a cap with six horns and his son's cap has three horns. Facing the gods, on the opposite side of the crevice, is a seated figure: a goddess wearing the distinctive polos on her head. Akurgal (1962:106) is of the opinion they represent the same divine triad seen at Yazılıkaya (figs. 36, 37 and 38), indicating that the seated figure is the Sun Goddess of Arinna (and the Earth).

Fig. 38. Drawing of the reliefs at Gavurkalesi.

[94] Gordon's ideas are discussed on pages 100–101 and the theories of both Gordon and Hawkins are elaborated in Chapter 8, in connection with the Sacred Pool Complex at Hattusa.

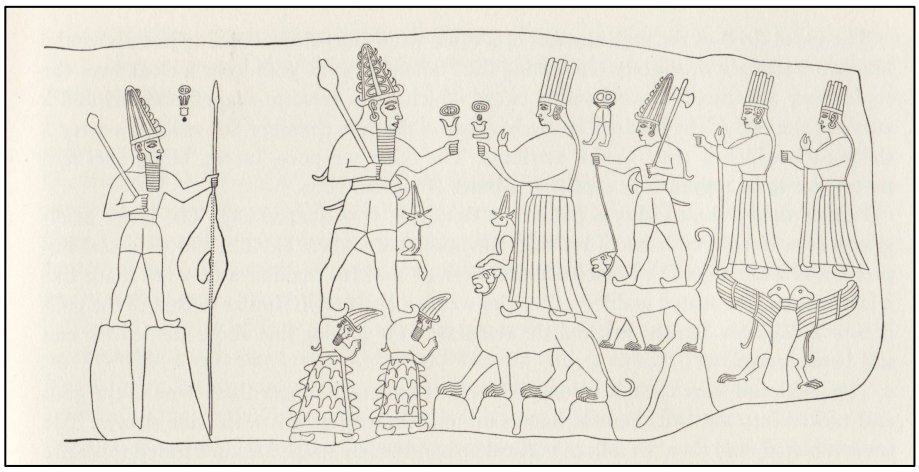

Fig. 39. Drawing of the relief at Yazılıkaya. Teshub (Storm God of Hatti) faces Hebat (Sun Goddess of Arinna); their son Sharruma (Storm God of Zippalanda) stands behind his mother.

As outlined previously, the Sun Goddess of Arinna (and the Earth) typifies the unique nature of Hittite belief systems resulting from a unified cosmos. Collins (2007:191) notes the difficulty of validating a pre-Hittite cosmogony while Tatišvili (2007) puts forward a convincing argument for two cosmogonies running parallel in the Hittite world: a bipartite cosmos inherited from Hattian-Hittite beliefs and a tripartite cosmos influenced by Mesopotamia (fig. 39).[95] Unlike in Mesopotamia and the Aegean world, Hittite deities were not confined to a particular cosmic zone, nor did they pay a price if they crossed a cosmic boundary (Tatišvili 2007:189) and, for example, entered the underworld. The notion of 'trespassing' (Tatišvili 2007:187) in another cosmic zone is lacking in the Hittite belief system. Hittite deities moved at will.

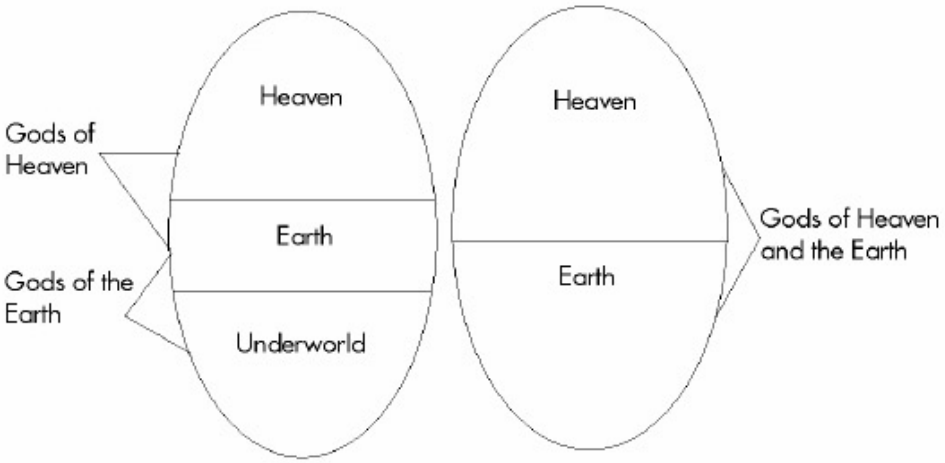

Fig. 40. Hittite notions of the cosmos. Mesopotamian-influenced tripartite cosmos on left, bipartite Hattian-Hittite cosmos on right.

[95] Tatišvili (2007) agrees with Singer's view (1996) of two cosmogonies, which he extrapolated in 'Muwatalli's Prayer to the Assembly of Gods through the Storm-God of Lightning (CTH 381)', *American Schools of Oriental Research* 62 f.

Macqueen (1959:178) proposes that the Hittite Sun Goddess of Arinna (Hurrian Hebat) was a continuation of the powerful chthonic maternal figure so typical of the region. In Hattian times, Tatišvili (2007:185) notes that the Sun Goddess of Arinna (and the Earth) was a deity of both sky/heaven and earth/underworld. Her passage through the underworld each night was as a ruler, not as a visiting judge or in search of sleep, as in Egypt and Mesopotamia (Tatišvili 2007:188). As a Hattian deity, she ranked above the numerous gods of fertile and subterranean waters, which the later Hittite writing system had rendered with the ideogram for 'Weather God' (Macqueen 1959:178). By the imperial era, this deity had morphed into a potent, genuine weather god of storms, residing in mountains and almost on a par with the Sun Goddess (Macqueen 1959:179). Thus, the Hittite Weather God, closely identified with sacred rain-gathering mountains (Beckman 2012:154), retained power and access across all zones including control of water above and below the earth and rain from the heavens (Tatišvili 2007:187). The sun god mirrors these chthonic connections. A sun god is usually connected to the term *nepišaš*, meaning 'of heaven', but also to the epithet 'sun of the earth' or the underworld (Tatišvili 2007:188), while a sun goddess is linked to *taknaš*, 'of the earth' (Tatišvili 2007:190), and originally the Hattian title *Wurunšemu* or 'mother of the earth' (Tatišvili 2007:189). She guided mortal souls to the underworld (Collins 2007:177) along the 'Invisible Road' (Hoffner 1998:34). It becomes clear that sky deities were also earth deities linked to the netherworld (Tatišvili 2007:188) and, in my view, enjoyed a universal entitlement that was taken for granted. This is a key difference to the attitude of Greek deities who were at risk when transgressing cosmic zones.

Human intervention enhanced the dynamic landscape of Gavurkalesi. Three key deities flank a natural opening in the rock face typically perceived as a portal to the netherworld and a passage between the subterranean zone and the heavens (Mlekuž 2019:49). The rocky limestone peak became a cosmic axis, a place where the cosmos connects (Sørensen & Lumsden 2016:82) and where mortals can transcend their earthly boundaries and engage the deities. The limestone outcrop reaching to the sky, the dark rocky chamber, a crevice and portal to the netherworld, streams and gushing chthonic springs all presented a liminal physical environment on which to build a metaphysical concept (Tatišvili 2007:187; Beckman 2012:155) that was anchored horizontally and vertically.

SANCTUARY OF HERACLES ON MT OETA

In 1920, a sanctuary with evidence of a fire cult to Heracles, the patron of thermal springs, was discovered in a high meadow on Mt Oeta (fig. 40). Few scholars have shown an interest in fire festivals in Greece, which are relatively rare in the region (Croon 1956:210) and, depending on location, can involve various deities, obscuring the origin of the rite (Nilsson 1923:144).

In essence, bonfires were intended to promote fertility through good harvests, healthy livestock and prosperous communities while deflecting natural disasters (Frazer 1987:642; Kirk 1973:185). Certain ancient cults show a strong association between a pyre at the summit of a mountain and a procession into a valley to venerate the nature deities of sacred springs (Frazer 1987:143; Croon 1956:214). The fire cult on Mt Oeta, with its proximity to hot springs flowing in the valley, is remarkably similar to Apollo's cult at Thermon (Croon 1956:212). Croon (1956:218) posits that the veneration of Apollo at Thermon was grafted onto an ancient cult based on a combination of mountain bonfire and lowland springs (extinct); he sees a chthonic substrate to fire cults. Nilsson (1923:145) has an opposing view and notes that, unlike the cult of heroes, 'the fire festival is not a chthonic sacrifice' – fire cults are found in many ancient cultures and reflect the desire for fruitful produce from the earth. However, in this instance, there was the addition of thermal springs below Mt Oeta and thermal springs are usually linked to chthonic cults (Croon 1952a:116). Thus Croon's (1956:215) position is convincing: on Mt Oeta, the conjunction of thermal springs, mountain and fire produced 'an outstanding example of a combination of fertility- and chthonic ritual'

The excavation on Mt Oeta revealed two walled areas. The larger peribolos contained a modest temple, a portico and an altar (Nilsson 1923:144; Croon 1956:212). The second walled enclosure was erected during the Roman period and enclosed a substantial ancient ash pile. The discovery of an ash heap on Mt Oeta created considerable interest at the time as it gave visible substance to the myth of Heracles' immolation, supporting Livy's mention (36.30) of 'a place called Pyra, because it was there that the mortal body of the god was cremated'.

Fig. 41. Mt Oeta. Ruins of the sanctuary of Heracles on the site of the hero's immolation at the threshold to the Katavrothra plateau.

Immolated within the pyre were bronze weaponry, archaic bronze figurines of Heracles and pottery fragments, including two sherds with dedications in archaic writing to Hercules (Nilsson 1923:145, Croon 1956:212), providing further links to the myth of

Heracles' fiery death (Soph. *Trach.* 1179**).** The numerous burnt bones of sheep, pigs and oxen excavated from the pyre come from all sections of the skeletons and point to 'a holocaust rite' (Croon 1956:212). In all likelihood, Heracles was not the founding deity associated with the fire cult at the summit of Mt Oeta (Kirk 1973:185; Croon 1956:213). While the oldest remnants, found at the heart of the ash pile, date to the 6th century BC (Shapiro 1983:15; Croon 1956:212), the origins of the cult were probably much older (Croon 1956:215; Croon 1952:12) and gave rise to the aetiological myth.[96]

Croon (1956:215) suggests that the hero took over and adapted a dual cult to an earlier nature deity of fruitfulness and the earth, and the earlier cultic ritual persisted (Croon 1956:217). Heracles was not merely a protector of thermal waters, he actively subjugated pernicious chthonic forces (Croon 1952:12) that had been venerated and appeased nearby (Croon 1956:216). Figurines of Heracles, and possibly one of Artemis, replaced the fertility totems thrown on the pyre in earlier times (Croon 1956:217). Thermal springs tend to be located in more primitive regions such as the Western Peloponnese, the region around Mt Oeta and the Maeander valley where ancient rural beliefs, traditions and folklore persisted in more sophisticated cults often associated with Heracles and Artemis (Croon 1956:216).[97] Springs, rivers and lakes were particularly emotive, as Greeks (Connors & Clendenon 2016:172; Croon 1956:215), like Hittites, considered them portals to the underworld. The sanctuary of Heracles is located in the *eschatia,* beyond the civilising polis with its tilled fields (Cole 2000:473; Endsjø 2000:359) and cooked food (Endsjø 2000:380). Mt Oeta dominates the area (Croon 1956:212), and the remoteness of the site, its wildness and its distance from settlements enhanced the sense of being in an uncanny sacred space (Lucero & Kinkella 2014:18) where the unusual could occur.

Further investigation reveals a number of fire cults associated with mountains where deities were venerated with the immolation of animals, cultic images or human effigies. Examples include water-loving Artemis Laphria at Patras and Hera on Mt Cithaeron (Nilsson 1923:144), the Curetes at Messene (Nilsson 1923:145), an early Artemis at Prinias (Nilsson 1923:147), fiery Artemis Pyronia on Mt Crathis (*Paus* 8.15.9) and the fire festivals on Larissa in Argos and Lyrkeia (Paus. 2.25.4), among others. Central Greece has the clearest examples and Nilsson (1923:145) regards them as remnants of 'an old, somewhat decayed rite in Greece'. A connection between fire, mountain, water, trees and fertility in ancient Greece can be made in regard to the river Asopos, oak trees and the immolation of cultic images on Mt Cithaeron during the Great Daedala (Frazer 1987:143). Mt Oeta presents another example.

[96] Shapiro (1983:7) notes that in the large body of myths featuring Heracles, many probably originated in the oral tradition as folktales during the late Bronze Age.

[97] Artemis was strongly associated with watery places, including thermal springs. Croon (1956:219) observes that 'she was still worshipped near hot springs long after her chthonic connections with these waters were forgotten'.

Fig. 42. Leake's plan of Thermopylae and adjacent country (1836) indicates the ancient coastline (A) nearer to Mt Oeta.[98]

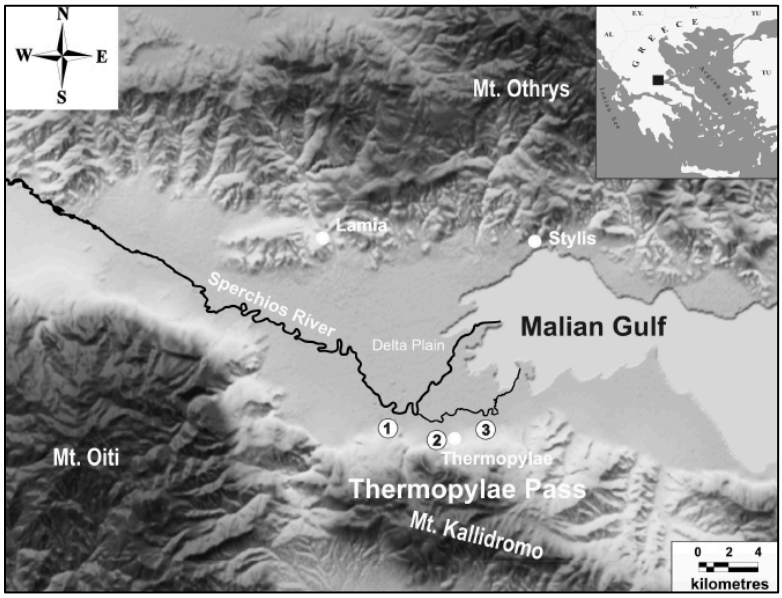

Fig. 43. Overview of the Malian Gulf area with Mt Oeta and the current coastline.

Mt Oeta, on the border of Phthiotida and Phokida in central Greece, is a thickly wooded mountain in an area notable for dramatic karst hydrology (Croon 1956:210). Its steep northern face rises from the Spercheios valley; to the east the Asopos gorge separates it from Mt Kallidromo and to the west the river Vistriza (ancient Inachos) divides it from Mt Goulina (Kastanioti & Stamellou 2013:5). Two other key rivers, the Gorgopotamos

[98] Modern research supports Leake's positioning of the ancient coastline (Kraft et al 1987: 189).

and the Asopos, rise on the eastern side of the mountain (Kastanioti & Stamellou 2013:6). Ancient travellers from the north could access the south via Thermopylae's narrow pass between Mt Oeta and the Malian Gulf (Vouvalidis et al 2010:242; Kraft et al 1987:183). Low-lying ancient sites are buried deep beneath alluvial silt as the coastline has shifted dramatically over millennia (figs. 41 and 42) and the geology of the region remains dynamic (Higgins & Higgins 1996:81; Kraft et al 1987:192).

Figs. 41 and 42 make clear the holistic connection between mountains, plain, springs, river and sea. Alluding to Philoctetes' return to his homeland (Soph. *Phil.* 721–726), the chorus emphasises the notion of a unified landscape '…land of sea-nymphs, near Spercheius's banks where once the bronze-armored Heracles approached the gods all splendid with fire atop Oeta's craggy mountain'. In reference to this description, Croon (1956:213) notes that the watery valley and soaring mountain 'are grasped in one thought.'

Dramatic gorges and plunging waterfalls score the slopes and cliffs of Mt Oeta. Sinkholes and caves fret the landscape and give rise to springs and streams (Kastanioti & Stamellou 2013:4). The abundant presence of water above and below ground is the result of limestone and flysch (Alexopoulos et al 2014:3; Kastanioti & Stamellou 2013:6), encouraging specialised flora and fauna (Kastanioti & Stamellou 2013:20) and making the mountain a remarkable example of emotive karst terrane (figs. 43, 44 and 45). The mountain has a dual personality: its wild, forested character softens at its summit to reveal beguiling meadows lush with summer flowers and enigmatic vanishing ponds or small poljes (Connors & Clendenon 2016:150; Alexopoulos et al 2014:2; Kastanioti & Stamellou 2013:6).

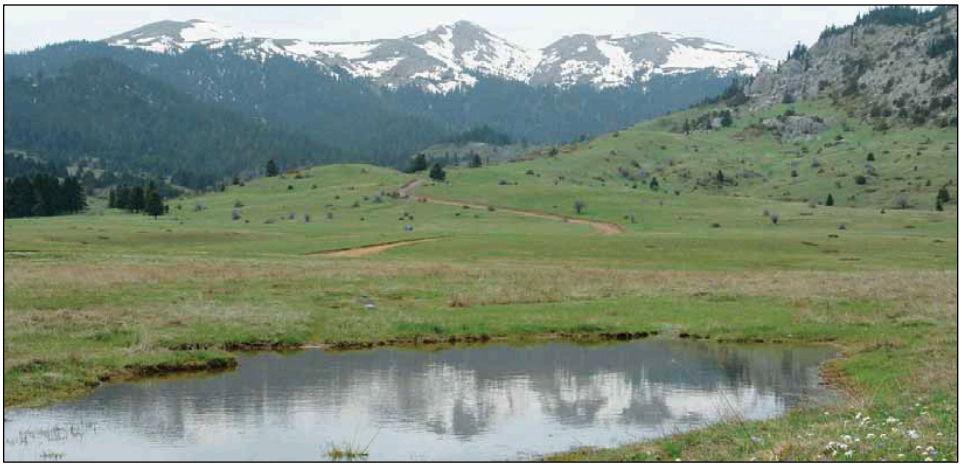

Fig. 44. Mt Oeta. Seasonal pond on the Katavothra plateau.

Fig. 45. Mt Oeta. Cave on the Katavrothra plateau.

Fig. 46. Mt Oeta. Asopos springs near Pavliani.

The area's thermal springs emerge along a single fault line (Higgins & Higgins 1996:82; Croon 1956:210) and are described thus by Herodotus (7.176): 'To the west of Thermopylae rises a high mountain inaccessible and precipitous, a spur of Oeta; to the east of the road there is nought but marshes and sea. In this pass are warm springs for bathing, called by the people of the country The Pots, and an altar of Heracles stands thereby'. Shrines to Heracles (Strab. 9.4.2), protector of thermal springs (Croon 1956:214) and averter of malign chthonic influence (Croon 1956:216; Croon 1952:12), are no surprise in an area flowing with rivers, waterfalls and springs (Kastanioti & Stamellou 2013:4). Like springs that burst from below, Heracles was thought to be 'a son of the earth', increasing his strength through contact with it (Apollod. 2.5.6). These hot springs formed the backdrop to Sophocles' *Trachiniae* (written 440–430 BC), the earliest surviving tragedy of the Heracles story and a consolidation of the various myths detailing the events surrounding Heracles' immolation (Shapiro 1983:17; Cochrane 1997:56). Heracles' determination for death on a flaming pyre links him to the cremations of the 'god-descended heroes' of the Bronze Age; the lack of remains obviated the need for a grave, thus supporting the idea that he had ascended to heaven (Shapiro 1983:16). In other words, the myth becomes coherent if the notions of immolation and apotheosis were synchronous. Heracles is unique among Greek heroes in the manner of his death and ascent to live with the gods on Olympus (Hom. *Od*. 11.601–603; Hes. *Th.* 950–955). The hero's self-cremation on Mt Oeta, with its pools, springs and streams, expands the connection to water, trees and the underworld.

Heracles has several watery connections to the landscape of the region. According to Herodotus (7.198), the Dryas river 'rose up from the ground' to quench Heracles' flaming pyre. The hero confronted Theiodamas in Dryopian country near Mt Oeta

(Croon 1953:283), guarded Athena's gift of mineral baths at Thermopylae (Croon 1956:211) and protected the hot springs of Aedepsus across the strait in Euboea (Strab. 9.4.2). Heracles vanquished Deianeira's original suitor, the bull-horned, shape-shifting River Achelous (Morford & Lenardon 2003:534; Soph. *Trach.* 1) and, according to Apollonius of Rhodes (4.538), the mother of Heracles' son Hyllus was Melite, a water nymph and daughter of the Aegaeus River.

I would argue that the region of the Malian Gulf, the Spercheios valley and Mt Oeta is filled with physical and metaphysical thresholds portending Van Gennep's observation (1960:20) that 'to cross the threshold is to unite oneself with a new world'. Typical markers that denote zones of transition, a place 'betwixt and between' (Turner 1964:48), include salt marshland on the Malian plain (Kraft et al 1987:187) and blue-green sulphurous hot springs pouring from the base of the mountain (Croon 1952:5), with wild woods, captivating meadows, caves and vanishing pools on Zeus' sacred mountain.

In Sophocles' *Trachiniae,* it is in this living watery landscape that Heracles will be transformed by fire and reborn as a god, acquiring 'a new achieved status' (Turner 1964:47; Van Gennep 1960:20).[99] This event had been set in motion (Cochrane 1997:57) by a supernatural marshland snake typical of liminal zones (Turner 1964:53). Heracles is associated with several such chthonic creatures (Hes. *Th*. 309–314), such as Geryon 'the Herdsman of the Dead' and Cerberus (Croon 1952:10). The fearsome nine-headed water snake or hydra lived in the Lernaean marsh, a portal to Hades (Paus. 2.36.7).[100] Her home was under a plane tree rooted next to the Amymone spring (Paus 2.37.4).[101] Heracles acquired a deadly poison from her gall when he killed her, only to be killed by it himself. Her poison on the shirt of Nessus burnt through Heracles' veins (Soph. *Trach.* 770) like the fire he would seek on Mt Oeta in order to escape it. In desperation, he flung himself into a stream, but the fiery poison intensified and turned the waters into hot springs (Cochrane 1997:69). Fire may have been regarded as a 'purifying agent' (Shapiro 1983:16), burning away his mortal body to allow his immortal being to rise, like the smoke of sacrifices, to heaven.

Heracles chose death by immolation on a mountain sacred to Zeus (Soph. *Trach.* 436), another god with water, tree and chthonic connections (Soph. *Trach.* 753–754), in an 'animated sacred landscape where the nature-culture dichotomies collapse' (Harmanşah

[99] In his translation of Apollodrus' *Library* that appears in *The library of Greek mythology*, Hard (1997: 216 n.91) observes that, based on iconographic evidence, the notion of Heracles' ascension to Olympus as a god probably dates to the late 7th century BC. An apotheosis is not found in earlier texts, for example, the *Iliad* and *Odyssey*.
[100] Pausanias (2.37.5–6) notes that the extreme depth of the Alcyonian Lake (Lake Lerna) could not be measured and swimmers were in danger of being pulled under and never seen again.
[101] In Sparta, Heracles shared a sacred grove of plane trees with Lykourgos (Larson 2007:186).

2014:4).[102] Kindled by a pine taper, his funeral pyre was built specifically of mature oak and male olive wood (Soph. *Trach.* 1195–8). Heracles' death 'opens the door' (Van Gennep 1960:192) and allows him to cross the threshold to his heavenly rebirth (Cochrane 1997.66) 'in the glorious home of snowy Olympus' (*HH*. 15).

This awe-inspiring karst environment of thermal springs below and the mountain above kindled the idea of a numinous porous zone of transition anchored between the living and the dead (Endsjø 2000:373), between Olympus and Hades (Endsjø 2000:365), and formed the location of Heracles' transformative event. For the Greeks, the *eschatia* embodied more than untouched, primeval wilderness between settlements (Cole 2000:473; Endsjø 2000:371). Mountain, meadows, marshes, caves and springs created the notion of a metaphysical region rich in potential and paradox 'where there is a certain freedom to juggle with factors of existence' (Turner 1964:53) leading to an altered state (Turner 1964:47).

Conclusion

Sited in remote, uncultivated borderlands between civilised settlements, Gavurkalesi and Heracles' sanctuary on Mt Oeta show notable similarities in the way they were anchored horizontally/geographically and vertically/mythically. Karst geology has replicated typically emotive features in both regions: the mountain slashed with ravines and caves, and the springs and marshland in the valley below. The topography suggested a numinous threshold connecting the living with the dead, and with chthonic powers and the underworld. The position at the summit of a mountain afforded a vertical connection to the deities of the sky and the immortal realm beyond. The sanctuaries channelled these components for the benefit and prosperity of the community and, in so doing, gave 'an outward and visible form to an inward and conceptual process' (Turner 1964:48).

[102] The oak was sacred to Zeus, as seen with the oracular oak at Dodona (Parke 1967:23), founded in the 8th century BC. At Dodona, Zeus' epithet was Naios or 'the Flowing', possibly reflecting the marshy landscape (Parke 1967:20) and the number of springs (Larson 2007:26). Although a sky god linked to mountains like Oeta, Zeus had links to the earth with several chthonic cults. For example, as Zeus Melichios, he was depicted on some votive reliefs as a giant snake (Larson 2007:21).

CHAPTER 7: SACRED SPRINGS AND CAVES

> But the portal may also be the seat of a particular deity (Van Gennep 1960:21).

IVRIZ

Dating to the Middle Bronze Age (Harmanşah 2014:1), Ivriz is an example of a site that continued as a spring sanctuary for some 400-500 years following the decline of the Hittite Empire (Harmanşah 2015:381). Located on the northern slopes of the Taurus Mountain and west of the Cilician Gates, the site has produced a stele, several rock reliefs and monumental buildings, including a fortress (Harmanşah 2015:381). In addition to the construction of the Ivriz dam, the area is prone to flooding and soil erosion, thus few artefacts or pottery have come to light until recently (Maner 2016:237) when sherds dating back to various periods, including the Middle Bronze Age, were excavated from a nearby sewage works (Maner 2016:238).[103]

The remote spring sanctuary displays astonishing karst hydrology (Hawkins 2015:8; Harmanşah 2014:1). Stimulated by snowmelt, a series of springs flow strongly only during warmer months (Ivriz cultural landscape 2017 web). Similarly, above them, is a cave where a tremendous, seemingly miraculous cascade of chilled water (fig. 46) appears in early spring and vanishes at the end of summer (Hawkins 2015:8).

The cliffs and springs of Ivriz are a typical location for the expressions of Hittite beliefs. Hittites regarded springs as female divinities and Bier (1976:124) notes that springs are closely linked to disappearing deities that crossed cosmic zones and vanished into watery landscapes. Geological formations (rocks, mountains) were considered male divinities (Ökse 2011:219). They provided a divine home and functioned as magnets for deities (Ökse 2011:220). Collins notes that the Hittite tradition of open-air cult sanctuaries included aniconic representations of divinities (2005:14) and water was a driving factor in fashioning new divinities (2005:32). Weather deities were clearly linked to mountains, rocks and water sources (Ökse 2011:237). Similarly, Hittite kings imprinted their political and religious authority by aligning themselves to bodies of

[103] The area is being surveyed by the Konya Ereğli Survey project (KEYAR), which began in 2013 (Maner 2016:225).

water (Rojas 2015:201). Dramatic rock formations, mountains, rivers, springs were places of cultic significance and political dominion, thus were honoured with open-air altars and carved reliefs (Hawkins 2015:1; Rojas 2015:202; Ökse 2011:221) as evidenced at Ivriz, Hanyeri, Gavurkalesi Sipylos-Akpinar and Yalburt, among others.

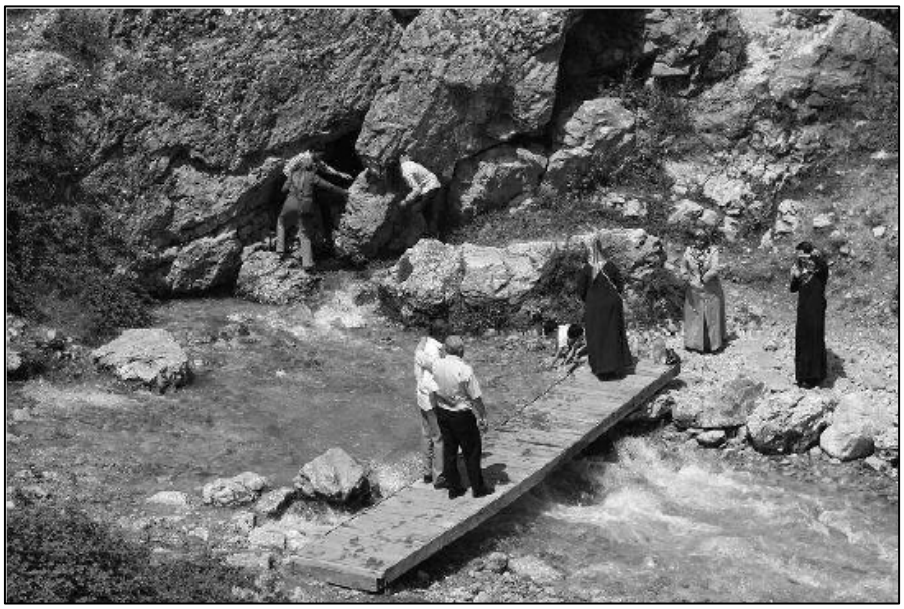

Fig. 47. The water cave and spring.

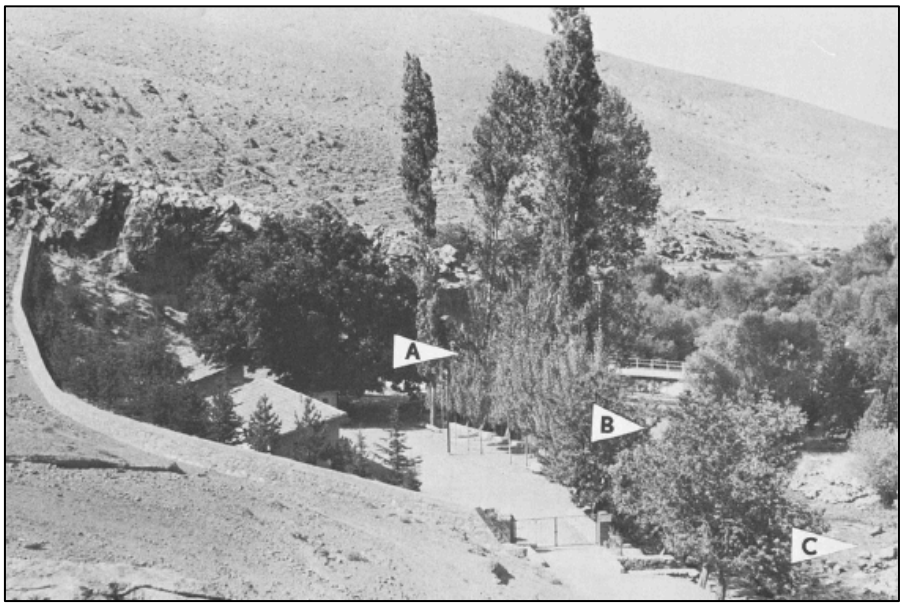

Fig. 48. View of the spring sanctuary at Ivriz (detail). A: Warpalawas relief hidden by trees. B: Modern reservoir. C: Stream.

The large relief of the Weather God Tarhunzas and Warpalawas,[104] the local king of Tuwana (Hawkins & Postgate 1988:38), bears Luwian inscriptions and was carved onto the cliff face of a sharp horizontal finger of rock protruding into the gorge (fig. 47)

[104] Urbala'a in the Assyrian text SAA 11 030 that names the kings of Tabal (Tribute from Tabal 2014 web).

(Harmanşah 2015:380). The king petitions his god, who, as divine provider of agrarian abundance, bears grapes and a sheaf of wheat (Radner 2013 web).[105] As Warpalawas was a contemporary of the Assyrian king Tiglath-Pileser III (744–727 BC), the relief can be dated to the Neo-Hittite era during the 8th century BC (Harmanşah 2014:1). Akurgal (1962:140) offers c.730 BC as the closest date, and thus it is less relevant to this discussion than an intriguing, smaller relief without an inscription above the source of an icy spring to the south. Bier (1976:123) suggests an earlier date, c.1200–850 BC, for the small relief, putting it at the end of the Hittite empire and possibly reflecting a last echo of Hattian influence, regarding water as a threshold to another cosmic zone.

The small, badly weathered relief (figs. 48, 49 and 50) is located at the crest of the spur, above the multiple mouths of the icy spring (Bier 1976:115) and shows astute use of natural rock. The image, only 90 cm wide, almost filled the nearly vertical rock face (Bier 1976:118). Two steps have been cut into the adjacent rock, ending with a rock slab and a shallow trough (fig. 50) resembling a basin. This might have been an altar, a receptacle for sacrifices or a support for a stele (Maner 2016:247). The image depicts a worshipper, possibly an attendant to the larger fragmentary figure (Bier 1976:121), leading a sacrificial animal. The lack of any depiction of a deity is of great interest and may indicate the deity was present at this site in some other form (Bier 1976:124) or was below ground within the spring. The spring was expected to be the entrance of the god's return to the mortal world (Bier 1976:126), making it, in my view, a transitional point between cosmic zones. The god's arrival would signal the return of life-giving water; thus Bier (1976:125) reasons that disappearing gods reflected anxieties in times of drought.

The poorly preserved relief is simply executed on one shallow plane with little detail on either the petitioner or the animal, and no inscription (Bier 1976:119). In front of the figure with the animal are the feet and ankle-length robe of another figure (Bier 1976:118) leading this little procession. The proportions suggest this fragmented figure was considerably taller than the complete figure behind it and may have been a priest, a king or another member of the royal family (Bier 1976:121) carrying a libation. Similar little processional scenes of a king or priest offering libations, accompanied by an acolyte leading an animal, occur on the orthostat reliefs at Arslantepe and Relief B 30a at the Water Gate at Carchemish (Bier 1976:121). Unlike the fragmented figure, the supplicant probably wears a kilt, as bare legs are visible under the animal's belly (Bier 1976:119).

[105] Akurgal (1962:140) notes Aramaean influence in the rich treatment of the garments while Radner (2013 web) highlights the Phrygian elements such the style of pin on the king's robe.

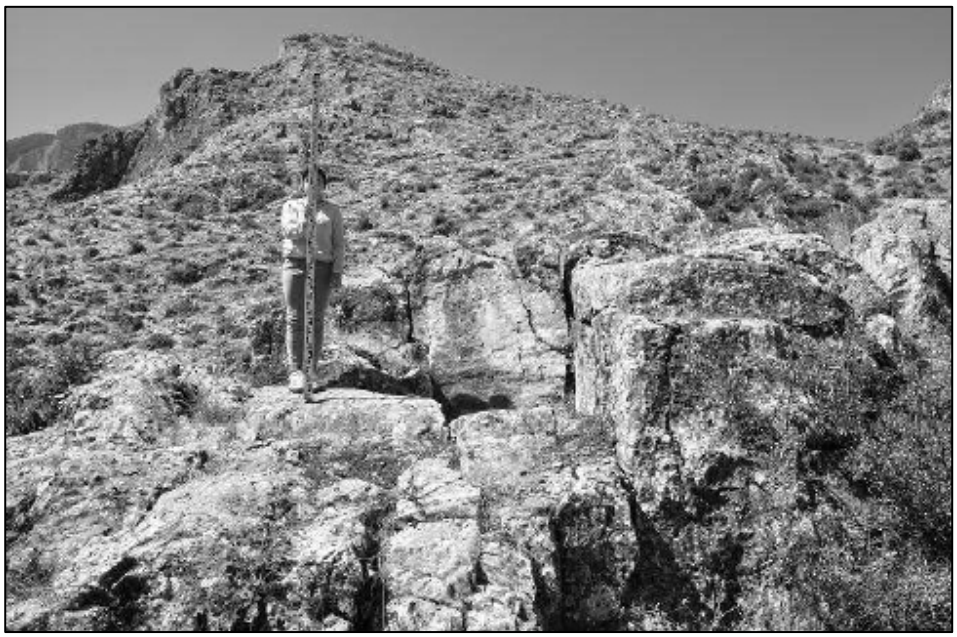

Fig. 49. The location of the small relief at Ivriz (the relief has been moved to the Ereğli Museum). The near vertical rock face is in the centre; the steps are visible on the right.

Fig. 50. Small relief *in situ*. Offering shelf and steps (right).

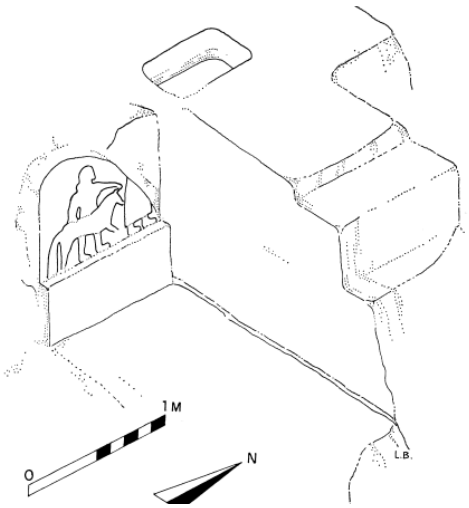

Fig. 51. Relief, offering table, steps and basin. Isometric drawing.

The image of an animal being led is widespread across the ancient near east and is familiar from Hittite monuments, for example, at Arslantepe, Carchemish and on the Hasanlu gold bowl (Bier 1976:121). The animal on the small Ivriz relief is in profile and impossible to identify. Theories include a horse or a dog, even a bull, if the ear is seen as a horn (Bier 1979:118). To my mind, the full tail and pronounced curve of the jaw on this animal suggest a foal or colt.[106] Ritual texts mention the sacrifice of horses in

[106] In the Aegean world there is an interesting, usually chthonic, connection between horses, water and springs. Horses in Greek mythology tend to be fathered by Poseidon. Obvious examples are winged Pegasus and Hippocrene Spring on Mt Helikon (Paus. 9.31.3) and the horse that sprang from the earth when Poseidon's trident hit the rock of the Acropolis (Cook 1895:142).

purification and royal funerary contexts (Mouton 2017:243). For centuries, Hittites, Hurrians and Mitannians had valued, bred or trained horses (Raulwing 2005:63; Burney 2004:125 sv Horses), as evidenced by the Hittite Horse Texts from the corpus found at Hattusa, some of which date back to the 15th century BC (Raulwing 2005:61). Centuries later, the Assyrian text SAA 11 030 shows that this region supplied horses and mules as tribute to Assyria during the 8th century BC (Tribute from Tabal 2014 web).

The heavy weathering and lack of inscription make it difficult to grasp the significance of the small relief, although the discovery of an intact bronze tablet at Boğazköy in 1986 (Hawkins 2009:164) has provided food for thought. By the reign of Tudhaliya IV the Hittite Empire was in decline and under threat from the Assyrians. As evidenced by the Bronze Tablet treaty (Bo 86/299), Tudhaliya's cousin Kurunta, possibly with designs on the imperial throne, managed to negotiate his own kingdom of Tarhuntassa (Burney 2004:xxvii). Based on §7 of the Bronze Tablet treaty, which covers the Hatti-Tarhuntassa border territory, Hawkins (2015:8) analyses the line, '(Coming) from the city Zarwisa, Mount Sarlaimmi, the ^{D}KASKAL.KUR, the water of the *ḫinnaru(wa)* is his frontier'. Mt Sarlaimmi, or the 'Exalted' (Luwian), is accepted as being the Taurus–Bolkar Dag range, and Ivriz lies on its northern slopes (Harmanşah 2015:379). Thus, Hawkins (2015:8) suggests it is likely that *ḫinnaru(wa)* water and ^{D}KASKAL.KUR mentioned in the text refer to the water cave and powerful seasonal spring at Ivriz.[107]

The mountain, a water cave embedded in the rocks, high meadows, and a narrow valley shaded by trees and pierced with clear springs feeding a river and wetland (Ivriz cultural landscape 2017 web) are elements denoting a ^{D}KASKAL.KUR, a term that has both physical and metaphysical meaning (Osborne 2017:94). Gordon (1967:75) argues that Hittites understood ^{D}KASKAL.KUR as a karstic sinkhole and subterranean waterway that embedded a distinctive Anatolian concept: a Divine Road of the Earth or threshold to the netherworld (Hawkins 2015:8; Taracha 2009:160; Gordon 1967:78).

As mentioned in the context of Gavurkalesi in Chapter 6, the meaning of 'KASKAL' seems clear. In Sumerian it denotes a 'road' or a 'journey', including a 'military campaign', comparable to Akkadian *harranum* (Gordon 1967:75). 'KUR' has a variety of meanings and three have bearing on the Hittite term. In daily Sumerian, 'KUR' meant 'foreign land', while in the literary form it was 'netherworld', with a pertinent, albeit rare, use during the Old Babylonian Period as 'mountain, highland' (Gordon 1967:75).[108] Gordon (1967:76) posits that the combination of KUR with KASKAL provides the clue to the Hittite term. A 'road' linked to a 'mountain' would be a 'mountain pass' and in hydrological terms a gorge or ravine. 'Road' linked to

[107] The meaning of the term *ḫinnaru(wa)* is unknown.
[108] Generally, Hittite texts use the term HUR.SAG to denote a mountain, although KUB 38 6 and KUB 38 10 use KUR in conjunction with seven names that are almost certainly mountains (Gordon 1967: 76).

'netherworld' equates to a tunnel, thus corresponding hydrologically to a subterranean waterway. In the Aegean world the equivalent term, including the chthonic aspect, would be a *katabothron* (Gordon 1967:80). Geologists refer to this karstic hydrological feature by the Slavic term, 'ponor' (Fields 2002:144 sv ponor).

Bier (1976:124) links rites at spring sanctuaries to texts related to vanishing deities, and thus as portals to a divine realm; Macqueen (1959:174; 1980:186) argues that both Telepinu and the Storm God of Nerik are water gods allied to springs. The Storm God of Nerik vacated his city and enters into the netherworld through a spring (Hoffner 1998:23), while the bee searched springs and rivers before locating Telepinu in a copse of trees (Hoffner 1998:20; Bier 1976:124) and luring him back to the mortal realm with various delicacies (Bier 1976:125). The Storm God of Nerik received a sacrificial sheep thrown into an opening near the spring that carried the god to the underworld (Hoffner 1998:23; Bier 1976:125), providing a clue as to where missing deities went and how they travelled there.

I suggest that the dramatic karst landscape of Ivriz, with its sacred springs and reliefs, can function on multiple levels of physical and metaphysical transition. The site is a political boundary, a geographical borderland, a sanctified place of ritual offering, a threshold to the netherworld, a divine liquid highway to another cosmic zone and a connection between the seen world of the living and unseen world of the ancestors (Osborne 2017:93; Harmanşah 2015:382).[109]

BRAURON

In the words of Dowden (1990:44), Brauron is 'a window onto ritual, myth and a history reaching back before Greeks were Greeks'. On the Attic coast, two rural sites in landscapes of rock and water provide examples of transitional rites and liminal space through their affiliations to three sacred women associated with transitions – Artemis, Hecate and Iphigenia – via the distant territory of Scythian Tauris (Papadimitriou 1963:111) on the Black Sea. While each multifunctional divinity has distinctive characteristics, Hecate wields an unusual mandate in the Greek world. Her ancient influence over multiple cosmic zones 'in earth, and in heaven, and in sea' (Hes. *Th.* 425–427) echoes the attributes of the Hittite Sun Goddess of Arinna and the Earth. She can be connected either to Anatolia, via her Carian roots (Boedeker 1983:80), or to Thessaly (Farnell 1896:504). Although scholarly opinion varies regarding her influence in the underworld (Boedeker 1983:81; Farnell 1896:553), she is clearly connected to Persephone's descent in the *Homeric Hymn to Demeter* and, as her companion, can travel between the upper and lower realms (Larson 2007:166). She presents a unique

[109] Millennia later the springs, reputed to be medicinal, still attract visitors (Harmanşah 2015:379) and the cave retains its mystique, for nearby is a *çaputlu ağaç,* a tree festooned with votive strips of fabric (Hawkins 2015:8) echoing the one I saw at Pergamon (fn. 89).

case, as she was able to enter other cosmic zones without risk to herself or her worshippers.

Papadimitriou (1963:113), who initiated the excavation at Brauron, considers Iphigenia to be the manifestation of a powerful goddess venerated at prehistoric Brauron with a cult that persisted beyond the Mycenaean decline c.1300 BC. Larson (2007:107) proposes that Artemis replaced Iphigenia at Brauron, thereby downgrading the mother goddess to a heroine. Thus, the later Iphigenia, victim and daughter of Agamemnon, was grafted over the original Iphigenia (Ekroth 2003:74) and, as noted by Hollinshead (1985:439), the earlier deity of childbirth Iphigeniea 'may have given her name to the sacrificed Atreid princess originally called Iphimede'.

Pausanias (1.43.1) remarks that in Hesiod's *Catalogue of women*, Artemis turned Iphimede (later Iphigenia) into Hecate, who was equated with 'Artemis of the crossroads' (Ekroth 2003:61) or 'wayside Artemis' (Hollinshead 1985:421), and was Artemis' first cousin via Leto (Hes. *Th.* 412, 920; Eur. *Phoen*. 110). The earliest account of Iphimede's transformation comes from a fragment of Hesiod's *Catalogue of women* and Hollinshead's translation (1985:421) reads:

> Herself the arrow-showering deer hunter easily saved, and placed lovely ambrosia on her head, so that her skin might be everlasting. She made her immortal and ageless for all time. Now the tribes of men on earth call her wayside Artemis, attendant of the glorious arrow-showerer.

As immortal Hecate, Iphigenia was transmuted into 'a transfunctional goddess' (Boedeker 1983:92; Clay 1984:32) because Hecate is unique among the Greek deities for her universal influence (Boedeker 1983:80). The notion of transfunctional Greek goddesses probably dates to the Mycenaean era (Boedeker 1983:87).

The origins of Artemis have been linked to the Minoan *potnia theron* type (Nosch 2009:29; Larson 2007:102) and the Cretan goddess Britomartis, another maiden who enjoyed hunting stags with bow and arrow (Callim. *Hymn 3*). Callimachus, in his hymn to Artemis (*Hymn*[3] 9), notes that Artemis came from Scythia and abandoned human sacrifice on her arrival in Greece. Papadimitriou (1963:113) considers that Iphigenia's connection to Artemis and the Atreidae was a later development at Brauron. The legend of Orestes, his sister Iphigenia in Scythian Tauris and the return of Artemis' cult statue to Greece are contained in Euripides' *Iphigenia in Tauris*, staged in Athens in 414 BC (Themelis 2002:110) in which, as Artemis' priestess, it is her duty to ritually sacrifice strangers who land in Taurica. Larson (2007:104) comments that his account may have been influenced by Herodotus' mention (4.103) of the savage Tauri who clubbed and killed strangers in 'sacrifice to the Virgin goddess…[110] The Tauri themselves say that this deity to whom they sacrifice is Agamemnon's daughter Iphigenia'. In the play,

[110] The Greeks equated her with Artemis.

Athena's vision of two manifestations[111] of Artemis at two sanctuaries in Attica links Artemis' priestess Iphigenia to Brauron and Halae[112] and gives substance to her presence, living and dead, at Brauron.[113]

Fig. 52. The area of Brauron. The sanctuary is marked in red at the tip of a sickle-shaped acropolis. The low-lying silt plain (right of the sanctuary) was under the sea during the Bronze and Iron Ages.

A rugged headland (fig. 51) marked the prehistoric settlement of Brauron and formed the backdrop to the rural sanctuary of Artemis Brauronia, where women petitioned for successful births (Larson 2007:107; Cole 1984:238; Papadimitriou 1963:113) and saffron-robed 'little bears' honoured her with races and dances (Larson 2007:108; Cole 1984:240). Silt from the River Erasinos has formed a fertile flood plain and the sea no longer laps the base of the acropolis (fig. 51) as it did in ancient times (Papadimitriou 1963:111). Similarly, the river Erasinos once flowed through the vale of Brauron; now, it flows underground (Kondis 1970:51). Thus, ancient Brauron was sited between sweet and salt waters: a physical point of transition between the coast and the interior.

The site of Brauron may date to as early as the 9th century BC (Nosch 2009:30) and was in cultic use from the 8th to 3rd centuries BC (Paga 2016:185; Themelis 2002:109). Other than a link to legendary Iphigenia (Papadimitriou 1963:113), the later site appears to have little connection with the flourishing older settlement dating from the Neolithic period c.3500 BC to the late Mycenaean era c.1300 BC (Papadimitriou 1963:112), when the town was abandoned and for which we have no historical record (Dowden 1990:35). The metal artefacts found in the Mycenaean chamber tombs nearby indicate a

[111] Farnell (1896:440) argues for one cult practised at Brauron and Halae, that of Artemis Brauronia. Thus, at Halae, Artemis Brauronia was venerated as Artemis Tauropolos.
[112] Although the sanctuary of Artemis at Mounichia, near the harbour of Piraeus, has cultic connections to Brauron and Halae, my focus is on Brauron. At Halae Araphinides, a few miles north of Brauron, little remains of the sanctuary of Artemis Tauropolos (Kondis 1970:51) with its links to human sacrifice in Tauris (*Eur.* IT 1.38).
[113] Archaeology seems to support this view (Papdimitriou 1963:111), although the subject continues to be debated (Ekroth 2003; Hollinshead 1985). Ekroth (2003:59) argues that Euripides is responsible for Iphigenia's presence at the site.

prehistoric settlement made prosperous from maritime trade (Papadimitriou 1963:112). The later sanctuary, according to Kondis (1970:51), 'remained a major centre of *rustic* divine worship' (my italics).

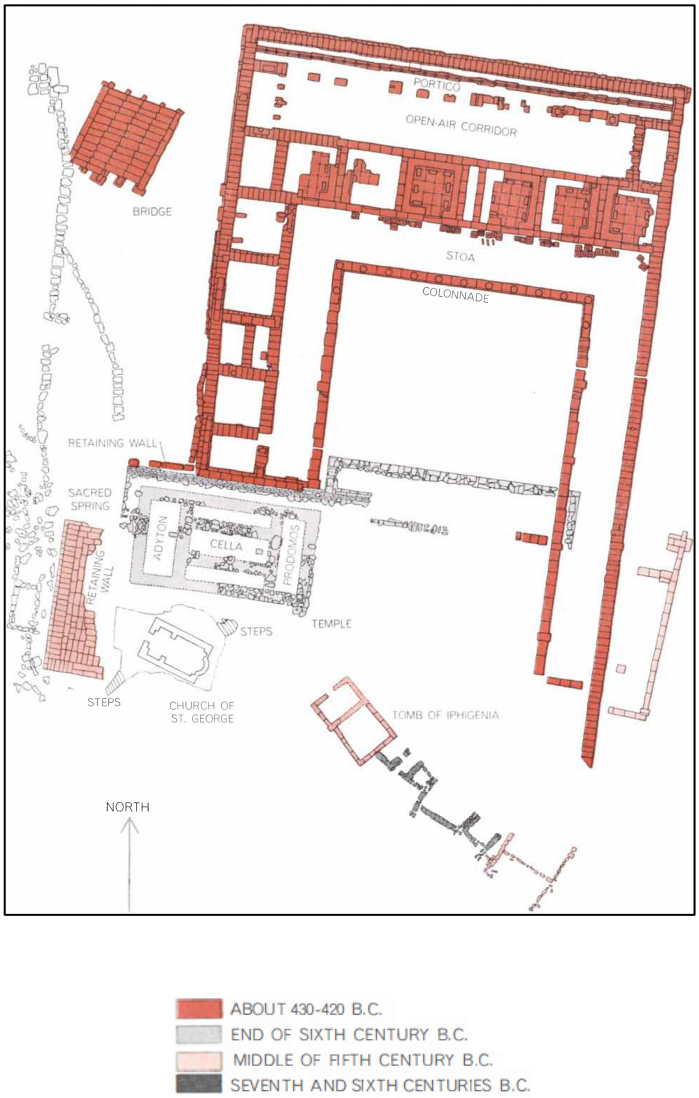

Fig. 53. Ground plan and dating of the sanctuary at Brauron.

The most primitive expression of cults to Artemis was rooted in Attica, Laconia and Arcadia, although her worship is evident in all major regions of early Greek communities (Larson 2007:101; Farnell 1896:425). Her earlier worshippers venerated a goddess who was 'a protector and patroness of wild animals and especially of those that were with young' (Farnell 1896:434). Her cult retained aspects of brutality (Larson 2007:101; Farnell 1896:427) lacking in cults of other Greek deities. Nilsson (1961:15) and Farnell (1896:427) regard her as an early indigenous goddess of water, wilderness, wild animals and uncultivated trees who was worshipped by primitive people living off hunting and fishing. Thus the Homeric image of her as the chaste sister of Apollo is a

later notion.[114]

Characteristically, her sanctuaries were sited on borderlands near trees, rivers and springs (Nosch 2009:30; Larson 2007:106), often thermal (Croon 1956:195), making the water-rich, wooded vale of Brauron ideal for a goddess of the hunt (Kondis 1970:51), a protector of childbirth (Papadimitriou 1963:113) and a patron of rites of passage for young girls (Ekroth 2003:62; De Polignac 1995:60). Research into ancient vegetation patterns in the region shows the area as an attractive combination of fragrant *maquis*, meadow, mixed forest and woodland, although pine forests and salt marshes increased during the Classical period (Kouli 2012:273).[115] Brauron's karst landscape, with its rocks, cave and springs, encouraged the sense of a liminal place of transition 'where there is a certain freedom to juggle with factors of existence' (Turner 1964:53) and where one state shifts to another (Turner 1964:47). At Brauron, worshippers stood on the threshold (Van Gennep 1960:190) of a new state of life or death.

Artemis had close affiliations to a variety of animals, probably reflecting prehistoric beliefs in totems and clan animals (Farnell 1896:427). The habitat around Brauron provided homes for wolves, lions[116] and bears (Kouli 2012:269), all animals sacred to Artemis (Farnell 1896:432), although Artemis Brauronia is particularly associated with bears. An ancient Attic tale tells of a sacred bear killed at Brauron, an act for which Artemis unleashed a plague (Ekroth 2003:63), halted only by the sacrifice of a maiden or the introduction of the *arkteuein*, a rite where little girls spent time at the sanctuary imitating bears (Larson 2007:108; Cole 1984:241), possibly because female bears were regarded as good mothers (Cole 1984:241) or, more plausibly, as Farnell (1896:437) observes, because in earlier times Artemis was a goddess linked to a bear cult.

Turner (1964:49) notes that, in ancient societies, bears were a marker of a transitional state because bears hibernate, 'dying' in autumn and 'reviving' in spring. The juxtaposition of opposites via one symbol, such as a bear, is typical of the liminal state which is 'neither this nor that, and yet is both' and a passage that will lead to a new social state (Turner 1964:49) and is thus part of the three stages universal to all rites of

[114] Her many epithets cover flora, fauna and natural elements. Arcadia has evidence of several: the 'lady of the lake', of wetlands (Farnell 1896:427), the shooter of stags (Larson 2007:103) and goddess of the nut-tree and the cedar (Farnell 1896:429). At Phigalia she acquired a fish tail (Farnell 1896:430), at Teuthea she was goddess of forest meadows while at Cnidus she cared for the hyacinth (Farnell 1896:429).

[115] At the end of the 3rd century BC the tendency of the Erasinos river to flood increased (Kouli 2012:275), burying the sanctuary (Kouli 2012:269) and preserving votive offerings in the mud. A marble stele c. 300–200 BC bearing an Athenian decree proposed repairs to buildings at Brauron, yet attempts by Athens to dig its respected sanctuary out of the mud failed (Kouli 2012:269).

[116] Wolves and lions were sacred to Artemis (Farnell 1896:432). Cook (1895:110) argues that Mycenaean beliefs included a lion cult. Lions embodied the force of the earth, and thus the great gate into Mycenae may have signalled that the city was 'under the protection of Chthonian deities' (Cook 1895:110). Artemis' chthonic aspect is evident in the *Iliad* (21.470–71), where Hera refers to her as a lion with the potential to bring life or death to women (Larson 2007:101).

passage (Van Gennep 1960:21). For the young girls, it was a time of ritualised wildness, the antithesis of the usual state required of their gender (Cole 1984:242), before entering society's ordered world with the skills to be wives and mothers. Who better to guide them than a mercurial goddess whose nature could be both brutal and gracious?

The sanctuary (fig. 52) displays several buildings and two natural features of interest: a cave and a spring. At the northern boundary is a ∏ shaped building referred to as the Parthenon,[117] reflecting the virginal nature of Artemis and Iphigenia (Kondis 1970:56), and which may have been sacred to legendary Iphigenia, priestess of Artemis (Kondis 1970:57). Also termed the 'stoa of the *arktoi*', the *parastas* is unusual in that it contains stables with innovatively designed mangers for the horses[118] belonging to the sanctuary (Themelis 2002:105) and, according to inscriptions,[119] supplicants offered Artemis items of tack, including bridles (Kondis 1970:52). To the northwest, a bridge across the brook dates to the archaic era and early 5th century, a period at the site that has had little attention (Themelis 2002:108).

The 5th century temple of Artemis Brauronia with a *cella* and *adyton* appears to cover an earlier sanctuary (Papadimitriou 1963:115). Like those at Halai and Aulis, the *adyton* has been linked to a chthonian Iphigenia (Hollinshead 1985:419). The temple was built on an artificial terrace cut into the rock, with a retaining wall below (Papadimitriou 1963:113). Steps in the wall lead to the temple level before continuing up the slope towards the post-Byzantine chapel of St George (fig. 53), thus appearing to support Euripides' description in Athena's speech: 'You, Iphigenia, must be key-holder for this goddess on the hallowed stairs of Brauron, and will die there and be buried…' (*IT* 1465). Papadimitriou (1963:113) considers that the original altar lay on the levelled rock outcrop underneath the chapel, noting that ancient foundations are visible in the chapel floor.

At the temple's northwest corner, we find a spring and a cave (figs. 53 and 54), indicators that this was a zone of transition. The sacred spring bubbles from the limestone into a pool and feeds a brook flowing north to join the river Erasinos (Themelis 2002:108). A sandstone podium was constructed south of the sacred spring and its use remains unknown (Themelis 2002:104). The area around the spring and pool produced 'literally thousands of objects associated with the private lives of women'

[117] The earliest meaning was 'unmarried' (Farnell 1896:448), a state that could or would change. Rangos (1995:2) considers virginity as dynamic and the 'precondition of fertility'. The building consists of rooms, some of which are dining rooms, an inner court, colonnades on the east, west and north and an open cloister or *parastas* on the north (Themelis 2002:104).
[118] Artemis has a link to horse breeding (Farnell 1896:450) and horses were associated with water (fn. 106).
[119] Only some of these inscriptions have been published. They date from 5th to 3rd century BC and deal with the role of Artemis during the Peloponnesian War, given the strategic value of Brauron's harbour, loans owing to the sanctuary, inventories and building maintenance (Cole 2004:229).

(Papadimitriou 1963:113), indicating that the spring was the sacred heart of the sanctuary (Paga 2016:185; Papadimitriou 1963:115).[120]

Fig. 54. The sacred spring and pool at the northwest corner of the temple of Artemis Brauronia. Between the stepped retaining wall (left) and the temple podium (right) are smaller steps leading to the ancient altar and the 16th century chapel of St George.

On the south-eastern hill, the most intriguing feature is a cave or crevice sandwiched between the neatly built Small Temple to the northwest and the Sacred House to the southeast (Ekroth 2003:75). The crevice is some 25 m long by 5 m wide and beneath the fallen rocks from the cave roof are a few roughly built small chambers dating to an earlier period (figs. 54 and 55). Papadimitriou (1963:115) notes that caves were favoured resting places for heroes and heroines, and, like the sacred spring and pool, the area revealed considerable numbers of valuable artefacts in gold and bronze. The floor of the largest room was covered in ash and dotted with little pits, which held 6th and 5th century pottery fragments, small terracotta figures and ten bronze mirrors (Ekroth 2003:77). The pits were filled with black earth and closed with beach pebbles. The earliest artefacts recovered from the crevice that became the tomb of Iphigenia date to the 7th century BC (Themelis 2002:108; Kondis 1970:53).[121] The second largest room bears traces of a hearth or pyre (Ekroth 2003:77). The Small Temple was built after the tomb was buried in the rock fall and functioned as a heroön to Iphigenia (Papadimitriou 1963:115). The earliest cult seems to have been practised at the spring and cave, with recovered artefacts pointing to a hero or heroine cult; thus Themelis (2002:109) notes that Iphigenia, the daughter of Theseus, is the likeliest prospect.

[120] Among many items preserved by the mud is a bronze mirror offered to the goddess and bearing a message in archaic Greek, 'Hippylla the daughter of Onetor has dedicated it to Artemis in Brauron' (Papadimitriou 1963:115). The artefacts cover the period beginning c.700 BC and ending c.480 BC when Attica, including Brauron, was laid waste by the armies of Xerxes (Hdt. 8.50).
[121] Ekroth (2003:78) notes the absence of Bronze Age hard evidence linking Iphigenia to the cave.

Fig. 55. The cavern with collapsed roof. The walls, dating to c.7th and 6th centuries, may have been part of Iphigenia's cenotaph built inside the cave. The small shrine (back wall in foreground) was built after the collapse of the cave roof.

Fig. 56. The Small Shrine or heroön of Iphigenia from the north (foreground). In the background is the cave with collapsed roof and early walls.

Papadimitriou (1963:115) proposes that, prior to the collapse of the cavern roof, the roughly built chambers enclosed the tomb of Iphigenia, fulfilling Athena's command that Iphigenia, having served Artemis as her priestess, will die and be buried at Brauron (Eur. *IT* 1465). Thus Brauron's cavern, so typical of karst geology, could represent birth/Artemis and death/Iphigenia simultaneously. Turner (1964:49) refers succinctly to 'tombs and wombs', a juxtaposition of opposites via one symbol that is typical of liminal states. Larson (2007:107) observes that from time to time Artemis was merged with Eileithyia, the Cretan goddess of childbirth who was venerated in a cave, while Iphigenia's tomb in the rocky crevice at Brauron acquired the clothes of women who had died giving birth.[122] Hollinshead's (1985:425) theory is that the prehistoric cult

[122] Sporn (2013:208) outlines several other connections between caves, deities and childbirth.

involved women offering clothing to a birth goddess living in a cave.[123] Artemis may have supplanted this ancient goddess, leaving her with the chthonic aspect, later adopted by Iphigenia (Hollinshead 1985:426). Thus, at Brauron, Iphigenia became associated with death in childbirth (Hollinshead 1985:429) while Artemis was associated with life in childbirth. Although there is no hard evidence to prove these theories conclusively, clearly Brauron's cavern exerted a powerful presence and I suggest it presents the duality of life and death so often associated with liminality (Turner 1964:48).

Fig. 57. Cave shrine of the nymphs. Three nymphs are guided by Hermes, with Pan visible at the entrance (upper right). Hellenistic period.

Fig. 58. A pregnant woman and three other women before an altar, accompanied by three boys, one holding a sacrificial lamb. Cave of the nymphs in Pitsa. Wooden polychromatic plaque 540–530 BC.

[123] Caves present as alluring, uncanny places and are intrinsic to physically dynamic karst landscapes (LaMoreaux 1991:216). Mlekuž (2019:45) observes that 'a cave is a rupture in the fabric of the world, a place where the innards of the landscape become accessible' in landscape that is in itself is 'a force, an energy and a process' (Mlekuž (2019:47); an ongoing dynamic fusion generated holistically through geology, flora, fauna and people. Caves, like landscape, engage both physical senses and imagination (Mlekuž 2019:47), connecting people to the sky, the earth's familiar surface and the dark subterranean world (Mlekuž 2019:48). Sporn (2013:202) notes that the challenge with caves is to determine whether this fascination was confined to mythology or evident in cultic practice.

In Attica, cultic activity in caves emerged during the 7th century (Sporn 2013:204) with growing interest in caves as a motif from the late 6th century onwards (fig. 57). Vase paintings and reliefs show caves in the context of myth, particularly those of Heracles, the nymphs, Pan, Hecate and Hermes (Sporn 2013:202), to mention a few (fig. 56). Sacred caves tended to be located in rural areas and research shows that, in the main, rustic local people frequented sacred caves and brought modest offerings (Sporn 2013:209). Thus caves, together with open-air shrines and sacred groves, were 'nature sanctuaries' with significance to country folk, a subject worth further investigation (Sporn 2013:209). With its links to Athens, Brauron is an exception, as many of the votive offerings were expensive and finely made (Larson 2007:107), such as the bronze mirrors and terracotta figures mentioned above. With the focus on female rites of passage and the transition from childhood to adolescence to motherhood (Cole 1984:243; Turner 1964:47), clearly the preparation and bearing of a robust child was paramount to the socio-economic success of the city (Cole 1984:244).

The legend of Iphigenia, the spring, cave and small shrine provide access to Artemis and Hecate, two multi-layered goddesses associated with borders, liminal zones and physical/metaphysical transitions. In her role as a human sacrifice, Iphigenia was closely linked with Artemis and Farnell (1896:441) notes that her name, like that of Callisto (1896:435), was a local cult name for Artemis who, as noted above, was associated with Hecate (Aesch. *Supp*. 667; Paus. 1.43.1). The early cult possibly offered an animal associated with the goddess to the goddess (for example, a stag, hind, boar or bear). In times of severe crisis, an earlier primitive rite may have required a human sacrifice instead of the animal (Farnell 1896:442).

As is typical of liminal states, Artemis displays various dichotomies (Larson 2007:101) aside from her close ties to still/flowing, hot/cold and sweet/salty waters. On the one hand she is a nurturer of all young life, women's health and childbirth (Callim. *Hymn*3); she is the chaste guardian of wild flora, fauna and of growth. She is goddess of uncultivated trees, forests (Hom. *Il*. 21.470), meadows (Farnell 1896:429) and mountains (Callim. *Hymn 3)*. Some depictions show her, like Hecate (Farnell 1896:516), bearing a torch symbolising her chthonic connection (Farnell 1896:459).

On the other hand, her nature can turn savage and some of her bloodthirsty aspects seem to have been attached to Iphigenia (Farnell 1896:452) at Brauron and Halae. Artemis is the guardian of warriors and hunts animals to the point of destruction (*HH* 27.10); her brutal rites at Patras included a holocaust of living animals (Larson 2007:103) and possibly human sacrifice (Farnell 1896:455) – boys were whipped severely before the altar of Artemis Orthia in Sparta (Larson 2007:105), while at Halae men had their throats nicked to draw the blood necessary to honour the goddess (Eur. *IT* 1459–61).

Artemis and Hecate have much in common besides their torches, hounds (Farnell 1896:516) and possible Carian roots (Clay 1984:28). Both were unmarried yet involved in weddings, childbirth and nurturing of the young (Larson 2007:166). Artemis' connection to Hecate may have arisen from the notion that Artemis could bring death randomly (Farnell 1896:461), and Hecate's depiction in a triple aspect expands the connection.[124] Farnell (1896:553) argues that the triple aspect does not represent three aspects of one goddess in the manner of Hesiod's notion, but a trinity of goddesses (Selene, Artemis, Hecate) representing the three zones of the cosmos, being moon (heavens), earth and underworld.

As a deity in her own right, with broad influence and honours awarded by the Titans and by Zeus (Boedeker 1983:81) over three cosmic zones (Farnell 1896:554), Hecate has connections that include both metaphysical and physical trinities. Boedeker (1983:81) refers to Hesiod's *Theogony* and the *Hymn to Hecate* (411–52) where the self-reliant, benevolent goddess has influence over all cosmic zones and lacks the dark, menacing components usually ascribed to her.[125] With her sweeping powers, she in turn may grant honour to attentive mortals (Boedeker 1983:82). She is both a unifier of cosmic zones, mortals and deities (Clay 1984:37) and, through her connection to the older Titans and the newer Zeus, of 'past and present time' (Boedeker 1983:82; Marquandt 1981:245). Hecate guarded liminal, potentially dangerous places of transition: crossroads, gateways and doorways, including that of Hades (Farnell 1896:556).[126] Her key role was as protective goddess of all types of transition, a state that carried risk and threat (Larson 2007:166) on physical and metaphysical levels. Childbirth was certainly a transition that carried both negative and positive elements: new life or death for either or both mother and child. Turner (1964:51) notes that the 'structural simplicity of the liminal situation in many initiations is offset by its cultural complexity' and Hecate's characteristics present complex themes of transition that deserve fuller investigation.

In an atmosphere of ritualised wildness, under the protection of Artemis, children and adolescents at Brauron gained the skills to transition through the key stages of their lives. Mothers celebrated new life with Artemis or mourned death with Iphigenia. Brauron was a threshold that would open a new state of being. Artemis and Iphigenia

[124] Hecate's later depictions show her in triplicate (Hekataea), each of her faces pointing in a different direction, as epitomised in the statue by Alkamenes (c.430 BC) that guarded the entrance to the Athenian Acropolis (Larson 2007:166).
[125] In 5th century literature, Hecate's character acquired stronger links to the underworld and sorcery, possibly through her closer affiliation to Enodia, goddess of roads, who originated in Thessaly, an area associated with the black arts (Marquandt 1981:252). Her unusual nature was emphasised by sacrifices of dogs, which were not eaten by Greeks, and sometimes the remains were left at crossroads (Larson 2007:166).
[126] People set candles into small cakes and placed them at the centre of crossroads, hallowed places to both Hecate and Artemis (Farnell 1896:511).

were linked to Hecate, child nurturer and mediator between mortals and immortals, who could influence all cosmic zones, necessary characteristics for a sanctuary with connections to life and death. Artemis and Hecate were both guardians of potentially threatening points of transition, whether in the physical or the metaphysical worlds. The rural sanctuary is located at the base of an acropolis that once rose from the sea in a dramatic karst landscape that is home to wolves, lions and bears, animals sacred to Artemis. The sweet water spring, rocky crevice, woodland, marsh and meadow are all features associated with liminal thresholds where the deities are close and normal rules of the cosmos are suspended.

From this brief outline it becomes apparent that the place, the sanctuary and the three deities encapsulate points of transition on multiple levels. Although beyond the scope of this study, the subject presents several intriguing aspects that could be studied in greater depth.

Conclusion

Ivriz and Brauron were isolated sites of remarkable beauty where petitioners entered a liminal place existing outside everyday life. Each brings a different approach to the interpretation of karst hydrology and caves; yet, I would suggest, the transitional themes of life and death apply to both. At Ivriz, worshippers petitioned the deity via a wilful icy spring that emerged from a high cave only in summer. For Hittites, the elusive spring fostered communication with the deity residing in another cosmic zone. It was a threshold between earth and the netherworld and a divine liquid road between the mortal and immortal, and the living and the dead. At Brauron, the karst cave, spring and pool formed the sacred heart for female rites of passage crucial to the social order of the city. In my opinion, the goddesses at Brauron were life-givers or death-bringers, and were thus stationed at the most important thresholds for humanity. The same can be said of Ivriz, for, should the life-giving spring withhold its return to the surface at the end of winter, famine and death would ensue.

CHAPTER 8: THRESHOLDS

> … there are always new thresholds to cross: the thresholds of summer and winter, of a season or a year, of a month or a night; the thresholds of birth, adolescence, maturity, and old age; the threshold of death and that of the afterlife – for those who believe in it (Van Gennep 1960:190).

CHAMBER 2 AND THE SACRED POOL COMPLEX AT HATTUSA (SÜDBURG)

Hattusa's Upper City (figs. 59 and 60) has a connection to a zone of transition that is centred on the Eastern Ponds, a substantial complex of artificial pools serving both a practical and a ritual purpose (Harmanşah 2014:153). Within this pool complex is a cultic area referred to as the Südburg, after the later Phrygian citadel wall erected over a section of one of the ponds (Neve in Hawkins 1995:9). Chamber 2, a cave-like room built into the corner of cultic Pond 1 (Erbil & Mouton 2012:56) has a 13th century BC Luwian hieroglyphic inscription that mentions a pathway into the earth (Erbil & Mouton 2012:59; Hawkins 1995:44) and a transitional zone where a king might meet his god. Because a natural threshold to the deities was missing, an artificial Divine Road of the Earth was constructed to mimic a natural portal to the deities. In other words this was a man-made *hattessar*, an opening in the earth from which a subterranean spring rises (Macqueen 1959:173). If so, it presents a clear link between karst hydrology and Hittite beliefs, supporting my stated objective (pages 4–5).

Although scholarly interest was focused initially on the inscription in Chamber 2, Peter Neve (in Hawkins 1995:9), the director of the site for some 30 years, emphasises that due consideration must be given to the wider architectural context surrounding the sacred pool in the Upper City and, I would add, the remarkable karst landscape (fig. 58).

Sited on a high plateau 400 m above the plain (Schachner 2017:38) and protected by plunging river gorges on the eastern and western sides (Schachner 2017:37), Hattusa, capital of the Hittite Empire (1650 BC to 1180 BC), was a sizeable city covering some 1.8 sq.kms (Meilke 2011:1034). Typical of karst landscapes, the combination of non-porous clay and porous limestone resulted in springs, wells and streams and ensured a

consistent water supply to the imperial city (Schachner 2017:37).[127] The dramatic terrain drops more than 350 m over 2 kms and is punctuated by great outcrops of karst limestone (fig. 58) that delineate natural 'terraces' of varying sizes (Schachner 2017:37; Meilke 2011:1035) and elevations. To the north, beyond the city, were fertile plains, while forested mountains lay to the south (Schachner 2017:42). Being distant from key pathways, Hattusa seems curiously remote for a powerful imperial capital, yet its position was tactically excellent. It lay at the centre of a remarkable geography where the southern mountain passes and the Budaközü river valley to the north gave easy access to all the key cities and important sanctuaries of Anatolia (Schachner 2017:46).

Fig. 59. General view of Hattusa showing the dramatic limestone outcrops.

Fig. 60. The Upper City with the Sphinx Gate, Yerkapi (the tunnel entrance through the wall) and the immense rampart in the foreground.

Büyükkale (fig. 60), one of the awe-inspiring crags, was chosen for the royal palace, effectively siting it at the heart of city between the Lower City in the north and Upper City in the south. Other outcrops[128] accommodated bureaucratic or religious functions

[127] This combination would retain subterranean water (Schachner 2017:37).
[128] Sarıkale, Yenicekale, Taanıkkaya, Kızlarkayası, Kesikkaya, Ambarlıkaya (Schachner 2017:38) and Nişantaş (Meilke 2011:1036).

(Schachner 2017:38) and, post 16th centuy BC (Schachner 2017:43), the Hittites used and shaped the natural karst features purposefully to design the city to their advantage (Schachner 2017:37). The famous rock sanctuary of Yazılıkaya, beyond the north-eastern city walls, is one visible example of architectural additions and the influence of natural elements on cult (Schachner 2017:40). In contrast, the vaulted chamber at the Sacred Pool Complex is evidence of how a Divine Road of the Earth could be artificially constructed (Hawkins 1995:45) when a natural pathway to the netherworld was not present. Thus the divinity of the landscape was harnessed artificially to enhance the right and might of the king (Rojas 2015:202).

The Upper City (fig. 60) has revealed 30 temples, some dating back to the close of the Old Hittite period (Meilke 2011:1036), and the area was built to a sophisticated plan that highlighted the north–south and east–west axes, thus making divine cosmic order visible (Müller-Karpe 2015:86). The Great Temple 1, warehouses and impressive granaries dominated the Lower City (fig. 60). The city was enclosed by massive fortified walls studded with gates and corbelled tunnel entrances that defined civilised urban life (*happira-)* from the untamed wilderness (HUR.SAG) beyond the pastures and fields (A.ŠÀ) that acted as an ordered peri-urban zone (*gimra)* (Schachner 2017:45).[129] The term HUR.SAG and, in certain contexts, *gimra*, would equate to the Greek *eschatia*.

At Hattusa, water engineering and management is evident for human and animal use as well as crop irrigation (Schachner 2017:41). Unlike the reservoirs sited beyond the city walls, the Eastern Ponds within the city may have been specifically cultic, although both urban and peri-urban ponds employed the same technical design and were linked to karst formations (Schachner 2017:40). Springs and rainwater filled the Südburg pools and there is evidence of repairs dating to the 13th century (Erbil & Mouton 2012:57). Water was piped from the forested mountains south of the city, possibly from the spring at Ibikçam (Erbil & Mouton 2012:56). The pipe passed through the city wall north of the King's Gate in a double channel of large, grooved stone slabs grouted with lead (Neve in Hawkins 1995:9).

As part of the Eastern Ponds area, the Sacred Pool Complex lies on the eastern side of the site, south of the royal citadel and outside the east–west postern wall that defines the Lower City (fig. 66). There are two impressive pools with a dam positioned between

[129] In his 1999 article, 'The City and The Country' Beckman unpicks these terms in detail, noting that *gimra* carried many meanings depending on context. *Gimra* was applied to a planted field (KUB 17.10 iii 16–18, CTH 324) or a farming complex; it was a legal term for agricultural land (§53 Hittite Laws). The term was associated with military campaigns and might be interchangeable with the Sumerian KASKAL (KUB 5.1 iii 54, CTH 561). It could be a suitable place for rituals carrying a threat of pollution (KUB 9.31 iii 58, CTH 394) and, like, HUR.SAG, *gimra* might be the untamed steppe and/or mountains (VBoT24 I 31–32, CTH 393). Wild plants were 'of the *gimra*' (KBo 12.112 rev 9, CTH 470).

them (Erbil & Mouton 2012:57). Pond 1 is located closer to the city wall and Pond 2, the sacred pool, is sited closer to Temple 31 (Erbil & Mouton 2012:56), although votive objects were found in the bottom of both ponds (Erbil & Mouton 2012:57). Pond 1 is orientated southeast and covers an area of some 6, 000 square metres extending from the Iron Age Phrygian fortress (Südburg or south citadel) towards the fortified wall and King's Gate.

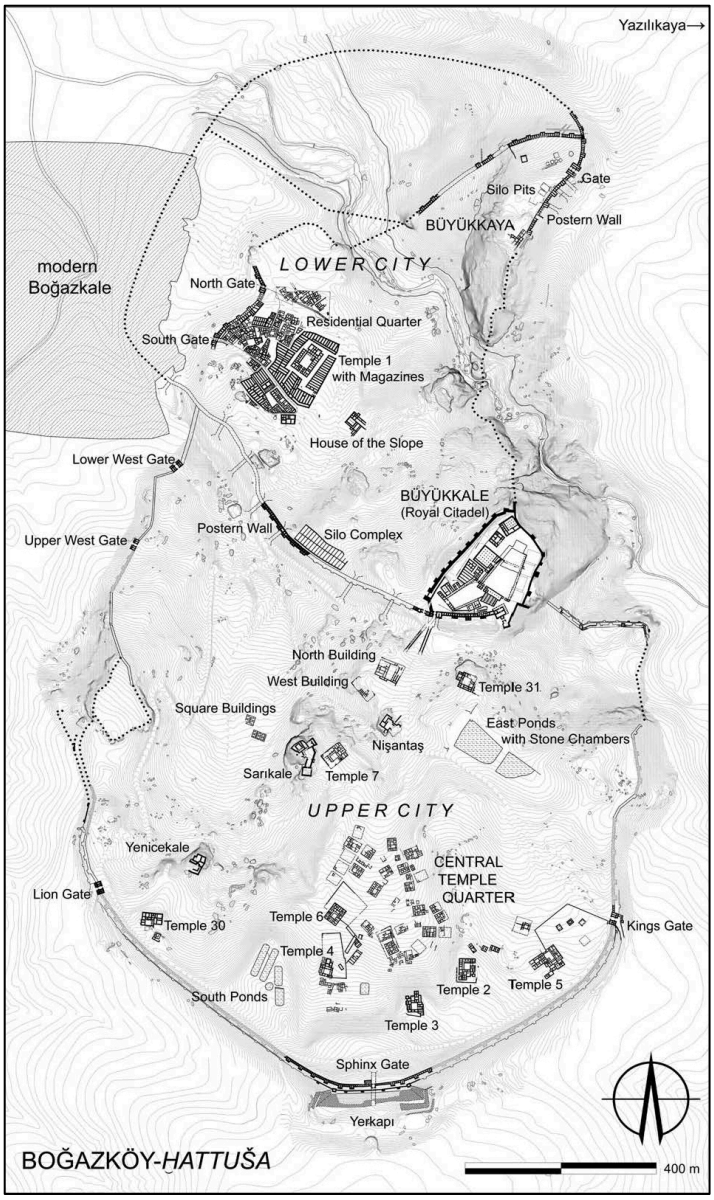

Fig. 61. Plan of the capital Boğazköy-Hattusa (Boğazköy expedition). The Sacred Pool Complex, part of the East Ponds, is located between the Upper City and Lower City (centre right).

Neve's introduction in Hawkins (1995:9–12) describes the area in detail. The rectangular pool has sloping walls some 2 m high, faced with stone. Temple 31 lies to the north close to Chamber 2 and may have been connected to the pool complex (Neve in Hawkins 1995:11). Built into the retaining wall of the large pool are two small, dark chambers with parabolic vaults: Chamber 1 in the western corner and Chamber 2 in the northern corner (fig. 61). Almost hidden from public view, both taper inwards and are

identical in size and construction (Neve in Hawkins 1995:9).[130] In 1993 the chamber was successfully reconstructed with original material (figs. 62 and 63) and the excavation revealed that a stone channel at the northern end of the pool was built at the same time as the original city wall and aqueduct. The channel was abandoned in the later building phase when Chamber 2 was repaired and the new Chamber 1 (in the western corner) was constructed. This suggests that the chambers date to the end of the Hittite Empire (Neve in Hawkins 1995:12).

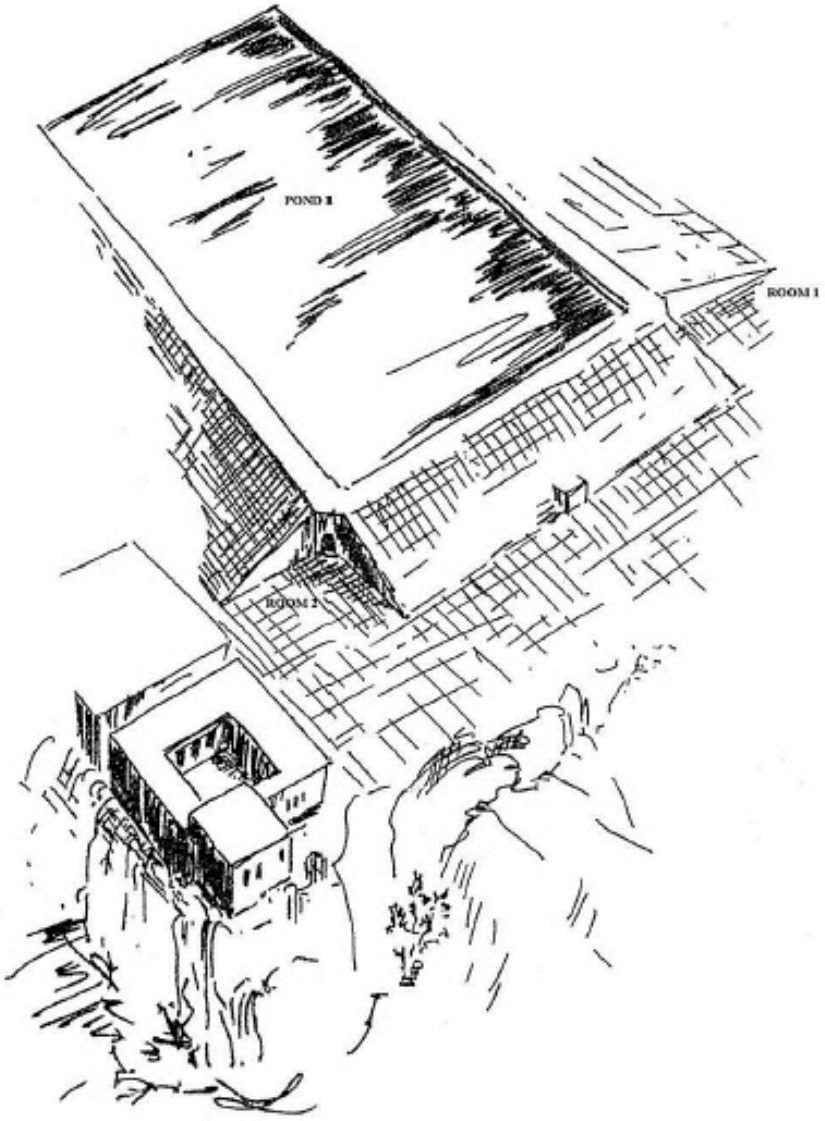

Fig. 62. Reconstruction of the Sacred Pool Complex with Chamber 1 (lower centre) and Chamber 2 (upper right).

[130] Chamber 2 was relatively well preserved because the later Phrygian fortress wall was built over it and used some of the inscribed Hittite stone blocks from Chamber 2 in the castle walls (Neve in Hawkins 1995:9).

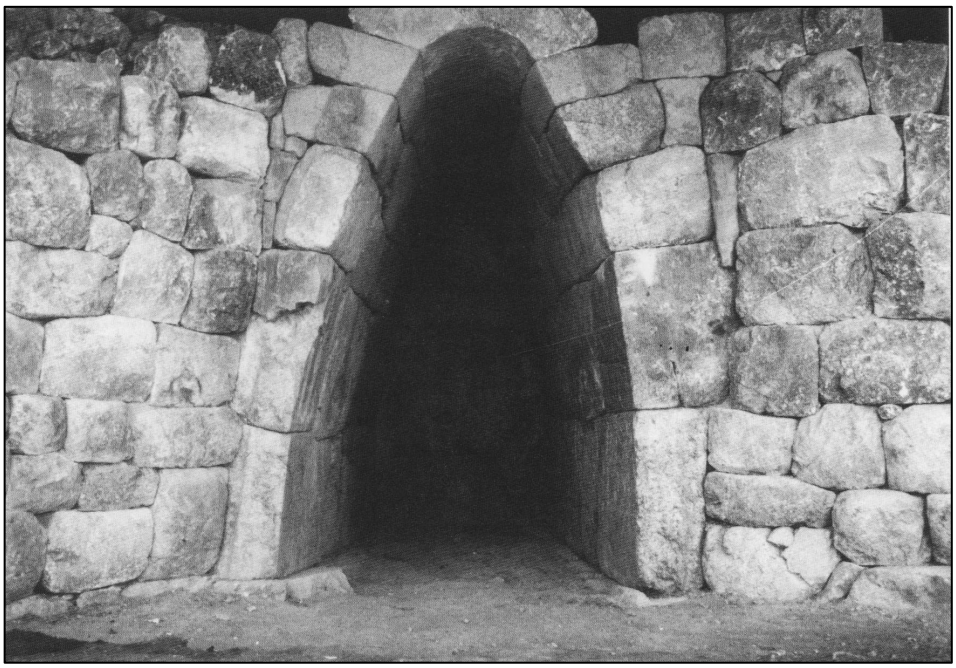

Fig. 63. Chamber 2 after reconstruction.

Fig. 64. Chamber 2 and interior western wall with inscription.

The entrance of Chamber 2 faces north and is flanked by the high retaining walls of the pool (fig. 61).[131] The lateral walls at the entrance had five layers of stone blocks, reducing to four further into the chamber, although only three layers remain (figs. 62 and 63). The layer at floor level formed a pedestal while the layers above were curved to form the arched ceiling, which was finished with four curved apex stones of different lengths (Neve in Hawkins 1995:10). The relief on the back wall shows a figure bearing

[131] The chamber is 4 m long with a width of 2 m at the entrance that narrows to 1,6 m at the back. The height is 3,3 m at the entrance and 3,1 metres at the rear wall (Neve in Hawkins 1995:10).

the *lituus*, a royal staff with a curled end below the winged sun; thus the figure may be a sun god (Neve in Hawkins 1995:10), or the winged sun might represent the sun god and the figure below could be the Great King (Erbil & Mouton 2012:55). The floor level is one metre lower than the ground level of the pool (Neve in Hawkins 1995:10). In front of the back wall, at the foot of the sun god relief, is a narrow rectangular pit 50 cm deep. Hawkins (1995:45) considers it to be a *bothros* or a pit for offerings to chthonic deities. Rituals pits are a distinctive feature of Anatolian religious practice; they were another path to the netherworld (Süel 2015:103) and allied to birth and humanity's genesis (Collins 2005:31). Hawkins (1995:45) points out that the pit was referred to as ^{D}*api-*, a term originating from Sumerian and connected to the Hittite term *hattessar*, a hole in the ground (Macqueen 1959:172); thus a portal to the netherworld. [132] As convincingly argued by Macqueen (1959:173), the term *hattessar* has several layers of meaning, including 'a hole from which a river rises', in other words, a subterranean spring that presented a physical means of communication with deities of the netherworld.

Next to the entrance on the east wall is a figure in a horned crown armed with a lance and bow. The horned crown usually indicates a deceased king (Erbil & Mouton 2012:57) and the hieroglyphic cartouche PURUS.FONS.*MI* MAGNUS.REX identifies him as the 'Suppiluliuma, Great King' (Hawkins 1995:31; Payne 2018:259). After much debate, scholars tend to agree that the king in question is Suppiluliuma I (1350–1322 BC), although Suppiluliuma II (1207–? BC) built the sacred pool complex, thus dating the inscription to the Late Empire period (Payne 2018:259; Erbil & Mouton 2012:55; Hawkins 1995:31). In a sacred place that is neither fully mortal nor fully divine, the deceased king Suppiluliuma I protected the living king Suppiluliuma II (Erbil & Mouton 2012:58). As Gordon (1967:82 n. 32) points out, the name 'Suppiluliuma' comprises *suppi-* ('sacred, pure') and *luli-* ('pool, pond, small lake'), indicating that for Hittites the holiest place was 'the spring sanctuary, the pool that was at once clear, pure and sacred'. It seems fitting that, where a natural pond and spring were missing, Suppiluliuma II created a watery portal to the deities inside an artificial grotto close to a pool and within easy reach of his palace.[133] The chamber and pool imitated rural topography found beyond the city in order to create a sacred space where the ritual would be received in the appropriate setting, as posited by Van Gennep (1960:22) in regard to the stages of transition in which the 'rite of spatial passage has become a rite of spiritual passage'.

Lengthy hieroglyphic inscriptions cut into rock appear from the 13th century, during the reign of Tudhaliya IV (1237–1228 BC). Hawkins (1995:21) notes that the hieroglyphic

[132] Collins (2004:56) in Note 1 observes that *api-* is linked to sacrifices of lambs and birds, while *hattessar* is linked to the sacrifices of piglets, an impure animal with purifying power.
[133] The Südburg chamber was not the only threshold to the underworld at Hattusa. On the southwestern side of Temple 1 in the Lower City is a stone-lined grotto bearing an inscription and reliefs, with steps descending to a spring (Erbil & Mouton 2012:71).

inscription on the west wall (figs. 63, 64 and 65) was in ‘a crude, old-fashioned style’ and proposes that the archaic form was intentional rather than the result of diminished skills. The inscription notes that the king proffers the sacred complex to the deities in gratitude for his military victory (Hawkins 1995:44), and the last line (§18) is relevant:

> *zi/a+a a-ti* DEUS *202 *pa-ti-‘* ANNUS *i(a)-zi/a*
> Here a Divine Earth-Road in that year (I) construct(ed).
> (Hawkins 1995:22–-23).

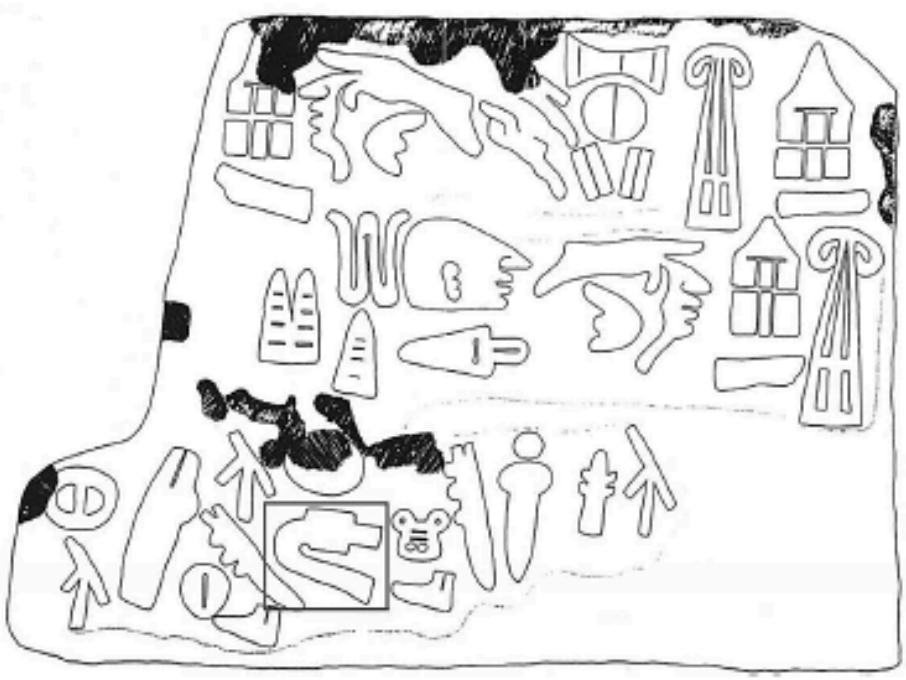

Fig. 65. Hieroglyphic symbol *202 ‘VIA+TERRA’ (bottom left in border).

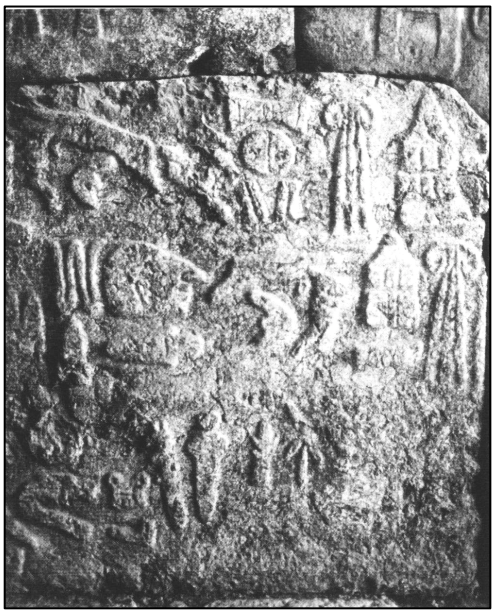

Fig. 66. Inscription stone with *202 sign (bottom left).

Hawkins (1995:44) refers to the Karakhöyük stele where *202 can be understood as VIA+TERRA and, with the use of SCALPRUM, would indicate a stone structure.

Hawkins notes that at Südburg, the inscribed line is 'determined by DEUS, 'god' emphasizing its divine character rather than physical (stone) structure'. Hawkins's analysis of DEUS*202 yields $^{(DEUS)}$VIA+TERRA, literally 'a divine earth-road'. As seen above (fig. 65), the symbol on the wall of Chamber 2 appears to represent a tunnel entering a cave containing a subterranean river (Erbil & Mouton 2012:59). Arguably, Chamber 2 was the physical embodiment of the sign: a small cave-like room of stone with a pit to the netherworld linked to a body of water.

Hawkins (1995:44) makes the connection with DINGIR.KASKAL.KUR, the term for a subterranean waterway and divine earth-road, as demonstrated by Gordon in 1967.[134] Gordon (1967:70) draws the comparison between a ^{d}KASKAL.KUR and the Greek *katabothron* as a haunt of monsters, sorcery and a portal to the underworld. However, Gordon's (1967:75) extensive analysis of the texts pointed to a ^{d}KASKAL.KUR being a natural karst feature in contrast to VIA+TERRA, in which case the Südburg complex was built to represent a natural subterranean waterway (Erbil & Mouton 2012:59) with an entrance to the netherworld, symbolised by Chamber 2.

The person of the Hittite king was closely aligned to sacred water sources, whether natural or built, as is evident at the Südburg complex, Eflatun Pınar and Yalburt (Erbil & Mouton 2012:74). I would suggest that such places brought the Hittite king into a liminal zone where he was in touch with the ineffable power of the deities and, as Turner (1964:49) puts it, 'the unbounded, the infinite, the limitless'. In building these sanctuaries, the Great King emphasised his might, authority and unique relationship with the deities (Erbil & Mouton 2012:74). Chamber 2 signified a threshold 'betwixt and between' (Turner 1964:55) earth and netherworld, with a portal represented by the narrow pit at the back. As Payne (2018:259) notes, the pit is 'a physical boundary to be transcended in the cultic act by means of water'. The chamber is small and secluded; possibly only the king entered this sacred space to commune with his god. This supports Turner's (1964:49) observation that a person in a moment of transition should not be seen, for the experience is a paradox against the usual norms of life and the knowledge acquired will change the essence of the individual's being (1964:51).

As Anatolian geology is predominantly karst (Gordon 1967:70), the landscape offers many waterways in and out of subterranean regions. It seems more than feasible that Hittites connected subterranean water with pathways to the underworld (Hawkins 2015:7; Erbil & Mouton 2012:74). Harmanşah (2014:154) suggests that Hittites built underground passages specifically to access the netherworld, the realm of the dead and the deities, thus echoing natural thresholds to these worlds via springs, watery caves, subterranean rivers and sinkholes. In my view, the sacred pool complex, located in a

[134] Refer to Chapter 7, the spring and water cave at Ivriz.

dramatic highland of soaring rock outcrops, was a zone of transition between the known and unknown, ‘a realm of primitive hypothesis’ (Turner 1964:53) where the membrane between worlds became permeable.

THE SANCTUARY OF TROPHONIOS AT LEBADEIA

In Boeotia, Schachter (1994:70) has identified a particular type of oracular cult, composed of a male figure partnered with a female (primarily as nurse or mother), tied to mantic springs, a mountain and a link to Apollo, a prophesying god possibly grafted over an earlier cult (Schachter 1967:5). The male figure was associated with a mountain and the female with a spring (Schachter 1994:71), echoing Hittite sanctuaries where the mountain was masculine and the spring feminine; for example, Imamkulu and Eflatun Pınar, among many others. The six Boeotian sanctuaries identified are all sited around Lake Kopais: Lebadeia, Mt Ptoion (Akraiphnion), the Ismenion of Thebes, Telphousa west of Haliartos, Tegyra and Mt Thourion (Schachter 1967:9). The proximity and similarity of the cults points to a kindred population of devotees, possibly migrating from the north during the 8th century BC (Schachter 1967:13).

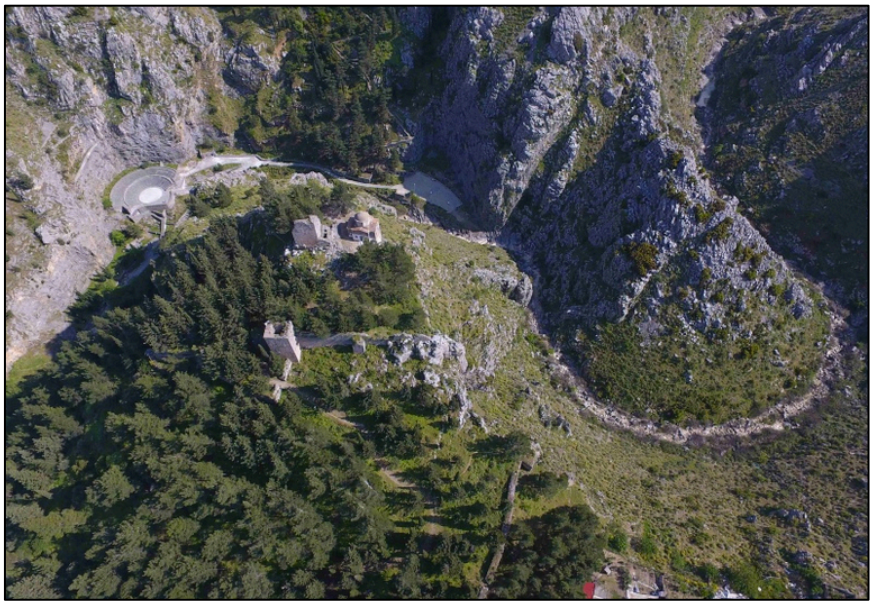

Fig. 67. The gorge with Mt Aghios Ilias on the lower left.

At Lebadeia (modern Livadia), the key focus was on Trophonios and the nymph Herkyna in a fertility cult (Schachter 1981:156 sv Demeter (Lebadeia)) venerated in an extraordinary karst landscape (figs. 66, 68 and 69). The location was endowed with multiple springs, soaring mountains, an awe-inspiring gorge, a resident nymph and a grove of trees, all indicators of divine presence on earth (Bonnechere 2007:41); a place both ‘real and imagined’ (Bonnechere (2007:34). I suggest that the gorge of Lebadeia was endowed with liminal power through its geology and enhanced by deities that had the power to transform, to alter and to reveal; a porous place where mortals and deities

could meet. Like the Sacred Pond Complex at Hattusa, this sanctuary featured an artificial passage to assist the transition between cosmic zones.

The question arises as to the origin of the hero named Trophonios. Parke (1967:126) mentions that Trophonios was originally an earth deity linked to fecundity. Schachter (1994:71) identifies these options: 1) Trophonios was the original name of a chthonic oracular deity; 2) Trophonios was the name of a mountain deity paired with a spring deity or 3) there was a pair of master builders and only one of them, Trophonios, was grafted onto the original hill/spring cult. Given the similarity to Hittite rock/spring cults and based on my research into karst phenomena and their effect on belief systems, a masculine mountain–feminine spring cult strikes me as a plausible origin, despite the notable difference in the way Greeks and Hittites divinised karst phenomena (Rojas 2015:200). The Greek belief system inserted a deity or daemon in front of the karst feature; thus, while Poseidon was lord of the oceans he was not salt water. For Hittites, karst mountains, rocks, lakes and springs were divinities in themselves.

Sucked alive into the Lebadeian earth, Trophonios delivered his sought-after oracles from the subterranean world. Like Heracles (Apollod. 2.5.6), the hero acquired uncanny powers from contact with the earth. In addition, the discovery of his cave originated with bees, insects with powerful chthonic connections (Ogden 2001:117). Pausanias (9.40.2) relates how the first petitioners discovered the oracular cavern by following a swarm of bees that flew into the earth. Trophonios was the drawcard for the Boeotian sanctuary from the Archaic period (Larson 2007:204); by the 6th century BC, the oracle of Trophonios ranked alongside Abai in Phokis, Delphi, Dodona and the Amphiareion as one of the five prestigious Greek oracles (Roesch 1976:492 sv Lebadeia). Trophonios inhabited a physical and metaphysical threshold as a ‘ferryman’ (Bonnechere 2007:31) between the human and divine. Similarly, the petitioner entered a liminal zone mentally and physically as he descended underground via an artificial chasm to interact directly with the hero. Schachter (1967:7) notes that this form of personal interaction, where the petitioner ‘became the medium’, was unique in Greece, although a paid intermediary could be arranged if the petitioner was unwilling to descend into the earth, as in the case of Mys (Hdt. 8.134).

The gorge, the sacred grove and Mt Aghios Ilias were associated with several other deities and shrines (fig. 67). Although no evidence remains, the ‘hunting ground’ of the Maiden on the mountain’s crest possibly refers to Kore and/or the nymph Herkyna (Schachter 1981:241 sv Hera (Lebadeia)). The Temple of Trophonios probably lies under the lower tower of the medieval Catalan fortress (fig. 68) on the mountain slope. According to Pausanias (9.39.4):

> The most famous things in the grove are a temple and image of Trophonius; the image, made by Praxiteles, is after the likeness of Asclepius. There is also

> a sanctuary of Demeter surnamed Europa, and a Zeus Rain-god in the open. If you go up to the oracle, and thence onwards up the mountain, you come to what is called the Maid's Hunting and a temple of King Zeus[135]. This temple they have left half finished, either because of its size or because of the long succession of the wars. In a second temple are images of Cronus, Hera and Zeus. There is also a sanctuary of Apollo.

Fig. 68. Important votive relief of Trophonios with sixteen deities and four worshippers, found in the River Herkyna. From the left: Kybele (seated) and Persephone leading a veiled figure, followed by Dionysus-Zagreus with a thyrsus, Pan and Hecate with her torches. [136] In the centre, snakes twine around the legs of Trophonios, who bears a cornucopia. Next to him are three Kouretes with shields, the Dioskouroi in caps and chlamys, and below, four small mortal worshippers. Dated between late 4th century and 3rd century BC.

In relation to this study, the deities and phenomena that are closely linked to the remarkable landscape are more pertinent: the nymph Herkyna, companion of Kore and later daughter of Trophonios; the chthonic hero himself, Hermes, as epitomised by two mortal boys; Pan; and two particular springs, one cold, the other warmer, that fed the Herkyna river. Pausanius (9.39.2) observes that these springs rose in a cave, which is not the case today.[137] However, given the dynamic, restless nature of karst hydrology, this may have been the case in his time. Dodwell (1819:217), who visited Lebadeia in the 19th century when Greece was still under Turkish occupation, has an interesting description regarding the springs, which rise near the rock carved votive niches. On the left bank, the cold Krya springs gush from the rock through ten modern spouts, mirrored on the right bank by the warmer springs that bubble up from under the rocks. Dodwell (1819:217) proposed that these were the fountains of Memory and Oblivion whose waters join above a stone bridge to form the fast-flowing Herkyna River, which emptied into Lake Kopais[138] a few miles further on.

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[135] The interesting debate and evidence concerning Zeus and his possible origins as a prehistoric 'Sky God' of mountain peaks and rain (Baleriaux 2015:58) can form a topic on its own and is not be elaborated on here.

[136] The water nymph Herkyna was embodied by the river and, in the guise of Hecate, is a feasible contender in the relief above (Schachter 1981:231 sv Hekate (Lebadeia)).

[137] On a visit in September 2018, I noticed that the riverbed is considerably higher than that shown in drawings from the 19th century, a mere century or so ago; thus it would be no surprise if the cave has been submerged over time.

[138] By the Mycenaean era, Lake Kopais was more of a marsh and successfully drained only in 1931 (Higgins & Higgins 1996:76).

Sited on the border of Boeotia west of Lake Kopais, the gorge, river and cliffs defined Lebadeia. The town nestled, as it does today, below the limestone cliffs (Higgins & Higgins 1996:78) of the Helicon mountain range at the threshold of a deep gorge (De Rosen 2017:2). The Herkyna flows through the gorge between the lowering heights of Mt Aghios Ilias and Mt Granitsa (previously Laphystios) (Roesch 1976:492 sv Lebadeia). Lebadeia has unusually high rainfall, in excess of 600 mm annually, compared with Thebes, which receives some 390 mm (De Rosen 2017:2; Osborne 1987:33). Such a water-rich environment is unusual in Greece and creates a steep shady forest of tall trees suitable for a sanctuary of the nymphs (Bonnechere 2007:32), with abundant springs, streams and high cliffs.

Fig. 69. The Herkyna gorge. The Catalan castle's crenelated tower (centre bottom) is at the base of Mt Aghios Ilias.

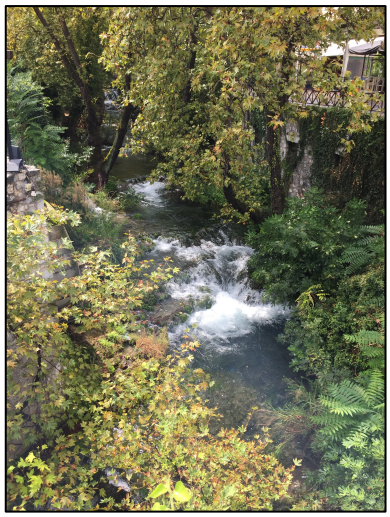

Fig. 70. River Herkyna. Lebadeia.

Cut into the cliff that rises from the river is a chamber about a metre above the water (fig. 2), measuring 4 m square with a 3m high ceiling. In Dodwell's (1819:218) day, the steps that led to it were visible. Inside were two seats and it may have been a shrine to Agathos Daimon and Agathe Tyche (Roesch 19676:492 sv Lebadeia). Near the chamber is a chasm some 7,6 m deep ending in a pool (Smith 1894 sv 4.lebadeia-geo), which is no longer visible. While it is tempting to place the oracle here, Pausanias (9.39.4) tells us that it is further up the mountain slope (fig. 68). Several other niches and alcoves nearby probably played some unknown cultic role and may have involved Pan (Bonnechere 2007:32).

The typical triad of greenery, springs and caves associated with nymphs defines the Lebadeian landscape (Larson 2001:10). Nymphs favoured springs that rose in karstic caves (Larson 2001:8) while Pan's cult was to be found in natural or artificial grottoes across Greece, and usually both were sited in the *eschatia,* an indicator of a liminal transitional point (Endsjø 2000:351). Except in Arcadia (Baleriaux 2015:38), temples

were never constructed (Borgeaud 1988:48) for this theriomorphic god of wild borderlands. At Lebadeia two rock-carved inscriptions at the entrance to a cave (Bonnechere 2007:32) confirm that goat-legged Pan was venerated there with the nymphs (Larson 2001:143).

Pan was associated with Apollo, Cronos, Zeus and Hermes, and the first three have temples at Lebadeia. The complex implications of being fathered by Zeus in one account and Cronos in another belong to traditions of 5th century Athens (Borgeaud 1988:42), and are thus too late to be included here. Hermes was another father to Pan and three dedications to Hermeshave been found at Lebadeia.[139] A little ithyphallic herm has a dedication in dialect, another was offered by an athlete and the third, a fragment from early 1st century BC, seems to be from a funerary monument (Schachter 1986:41). Hermes was often depicted as an ithyphallic herm (Bakke 2007:310). Together with Pan and the nymphs, he formed a popular triad venerated with prayers and dedications at rural sanctuaries (Larson 2007:145). As an ancient god of ambivalent transitional places linked to mountains and caves (Larson 2007:144), he was an appropriate presence at Lebadeia. From Apollo, Hermes acquired 'a splendid staff of riches and wealth: it is of gold, with three branches', that protected him (*HH.* 4.530), put people to sleep or wakened them (Larson 2007:149). Granted the role of messenger to Hades (*HH*. 4.572), he led the souls of the dead through the subterranean labyrinthine paths (so typical of karst geology) to the Underworld (*HH.* 4.577; Larson 2007:144) and was able to move risk-free between cosmic zones.

Rustic Pan was not blessed with the good looks, charm and cunning of his father Hermes; yet, like his father, 'in days of old this god gave oracles' (Paus. 8.37.11). As 'Lord of Arcadia' (Borgeaud 1988:3), Pan originated from a harsh primitive region filled with peculiar deities bearing 'secret names and bestial shapes' (Borgeaud 1988:4). Turner (1964:52) notes that monsters are a feature of transitional rites, and thus part of liminal space. Combining two or more familiar features created such hybrid creatures, which, by their very unnaturalness, compel consideration of what constitutes the norm in the mortal world (Szakolczai 2009:158; Turner 1964:53). As 'both beast and god', Pan's character showed this intrinsic duality while he roamed wild places with his syrinx,[140] living at 'the physical and psychological frontiers of civilised life' (Larson 2001:98). At Lebadeia, one of those frontiers was between the living and the deathless.

Pan is strongly associated with nymphs after 490 BC. Cults to nymphs are difficult to date, although in Messenia a cult to nymphs has been dated as early as the 8th or 7th century BC (Larson 2007:153). Like Pan, Boeotian nymphs had close ties to mountains

[139] Respectively, *IG* 7. 3093, *IG* 7. 3095 and *IG* 7. 3150 (Schachter 1986:41).
[140] Musical pipes made from reeds and named after the nymph Syrinx who rejected Pan's advances – the usual outcome of Pan's unruly passions (Borgeaud 1988:80).

and caves. The Helikon range carries several examples of the connection between nymphs and landscape: the springs of Hippocrene and Aganippe, the cave of the Sphragitid nymphs on Mt Kithairon and the cave of the Leibethrion nymphs, to mention a few (Larson 2001:138).[141] Generally, Greek cults of nymphs involved groups, while in Boeotia and Thessaly nymphs were identified individually and recognised as divine forebears (Larson 2001:141).

Clearly, Herkyna follows the Boeotian pattern as an individual nymph, avatar of the river and probably a spring, connected to Mt Aghios Ilias, part of the Helikon range. Appropriately, her temple was sited within the *alsos* on the banks of her river (Bonnechere 2007:32; Larson 2001:143) and contained a statue of a maiden holding a goose. Perhaps as an explanation of the statue, Pausanias (9.39.2) relates the mythical creation of the spring that gave life to the river:

> They say that here Hercyna, when playing with the Maid, the daughter of Demeter, held a goose which against her will she let loose. The bird flew into a hollow cave and hid under a stone; the Maid entered and took the bird as it lay under the stone. The water flowed, they say, from the place where the Maid took up the stone, and hence the river received the name of Hercyna.

The passage describes a threshold that is both physical and metaphysical. Unwittingly, Persephone opens a watery route to the underworld, portending her own fate while linking her friend Herkyna to water flowing above and below the earth.[142] The river is both barrier (Schachter 1986:38) and threshold between two zones of mortal/god, earth/underworld, light/darkness, present/future and life/death. It is no surprise that Herkyna was connected to Hecate (Schachter 1981:231 sv Hekate (Lebadeia)), who wielded ancient dominion over all cosmic zones above and below the earth (Hes. *Th.* 425–427). Within the source cave, Pausanias (9.39.3) saw the statues of Herkyna and Trophonios with chthonic serpents coiled around their staffs. Little excavation has been done at the site and the cave remains to be found.

The gorge was an environment dedicated to moving from one state to another. While there is no evidence of the cultic roles played by Pan and the nymphs at Lebadeia, both had the potential to induce altered states. Nympholepsy was a form of divine inspiration linked to certain oracular sanctuaries, for example, the nymphaion at Apollonia in Illyria, and, in the early archaic era, gave rise to the Bakides, male seers and nympholeptics (Larson 2001:12). Panic could convulse an ordered group, reducing it to an uncivilised state (Paus. 10.23.7; Borgeaud 1988:101) or possess a person (panolepsy), creating abnormal physical and mental behaviour that was regarded as

[141] Boeotia had a long tradition of nymphs linked particularly to rivers but also springs (Larson 2001:139). This is evident at most Boeotian towns, with some of the more famous Boeotian nymphs being Thebe, Tanagra, Thespia and Plataia (Larson 2001:140).
[142] There were at least 3 portals to the underworld at Lebadeia: the pit of Agamedes, the spring pouring from the cave and the artificial chasm into the oracular cave (Bonnechere 2007:34).

'sacred' by 5th century rural folk (Borgeaud 1988:103).[143] The risk of both states was most intense at midday, the hour Pan favoured for his appearances to mortals (Borgeaud 1988:107).

Daylight was not part of the oracular experience with Trophonios. On the contrary, interaction with the chthonic hero took place at night and required the sacrifice of a black ram. According to Pausanias (9.39.9), the oracle was sited 'on the mountain, beyond the grove' that is somewhere between the sacred grove on the Herkyna's left bank and the crest of Mt Aghios Ilias; it has not been found (Bonnechere 2007:32). Pausanias describes (9.39.9) the man-made structure:

> Round it is a circular basement of white marble, the circumference of which is about that of the smallest threshing floor, while its height is just short of two cubits. On the basement stand spikes, which, like the cross-bars holding them together, are of bronze, while through them has been made a double door. Within the enclosure is a chasm in the earth, not natural, but artificially constructed after the most accurate masonry.

There are two myths associated with the hero and the earlier one[144] (Paus 9.37.4) links Trophonios and his brother Agamedes to oracular Delphi, where they built Apollo's temple[145] and the treasury of Hyrieus. The brothers designed the treasury to allow secret access to steal the contents (Paus 9.37.5). Agamedes was caught in the act and, fearing disclosure, Trophonios decapitated him. The hero was swallowed alive by the earth (Paus. 9.37.7) via a pit named after Agamedes, in the liminal sacred grove at Lebadeia. As with the River Dryas that attempted to quench Heracles' funeral pyre (Hdt. 7.198), the earth becomes an active participant in claiming the hero for chthonic purposes. Modern knowledge of geology can provide several explanations for the earth opening up, including sinkholes, earthquakes, tremors and landslides (Fields 2002). For the ancient Greeks, scientific knowledge of geology lay in the future. I suggest that, via their avatars, ancient observers and mythmakers considered unusual natural phenomena to be sentient.

Pausanias (9.39.2–9.40.3) had personal experience of the ritual required to receive a prophecy from Trophonios. In his day, during the 2nd century AD, the ritual resembled an initiation into a mystery cult, while in the Archaic era requests and oracular answers probably would have been practical (Larson 2007:204). Nevertheless, his account that follows has all the markings of fear-inducing karst phenomena.

Like their namesake, the Hermae were two young boys acting as guides (Schachter 1986:41) in a zone of transition that was at once both physical (sacred grove, sacred

[143] Like panolepsy, nympholepsy acquired a dark side in the postclassical era (Larson 2001:13), inducing a terror that led to madness, rendering a person alive but dead to the normal human world (Borgeaud 1988:106).
[144] In Herodotus (2.121A) an identical myth features the builder of the Egyptian king Rhampsinitus.
[145] Pausanias (9.37.5) prefers to believe that Apollo, rather than mortal Erginus, fathered the brothers.

springs, chasm) and metaphysical (the realm of Trophonios, the oracle, a return to the mortal world, a liminal space). Accompanied by the Hermae, the petitioner entered the sacred grove after sunset to bathe in the River Herkyna then drink the waters of the springs. In preparation for the metaphysical transition to come, the waters of Lethe cleared his mind and the waters of Mnemosyne would sharpen his recall (Paus. 9.39.8). Flowing water was an active participant in fostering an altered state of mind. There were sacrifices to the deities of the place and, finally, a black ram sacrificed at the *bothros* of Agamedes to encourage an oracle from Trophonios. If the divinity consented, the petitioner, still within the sacred grove, was shown an archaic statue of Trophonios made by Daidalos, another master builder, and thus possessed similar magical abilities (Ustinova 2002:273).

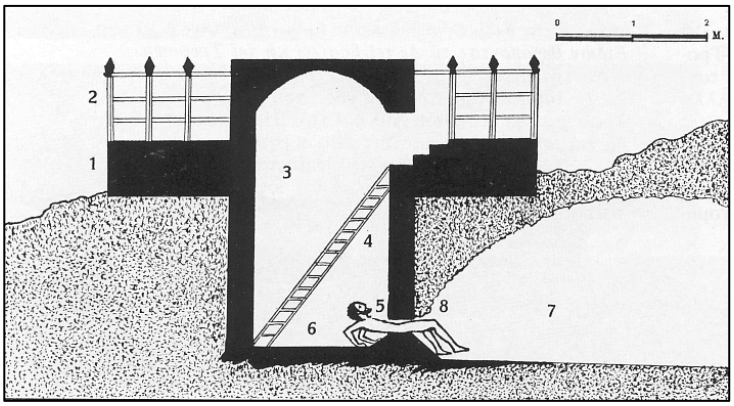

Fig. 71. Hypothetical diagram of the oracle of Trophonios.

The petitioner walked higher up to the site of the oracle and, with honey cakes in hand for snakes (Ustinova 2002:271), or for the deity in the form of a snake (Ustinova 2002:274), descended a ladder into the chasm (fig. 70). Positioning his knees in the opening[146] in the floor, he was swept into an unknown dark place, probably a cave[147] (Ustinova 2002:270), to 'waver between two worlds' (Van Gennep 1960:18) and commune with the god. Bemused, bewildered and rigid with fright (Paus. 9.39.13), he returned to the surface feet first through the same opening and, from the seat of Memory, recounted his experience of visions or words to the priests before being handed to his relatives to recover.

Pausanias (9.39.11) describes the moment of entrance into the unknown dark place using an interesting metaphor of a man being pulled down in the current of a swift river, in other words, a *dinē*, or whirlpool. While not caused by karst geology, a *dinē* can act

[146] Perhaps a natural cave passage known as a crawlway, (Fields 2002:51 sv crawlway) found in karst terrane.
[147] It is possible this was a Zwischenhöhle (German), a cave and former river passage that is entered from above or laterally, following the course of an extinct river for a little distance but without access to the surface (Fields 2002:212 sv Zwischenhöhle). Until the location of the oracle is discovered, I can only speculate.

as water drainage in karst hydrology (Connors & Clendenon 2016:154). Spiralling currents in rivers and lakes are threatening, as the Trojan warriors knew to their cost. The 'silver eddies' of the Xanthus, 'the dread river beneath its steep banks', whirled the Trojan warriors down as Achilles slaughtered them (Hom. *Il.* 21.9–26). This sense of implied threat within the landscape contrasts with the experience of the Hittite king. As the earthly viceroy of the deities, he interacted on an exclusive level, enjoying a special relationship with his deities, and the landscape seemed to be an ally rather than a potential enemy.

The sense of portent for the coming oracle was heightened by the uncanny karst terrane filled with deities linked to transitions. Persephone was dragged into the earth to rule the Underworld, while primeval Pan, the goat hybrid from Arcadia (Borgeaud 1988:19), had a sacred cave above the river Herkyna. Her sacred spring connected the surface to the underworld and Hermes crossed that threshold with the souls of the dead. For seven centuries (Schachter 1994:69), Trophonios inhabited a place 'betwixt and between' (Turner 1964:46), below the earth's surface. He was neither dead nor alive; he was present but unseen, neither fully mortal nor fully divine (Ustinova 2002:267), interacting with mortals but not of their world.[148]

Isolated and separated from the familiar, the petitioner was in a landscape of physical and mental transition (Van Gennep 1960:18). His chilly twilight baths in the Herkyna (Bonnechere 2007:34) connected him to another realm via the river that gushed from a cave leading to the Underworld (Bonnechere 2007:35). The petitioner moved from a horizontal physical journey to a vertical descent of revelation; from ignorance to epiphany; from physical darkness to spiritual light. Regarded as sacred before the arrival of Trophonios, Lebadeia's karst hydrology, aided by an artificial chasm, facilitated the transition from one cosmic zone to another (Bonnechere 2007:36).

Conclusion

Both the Sacred Pool Complex at Hattusa and the sanctuary at Lebadeia reveal layered connections between three worlds: the divine, the human and the natural. In particular, karst hydrology became the catalyst to divine revelation, both a physical and a metaphysical crossing between spaces of the land and spaces of the mind. So important was the power of sacred water to the Hittite king that he built an artificial lake and channelled water over kilometres from a forest spring. In so doing, he was connected to

[148] The notion of divinely imbued landscape as a threshold to knowledge or favour lived on into the Christian era, as evidenced by Saint Thecla in Seleucia. Bonnechere (2007:40) notes that she revealed a miracle-working spring in the grotto that was her home, near a sacred grove. The earth received her alive to continue her miracles through the waters of the spring. When I visited the Syrian site in 2005, it was still a popular shrine. Interestingly, until the recent building of a guesthouse at the site, Christian and Muslim supplicants spent the night prostrated in the grotto and drank the water of the spring (St Thecla 2007 web).

the past via an ancestral king and to the future through symbolic access to an imagined zone of divine communication. In the established Greek tradition, water provided a mental framework for encountering the divine and, at Lebadeia, to descend the man-made chasm, cross an imagined threshold and gain knowledge from beyond the grave.

SUMMATION OF PART ONE

One of the objectives of this study was to investigate how dramatic karst phenomena were associated with rural sanctuaries and metaphysical notions of liminal zones. In Part One, I explored the karst environment and examined three Hittite and Greek sanctuaries to identify physical features connected with rural transitional spaces that occur in both cultures, which choose the same alluring features for rural sanctuaries: springs, caves, rocky outcrops, wetland, meadow and woodland.

In the Hittite world the link between water and transitional points is clearly defined. Next to a vanishing spring at Ivriz, living rock was shaped for the rituals required to coax a capricious sacred spring from its subterranean channels. Both cultures desired to feel part of a connected cosmos and karst hydrology provided a visible means of interacting with the supernatural, particularly evident at the Sacred Pool Complex (Südburg) and Lebadeia. We find that the context of sanctuaries included the wider surrounding topography. The heights of Gavurkalesi and Mt Oeta joined earth to sky, lowland to highland, living to dead, mortal to divinity. The caves and springs at Brauron and Lebadeia were surrounded by deities associated with liminal thresholds, while at Mt Oeta it is the combination of water, mountain and fire that parts the fabric of the universe.

In places with exceptional karst features, each sanctuary reveals the desire to connect with the world beyond, for the benefit of either the individual or the community. This was achieved through openings in the earth where the landscape has folded to reveal an actual entrance to an imagined realm. Rich mythology surrounds several of these sites. At Ivriz, Gavurkalesi and Südburg the path to another cosmic zone was the opening from which a spring flowed (whether actual or manufactured): the ^{D}KASKAL.KUR or the Divine Road of the Earth. Similarly, in the Greek world, the path to another realm included water and caves as signifiers of a zone where the membrane between worlds became permeable.

In such numinous places the animals and insects drawn to water and shady places acquired a supernatural dimension. At Brauron young girls were called ‘little bears’, possibly reflecting a bear’s characteristics of wildness, spring renewal and care of their young. Snakes frequent caves and acquired chthonic attributes. At Lebadeia they were associated with an oracular deity deep in the earth, while the hydra, lurking in the Lernaean marsh, had gall so potent it could heat the springs of Thermopylae. Bees favoured caves for their hives and revealed the opening in the earth at Lebadeia, becoming divine messengers.

Clearly, certain karst phenomena were essential to the very foundation of each sanctuary. These are places where the environment shifts from waterless to water-filled, from salt water to sweet and from dry scrub to leafy glade. Without the appropriate mountain, spring, cave and glade, the sanctuaries would have been meaningless. Porous karst terrane had morphed into porous transitional zones.

PART TWO

METAPHYSICAL ZONES OF TRANSITION

> Transitional beings…are neither one thing or another; or may be both; or neither here nor there; or may even be nowhere…and are at the very least "betwixt and between" all the recognised fixed points in space-time of structural classification (Turner 1964:48).

CHAPTER 9: IMAGINED LANDSCAPES

> Liminality is the realm of primitive hypothesis, where there is a certain freedom to juggle with the factors of existence (Turner 1964:48).

What characteristics were associated with imagined metaphysical zones of transition? Both Greeks and Hittites drew on their surrounding karst environment to create their 'mental landscape' (Buxton 1992:1) and there is little doubt that karst landscape played a key role in notions of life, death and the structure of the cosmos (Connors & Clendenon 2016:151). Both cultures display notable similarities from a rich source of clues regarding karst influences in myths, archaeological evidence and iconography.

Part One focused on the living world of reality above; the primary focus of Part Two is on the imagined world beyond and below, particularly in that liminal space of creative possibility. Using a few representative examples, Part Two will explore the way karst terrane encouraged ideas regarding the cosmos, access to the netherworld, zones beyond the grave and the way certain deities and creatures became catalysts in the search for answers to eternal human questions. As 'transitional beings', they occupy the tangible landscape, yet they are imbued with an enigmatic metaphysical life and in this sense they occupy the fluid space 'betwixt and between' two points (Turner 1964:48).

Although this study concentrates on the influence of karst hydrology, the texts are products of the religious, political and economic demands of the elite. In both Hittite and Greek worlds, the beliefs of ordinary people in cities and the countryside remain elusive. As Hutter (1997:78) explains, the idea of a unified Hittite religion accepted by all did not exist and Hittite religion 'was a political affair with only marginal meaning for the common people, whose religious beliefs remained primarily based on local traditions' – an observation that has similar relevance for the Aegean world.

In Hittite texts, my focus is on the earlier Hattian-Anatolian mythology or its lingering influence in later texts, as the material retains a clearer attachment to karst hydrology.[149] The Greek world has a similar complexity of cultural influences. Where possible, the

[149] While deities associated with transitional points were often physically restless, the curious phenomenon of static deities and monsters bred from living rock is worth discussion, although beyond the scope of this study.

emphasis remains on earlier texts in order to keep the attachment to karst geology clear. Hesiod, Homer and certain Homeric Hymns are particularly rewarding in regard to karstic aspects of imagined watery landscapes, associated divinities and creatures. Pausanias continues to be a valuable guide through the Greek world and certain later authors such as Pindar provide much food for thought.

In Anatolia, the influence of two cultural groups gave rise to two different concepts of the Hittite cosmos and included certain features that are unique in the Ancient Near East. The tale of the water-loving snake Illuyanka (CTH 321) provides clues to an earlier Anatolian-Hattian mindset, while the more complex *Song of Ullikummi* (CTH 345) and *Theogony* (CTH 344) reflect later Hurrian notions of cosmogony (Tatišvili 2007:184), yet still carry aspects of earlier Hattian concepts. One of the curious features of Hittite theology is the lack of a creation story (McMahon 2006:1989), although in the *Song of Ullikummi* (Hoffner 1998:55) there is mention of the heaven and earth being severed with 'a primeval copper cutting tool' (CTH 345 §63 Aiii 48–55).

Although mythological texts do not describe the Hittite cosmos clearly, earlier central Anatolian-Hattian notions favoured a two-fold cosmos of heaven (Hitt. *nepis*) and earth/underworld (Hitt. *tekan*) (Gerçek 2018:3). As argued by Tatišvili (2007:184), the distinctive Hittite cosmogony was dual and, as discussed in Chapter 5, influenced by the surrounding karst environment. In the 14th century, later Hurrian notions emerged from southern Anatolia, Mesopotamia and northern Syria, assisted by the military success of Tudhaliya I in the southern regions (Singer 2002:29). This precipitated the familiar widespread three-fold cosmos of heaven–earth–underworld (Görke 2012:42; Tatišvili 2007:184).

A depiction of the dual Hittite cosmos based on karst hydrology has survived at Eflatun Pınar, the 'lilac coloured spring' (Bachmann 2006:252) in an area of springs and sinkholes where porous limestone connects the basins of the Carşamba River, Lake Beyşehir and Lake Suğla (Harmanşah 2015a:72). Pottery sherds from the Late Chalcolithic era and Early, Middle, Late Bronze and Iron Ages have been identified at a spring-bearing hillock near Eflatun Pınar (Harmanşah 2015a:68), although the Hittite spring sanctuary dates to the Late Empire period and the reign of Tudhaliya IV (Ökse 2011:225). Its sophisticated water engineering (Bachmann 2006: 260) is remarkable. A stone-lined pool was built over a powerful spring (Erbil & Mouton 2012:67) that produced high volumes of exceptionally cold, crystalline water (Bachmann 2006:252). Hittites embellished natural rock formations near water and openings into the earth for religious and political purposes. In terms of sacred space, Harmanşah (2015a:92) notes that the combination of rock and water fostered 'contact with the divinities of the underworld, the divinities of the place and the ancestors'.

Eflatun Pınar is in a karst depression (Harmanşah 2015a:67) lacking any rocky outcrops. Thus, a man-made rock surface was required for the relief (Bachmann 2006:253) and the building of an artificial sacred pool, as is evident at the Sacred Pool Complex at Südburg. When archaeologists drained the pool, the innovative water installation was revealed. The relief turned out to be over 6 metres in height and part of a dressed stone fountain house (Bachmann 2006:254), reconstructed in fig. 73.

Fig. 72. The artificial rock relief and sacred pool at Eflatun Pınar.
On the retaining wall, two spring goddesses flank the relief right and left.
The mountain gods are partially submerged.

The rock relief (figs. 71 and 73) symbolises the bipartite universe, placing winged sun disks (heaven) at the top and mountain gods (earth) at the base (Collins 2007:192), with key Hittite deities in the centre.[150] Although badly worn, the central deities probably represent the chthonic Sun Goddess of Arinna and the Earth and the Sun God (or Teshub the Weather God); thus the site may be regarded as a Divine Road of the Earth (Harmanşah 2015a:72). Genii and bull-men form part of the pantheon and lion-men support the winged sun disks (Erbil & Mouton 2012:68). The design allowed on-demand fountains to gush from three of the stylised mountains via drilled holes (Bachmann 2006:262), creating a visible manifestation of divinity (Bachmann 2006:252) by mimicking karst hydrology (fig. 13).

[150] Although the names are unknown, the mountains must have symbolised five actual mountains. The two divine mountains depicted at Yazılıkaya are Hazzi and Namni, modern Jebel Aqra in Syria (Lane Fox 2008:259), and it is tempting to assume they would be present at Eflatun Pınar.

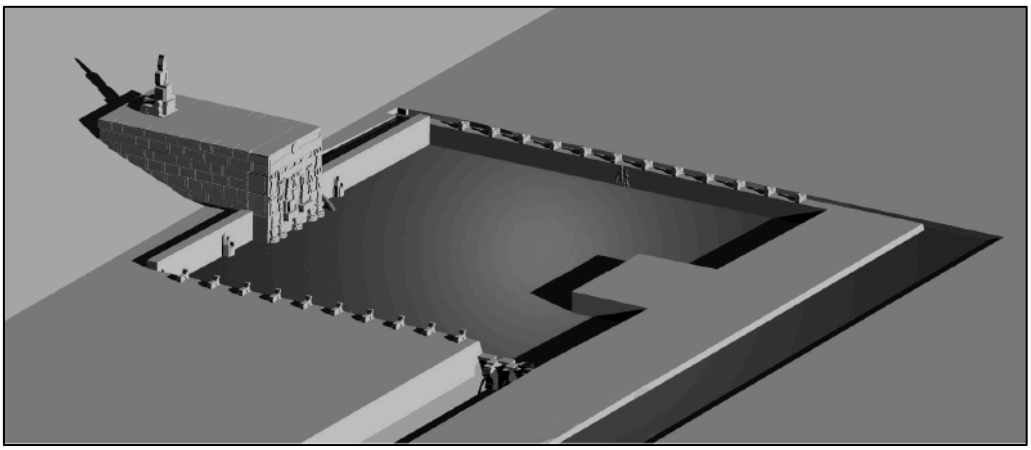

Fig. 73. Reconstruction of the sacred pool installation with recently found sculptures.

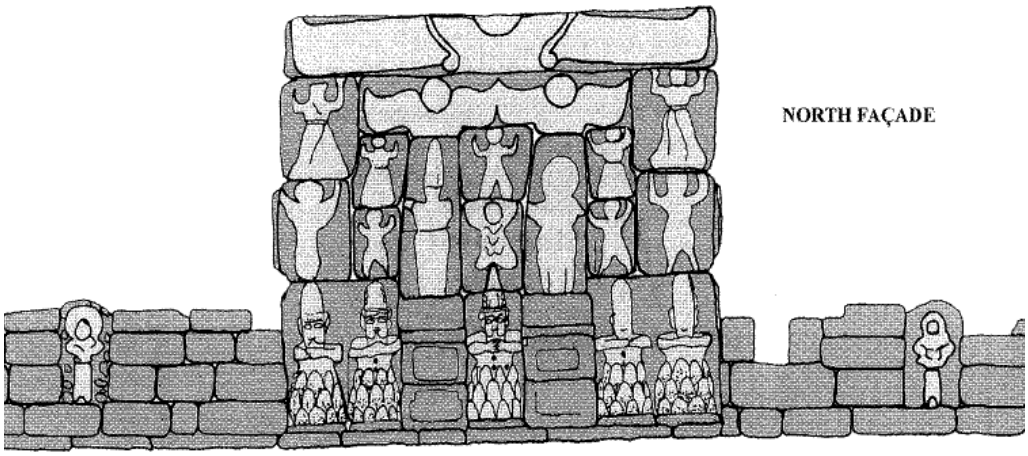

Fig. 74. Main relief at Eflatun Pınar.

The installation at Eflatun Pınar set the Hittite cosmos into a recreation of sacred space complete with mountains, springs, spring goddesses and a sacred pool. The wider karst landscape of lakes, limestone sinkholes and subterranean water supported the horizontal context (Sørensen & Lumsden 2016:80) necessary for the transformation of a numinous landscape. The monumental relief of the cosmos, anchored with sacred mountains gushing subterranean water, provided a mythical vertical channel (Sørensen & Lumsden 2016:82) to the immortal realm. The site encapsulates the metamorphosis of karst phenomena into liminal space (Harmanşah 2015a:72) that is 'betwixt and between' all the recognised fixed points in space-time of structural classification' (Turner 1964:48). In so doing, it promotes my hypothesis that the Hittites built their concept of the sacred on the extraordinary characteristics of karst geology.

The myth of Illuyanka (CTH 321) provides further clues to the nature of the Hittite cosmos and its links to karst geology. The myth was used in the *purulli* festival of annual renewal and takes place in real locations near the Black Sea, particularly the Hattian towns of sacred Nerik and Ziggaratta (Bryce 2002:216). Kella the scribe wrote both versions on one tablet (Collins 2007:150). The archaic language used in the myth

points to a date as early as c.1750 BC, even though the surviving copies are from New Kingdom c.1500–1190 (Hoffner 1998:11). Briefly, a cosmic battle ensues between Illuyanka, a large, fierce snake[151] and a type of chaos monster[152] (Collins 2007:150; Bryce 2002:216), and the Storm God (fig. 74). The god is assisted by his daughter Inara, a goddess of the wild animals and wilderness (Hoffner 1998:111 sv Inara) with similarities to Artemis and Hupasiya, a mortal man. The Storm or Weather God controlled all water sources, whether from rain or the chthonic realm (Tatišvili 2007:187). In order to return annual growth to the land, he must win – and he does, although the slaughtered snake, with the ability to renew its skin, will rise to fight again.

Fig. 75. The cosmic battle between the Storm God and the serpent Illuyanka. Neo-Hittite orthostat relief from Malatya.

In relation to this study, the interesting aspect in the myth is the hole in which the snake lives; the same term *hattessar* describes the watery opening used by vanishing deities (Macqueen 1959:172). Macqueen (1959:173) argues that this term refers to the hole 'from which a river rises, a spring of underground water which could easily be taken as an entrance to the lower world'.

Bryce (2002:216) regards Illuyanka as symbolising 'darkness and evil' and agrees that as the cult myth of the *purulli* festival, the tale of Illuyanka promotes the annual renewal of life. Collins (2007:150) considers Illuyanka to be a chaos dragon representing 'desolation and death'. Beckman (1982:25) interprets the interplay of deities, chthonic snake and human as a reminder that the cosmos needs the participation of all to flourish 'but each individual must stay in his or her proper place'.

In my opinion, the views of Tatišvili (2007) and Macqueen (1959), which emphasise a karst-influenced conception of the Hittite cosmos, provide the most relevant

[151] Unlike Greek snake monsters that tend to be female, Illuyanka is male.
[152] The dragon/serpent/spring motif occurs across the Ancient Near East. In Greek myth, Hittite Illuyanka shares some similarities with Typhon (Kirk 1973:221; Burkert 1990:20) and the guardian serpent at Delphi's spring (Sourvinou-Inwood 1990:228).

perspective. Beckman (2004:312) reminds us that 'Despite their human form, the Anatolian deities represented aspects or facets of the universe', while Tatišvili (2007:187) posits that karst hydrology informed the nature of all Hittite deities, most obviously the weather deities. In the same way that karstic rivers and springs can pour from the earth erratically or dive underground abruptly, only to emerge kilometres away, so capricious Hittite deities could roam between heaven and underworld freely. I suggest this mobility would apply equally to Illuyanka.

Similarly, Macqueen (1959:175) considers the myth to be an interpretation of karst hydrology via a life-and-death battle for water fought at the lip of a spring. Thus, the water-provider (Storm/Weather God) fights the water-withholder (chthonic water-snake) for annual renewal and prosperity, reflecting the dynamic character of karst landscape.[153] Water-loving Greek snakes and dragons (Ogden 2013:148), being born of the earth, display the same mobility between the earth above and below, as seen with Typhon[154] (Ogden 2013:247) and his daughter the Hydra[155] (Ogden 2013:28). Apollodorus' account (1.6.3) of the Zeus–Typhon conflict is remarkably similar to that of *Illuyanka* in certain respects and both settings are in karst landscapes. As kin to Earth and the subterranean chasm of Tartarus (*Th*. 821), Typhon seems less of a snake (or dragon) and more of an elemental fire-monster resembling volcanic action, for 'from under the brows of his eyes in his marvellous heads flashed fire, and fire burned from his heads as he glared' (*Th.* 826–829). The combination of karst, geothermalism and volcanism can result in spectacular phenomena resulting from the fusion of earth, water, air and fire (Connors & Clendenon 2016:150).

Hittite cosmic zones were not under the dominion of any particular deity and visits to the underworld did not alter their character or harm them (Tatišvili 2007:189), nor was there an evil underworld power (Collins 2007:174; Tatišvili 2007:191) – a fundamental difference from the Greek equivalent. Ereshkigal, the goddess of death ruling her circular seven-walled subterranean city, comes from the Mesopotamian tradition (Bryce 2002:180). The notion of separated 'celestial deities' and 'earth deities' occurs in texts from a later period, probably influenced by Mesopotamian-Hurrian ideas and an attempt by the state to create some order among the thousand gods of Hatti (Tatišvili 2007:190). Similarly, the Primal Deities (*karuiles šiuneš*), consigned to the underworld like the Greek Titans, originated with Hurrians (Archi 2013:4) via Mesopotamia, not with the Hattians. As a result of the distinctive Anatolian-Hattian dual cosmos, Tatišvili (2007:190) regards each Hittite deity as being 'the deity of heaven *as well* of the earth'

[153] Macqueen (1980:185–186) argues that originally the Weather God of Nerik was 'primarily a god of water which rises from the ground through springs and wells'.
[154] For Hesiod (*Th*. 821–2), Typhon's mother was Earth and his father was Tartarus, the deepest part of the underworld (Ogden 2013:247), although he was credited with three other mothers (Ogden 2013:150).
[155] Literally, 'water-snake' (Ogden 2013:28).

(my italics), suggesting a unified world with interesting ramifications for Hittite notions of the netherworld.

Irrespective of whether the Hittite cosmos was dual (Anatolian-Hattian) or triple (Hurrian-Mesopotamian), it remained porous, allowing deities to move at will. In contrast to the porous Hittite cosmos, the Greek and Mesopotamian cosmos had defined boundaries with an underworld that was forbidding, even evil (Tatišvili 2007:191). In Part One, I highlighted examples where crossing a cosmic boundary in a Greek tripartite world was risky and dangerous. Only exceptional heroes such as Heracles and Orpheus were able to return from Hades (Endsjø 2000:364). Judging from the uniquely Anatolian genre of disappearing deity myths (Schwemer 2008:13), the ability to visit other cosmic zones was not considered extraordinary, nor was the Hattian-Hittite underworld forbidding or 'evil' (Collins 2007:174). On the contrary, a variety of deities willingly sought out the Dark Earth (or liminal places leading to it), left it reluctantly and regarded the subterranean realm as a refuge.[156] Hoffner (1998a:193) observes there is no evidence that ordinary folk thought their deceased family members would be subjected to a grim afterlife. Mesopotamian influence fostered the notion that for most humans the Dark Earth was the dismal realm of death and offered no refuge (Hoffner 1998a:193). In his treaty text (CTH 42), Suppiluliuma I emphasises the consequence of breaking an agreement: Huqqana of Hayasa and his entire extended family will be eradicated from not only the living world but also the Dark Earth (Beckman 1996:29). To be denied entrance to the underworld meant the deceased would be obliterated, an even more dreadful fate (Collins 2007:193).

'Dark Earth' remains an obscure term that could refer to the land inhabited by humanity (Haas 2006:2021), possibly the underworld, or it may be a supernatural being (Haas 2006:2022). The nature of an Anatolian-Hattian Dark Earth remains elusive. The flexibility of this term 'Dark Earth' seems to underline the lack of clear boundaries between earth above and the earth below. Karst landscape delivered many physical watery entrances into the subterranean zones via rivers, lakes and springs (Bryce 2002:180). Graves and artificial pits (Collins 2004:56) were another way in.[157] Waterways that swirled between the surface and the underground inspired the concept of an imagined Great Road into the Dark Earth travelled by deities and the souls of the dead to the realm beyond (Taracha 2009:160). Hoffner's (1998a:191–199) compilation of the fragmentary texts KBo 22.178, KUB 48.109 and 43.60, known as the *Voyage of the Human Soul* (CTH 457), offers some clarity on this idea of a Great Road. The fragments deal with the soul's passage to the netherworld after death and may raise the

[156] Tatišvili (2007:189) references the following: the Sun **(**CTH 323**),** Telipinu **(**CTH 324), Storm-god **(**CTH 325–32, 671), Hannahanna **(**CTH334**)**, Fate-goddesses and Mother-goddesses **(**CTH 335), Inara **(**CTH 336**)** and Moon-god **(**CTH 727).
[157] The Hurrian term was *api;* the Hittite term was *hattessar* (Collins 2004:56), which also referred to a natural opening into the earth.

concept of death as resurrection (Archi 2008:190). The meaning of these fragmentary texts is obscure, although it seems clear that human souls accessed the underworld using the same waterway as deities (Erbil & Mouton 2012:74). Archi's (2008:173–174) translation,[158] particularly lines 27–32, is of great interest regarding disappearing rivers, the link to the Sun Goddess (of the Earth) and the afterlife:

> 27 "Whose soul is great?" "The mortal's
> soul is great!". "What road does it have?"
> 29 "It has the great road. It has the road that makes things disappear."[159]
> The man of the road (i.e. the psychopompos?) has got it ready
> for the road.
> 31 A holy thing of the Sun-goddess (of the Earth) is the soul. To
> the gods belongs the soul.

Thus the road, actually a waterway, had the ability to make things vanish underground, a familiar characteristic of karst sinking rivers. The same concept is found in the *Telepinu Myth* (CTH 324) where Telepinu's negative emotion is directed to the road of the Sun Goddess (of the Dark Earth) (Collins 2007:177) who, like Hermes, will lead dead souls to the netherworld. Hoffner (1988:17) provides this translation of version 2:

> §26 (A iv 12-–13) …May it not go into the fruitful field, garden, or forest.
> May it go the route of the Sun Goddess (of the Dark Earth).
> §27 (A iv 14–19) The gatekeeper opened the seven doors. He drew
> back the seven bars. Down in the Dark Earth stand bronze vats. Their
> lids are of lead. Their latches are of iron. That which goes into them
> doesn't come up again; it perishes therein. So may they seize Telipinu's
> anger, wrath, sin, and sullenness, and may they not come back (here).

In other words, karst hydrology provides the waterway for sending harmful emotions underground where they will perish in locked bronze vats. The same type of vessel could be sunk into the seabed to secure the *tarpi*, a hostile Hittite demon (Collins 2007:170; Haas 2006:2021). Bronze was an essential component of imprisonment in the afterworld and is found in Tartarus, where Poseidon's great bronze gates locked in the primeval Titans (Hes. *Th.* 732). In the Hittite imagination, the Dark Earth appears to have had noteworthy benefits as both a secure repository for pernicious elements and an attractive refuge for annoyed deities. Nevertheless, cosmic harmony was threatened when deities shirked their duties by vanishing: trees ceased to bud; fields, springs and mountains dried up; both gods and humans faced the threat of famine (Hoffner 1998:15). A ritual termed *mugawar* (entreaty), originating from the Anatolian tradition, was necessary to restore equilibrium with the return of the deity (Taracha 2009:155) from liminal borderlands; a marsh, a meadow or the Dark Earth.

Similarly, the passage of a mortal Hittite soul to the Dark Earth involved navigating or avoiding dangerous karst waterways. A description in *The Voyage of the Human Soul*

[158] Based on Watkins' (1995) *How to kill a dragon: aspects of Indo-European poetics.* New York: Oxford.
[159] Compare Hoffner's version in *Hittite Myths* (1998:34*)*: 'It travels the Great Road, it travels the Invisible Road.' The adjective *marnuwala* can be translated as 'invisible/makes things invisible' (Erbil & Mouton 2012:63).

(CTH 457)[160] resembles the grim underworld of Mesopotamia (Collins 2007:193) and the classical world (Archi 2008:176), where, without memory, personal identity has vanished (Marinatos 2009:186). Cognitive function has ceased, family members do not recognise each other, civilised living has disappeared and the scrawny dead '…eat bits of mud. They drink waste waters (?)' (§4 ii 2–10, iii 1–7). The journey provides clues to the infernal landscape and Archi (2008:188) points out that this type of geography is 'common to both Mesopotamian[161] and Classical cultures'. Although the relevant passage below is fragmentary and written in the style of the New Hittite era, Archi (2008:174) considers KBo 22.178+KUB 48.109 to be a copy of an original Old Hittite version, based on the language style and content. The passage reflects Van Gennep's (1960:21) typical three-stage structure of transition: 1) a separation from a known point, 2) a liminal in-between stage concluding with 3) 'incorporation into the new world'.

"Why should I go the perdition of the mortal?
33 Should I go the *dàsanata*? I will fall into the river. I will fall
into the pool. Should I go the *tenawa*? Let me not go!
35 The *tenawa* is evil . . . [
to the meadow let [me] trav[el quickly
37 [Let me not (?) be] struck down by a god ["

The anxious soul has to leave the familiar world of the living and face the unknown journey to the Beyond, which is fraught with rivers, pools and the alarming *tenawa*. Clearly the soul fears the vagaries of karst hydrology, as echoed in the Greek notion of *limnē,* as either a volatile watery network or a threshold between the earth above and the earth below (Connors and Clendenon 2016:154).[162] The *tenawa* may have been a physical place along the road, possibly an infernal river such as the Styx (Hoffner 1998a:193) or akin to Lethe that induced forgetfulness (Hoffner 1998:113). As noted in Part One, karst waters can be unpredictable and dangerous, manifesting whirlpools, icy or hot springs, diving rivers and vanishing pools. Watery openings in the earth were equated with the (often rapid) disappearance of water (Connors & Clendenon 2016:150), as evidenced by the erratic spring at Gavurkalesi.

Nevertheless, there was more than a modicum of hope. As Hoffner (1998a:193) notes, 'Nothing in Hittite sources suggests that the existence of the deceased after death was a sad or deprived one'. The myth hints that, with the required rituals (Archi 2008:176), mortal souls might expect an attractive option in an immortal meadow (Collins

[160] Translated by Hoffner (1988:33).
[161] Hoffner (2003:115) notes that 'The similarity of this picture to that conveyed in certain Mesopotamian literary texts raises the currently unanswerable question of whether this is a fragment of a Mesopotamian literary text translated into Hittite, and therefore not necessarily representative of native Hittite conceptions'.
[162] *Limnē* – a 'lake' or 'marsh' (Connors & Clendenon 2016:154).

2007:194) – a duplication of an earthly meadow, only better.[163] The Hittite term *wellu-* (Greek *leimōn*) has similarities to the Elysian Fields (Archi 2008:188) of the Greek world. Reece (2007:397–398) references Minoan influence via Rhadamanthys, a Cretan king (Hom. *Od*. 4.563–564), regarding notions of an immortal meadow and, as Minoans were island mariners, on the Isles of the Blessed.

Similarly, the uncanny aspect of karst is reflected in the complex, conflicting Greek deathscapes of Hesiod and Homer.[164] As with the Hittite view, the Greeks considered that the land of the dead required a physical journey through the *eschatia* (Endsjø 2000:363) to the final frontier, beyond which lay Hades. This is apparent in the *Odyssey* (10.508–16), where Circe, daughter of the sun and granddaughter of the cosmic river (Hom. *Od*. 10.139), acts as 'instructor' to Odysseus and his companions. This type of stabilising authority figure associated with transition provides guidance to neophytes embarking on a change of state (Turner 1964:49). Circe explains the hero's journey through a numinous waterland (Bakke 2010:28) of karst phenomena:

> But when in thy ship thou hast now crossed the stream of Oceanus, where is a level shore and the groves of Persephone—tall poplars, and willows that shed their fruit—there do thou beach thy ship by the deep eddying Oceanus, but go thyself to the dank house of Hades. There into Acheron flow Periphlegethon and Cocytus, which is a branch of the water of the Styx; and there is a rock, and the meeting place of the two roaring rivers.

The hero will not be descending into Hades, which lies under the earth; he will be in a liminal place that is of neither the living nor the dead – it is both and it is neither (Turner 1964:48). Having crossed the Okeanos, he will be travelling horizontally (Marinatos 2009:185) across a darkened watery landscape filled with liminal markers: mist and cloud (Hom. *Od*. 11.15), an eddying cosmic river at the edge of the known world, a sacred grove and baleful rivers associated with the underworld – Acheron, Pyriphlegethon ('Blazing Fire'), Kokytus ('Wailing') and the Styx, 'foremost of them all' (*Th*. 361) (Marinatos & Wyatt 2011:400). The entrance to damp Hades is a chasm (Erebus) near the rock rising from the confluence of the Acheron, Pyriphlegethon and Kokytus, a tributary of the Styx (Hom. *Od*. 512–516). The location of the chasm resembles a karst sinkhole; thus Hades' portal is a *katavrothra* (Bakke 2010:29). The *alsos* of Persephone, like all sacred groves, is 'a natural manifestation of a median place between two worlds' (Bonnechere 2007:26). Similarly, Circe's island acts as the

[163] The option of a paradise was linked to royalty (Collins 2007:193). The last unfinished section (KUB 43.60 IV) of the *Immortal Voyage of the Soul* mentions a spindle, a distaff and a feminine headdress (*kuressar*) in conjunction with the ritual, suggesting the mortal soul had belonged to a woman (Archi 2008:171).

[164] The geographers Hartig and Dunn (1998) originated the idea of deathscapes. I use the definition supplied by Dimakis (2015:27) – 'Deathscapes is a mental concept – a construct that is comprised of ideas about and representations of death in the landscape together with their social significance' – and extend it to include mythic topography.

threshold between the known and unknown worlds (fig. 75).[165] In this porous border zone, where the familiar structure of the living world begins to fray (Marinatos & Wyatt 2011:401), Odysseus tells his companions, 'we know not where the darkness is or where the dawn, neither where the sun' (Hom. *Od.* 10.190). The reconstruction below (fig. 75) clarifies the concept of light/living versus darkness/death: the sun shines only on the circular world of the living. Beyond the encircling Okeanos, all is darkness.

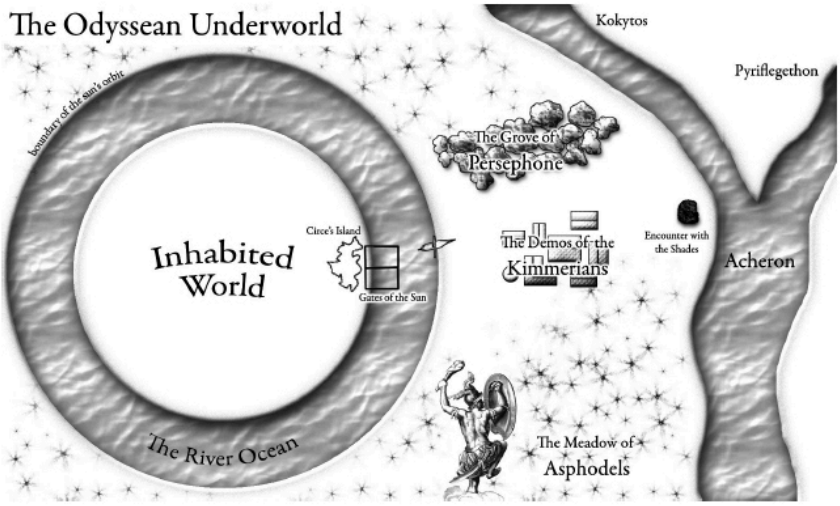

Fig. 76. Route of Odysseus across the Okeanos.

Fig. 77. *Asphodelus ramosus*. An asphodel meadow in Omalos, Crete.

As watery meadows were preternatural places for both Hittites and Greeks, 'a *topos* in the landscapes of the mind' (Bonnechere 2007:20), an asphodel meadow seems fitting

[165] Marinatos and Wyatt (2011:402) note that a threshold to the Beyond is a familiar concept in Ancient Near Eastern art and literature and suggest it originated with the Egyptian concept of *duat*, the gates to the Beyond. Zago (2018:203) explains that the meaning of *duat* changed over time. In the Pyramid Texts the *duat* covered 'part of the sky and with a liminal domain located somewhere between earth and the horizon' and in the later Coffin Texts, the *duat* included the 'nether sky and netherworld'.

despite its elusive meaning.[166] Marinatos (2009:188), expanding on the influence of the pharaonic *duat,* proposes that the meadow was the star-studded constellation of Orion in the night sky. Reece (2007) takes a different view, noting an enigma in the choice of an attractive, useful plant[167] to represent a place of dread (Hom. *Od*.11.573; 24.13). Using a philological approach, Reece (2007:392) suggests that the word 'asphodel' was pre-Homeric and acquired a different meaning in relation to the Homeric view of the afterlife. Thus, the field of asphodel was not one of white flowers or stars; rather, it was understood to be 'the ash-filled meadow' (Reece 2007:393). This would explain the association of asphodel (fig. 76), which grew on tombs, with chthonic deities such as Persephone and Artemis/Hecate (Reece 2007:396), making sense of its liminal location beyond the Okeanos near the entrance to Hades.

Far below Hades, Hesiod's Tartarus (*Th.* 730–780) displays notable karst phenomena: a deep, dark ravine (*Th*. 740), wild buffeting winds (*Th.* 742), mists (*Th.* 738), springs and 'the goddess loathed by the deathless gods, terrible Styx' (*Th*. 776). Mist, springs and rivers are to be expected, as karst geology, by its nature, is the synergy of soluble rock and flowing water. Subterranean caverns or canyon passages[168] will often contain rivers (Fields 2002:28 sv canyon passage) and caves can 'breathe' as air flows pulse in and out of entrances and narrow passages (Fields 2002:33 sv cave breathing). High winds can develop where a deep shaft in the cave floor connects with an air-filled subterranean chamber (Fields 2002:21 sv blowing cave; 2002:209 sv well). Hesiod's geography of Tartarus is perplexing. Defining a coherent plan of its structures becomes frustrating for the modern mind (Johnson 1999:10) with its preference for clarity. In my opinion, Hesiod's spatial enigma emphasises the intrinsically dynamic (LaMoreaux 1991:216) and mobile nature of karst. Like Odysseus' passage to the underworld (Bakke 2010:28), its ambiguity is emphasised in a watery, sunless subterranean location.

A primordial goddess like Hecate (Lye 2009:12; Clay 1984:31), Styx is unique among infernal rivers, for 'she alone flows forth from a rock' (*Th*. 792). Her rock-vaulted dwelling resembles a cave decked with soaring silver pillars (*Th.* 779–780) that suggest waterfalls. The description has parallels with Nonacris (fig. 77) in Arcadia (Johnson 1999:24), where a river named Styx pours over a towering cliff (Paus. 8.17.6); thus karst landscapes can provide validity and a familiar reference point for descriptions of an imagined afterlife in myth, ritual and literature (Connors & Clendenon 2016:149).

[166] Certain trees, plants and shrubs of the *maquis* were associated with mortality and used in rites and rituals surrounding the dead for example, the herb oregano and the cypress tree (Dimakis 2015:35).
[167] Asphodel flowers, stalks and roots have various healing or nutritional properties and the stalks can be woven or used as bedding for livestock (Reece 2007:391).
[168] Škocjanske Jama in Slovenia is the largest known canyon passage, at 100 m high and 50 m wide (Fields 2002:28: sv canyon passage).

Fig. 78. The waterfall of the Styx at Nonacris in Arcadia.

Hesiod (*Th.* 775–806) lingers over his description of the riverine goddess Styx, granting her more space than any other resident of Tartarus because, Johnson (1999:9) notes, as the first ally of Zeus she wields the crucial power of the oath (*Th*. 400) over upper-world deities, and is feared and disliked as a result.[169] Styx ensures the stability of the cosmos 'because she exists as a force which binds the most powerful beings (including Zeus himself)' (Lye 2009:12); thus, even the most powerful have their power limited (Lye 2009:14). In the same way that her flowing water forms a physical boundary in the geography of Tartarus, Styx becomes a metaphysical boundary, separating primordial chaos from the secure new cosmos promised by Zeus (Johnson 1999:27; Lye 2009:12).

Hesiod places earth as the midpoint between heaven and Tartarus (*Th*. 720). Gaia, Ouranos and Tartarus represent three cosmic zones as three material bodies that compose the essential cosmic structure (Lye 2009:7). As river and oath-bearer, Styx is the entity that connects the cosmic zones physically and metaphysically (Lye 2009:8). Her cold waters flow through Tartarus (*Th.* 786), her house and pillars reach to heaven (*Th.* 778) and her oath ensures peace and unity among the deities (*Th*. 794).

Conclusion

Greek and Hittite notions of the afterlife have notable similarities, supporting the observation that 'a map of the world is a map of the mind' (Connors & Clendenon 2016:152). The journey to the land of the dead was through numinous landscapes fraught with uncanny karst hydrology. Water was the frontier between the living world

[169] It is unusual to have a female river goddess. In the Greek world, as early as the Archaic Age (Bakke 2007:237), springs were feminine and surface rivers were usually masculine, often depicted as a man-snake composite creature (Bakke 2007:233).

and the world of the dead. The dark, damp underworld safeguarded the upper world of mortals and deities by securely imprisoning dangerous emotions and deities (Johnson 1999:27; Collins 2007:177). Both cultures offered the attractive option of avoiding the infernal horror in favour of an afterlife in a flowery meadow.

CHAPTER 10: DYNAMIC DEITIES

> Whoever passes from one to the other finds himself physically and magico-religiously in a special situation for a certain length of time: he wavers between two worlds (Van Gennep 1960:18).

As mentioned in Part One, Chapter 3, there is an intriguing variety of immortals or semi-immortals who display dynamic qualities in the sense of elusiveness (Telepinu; Inara), duality (Sun Goddess of the Earth; Artemis; Heracles), multifunctionality (Sun Goddess of the Earth; Hecate), composite forms (Pan), transition (Telepinu; Hermes) and ties to water (nymphs and the deities above), to mention a few. [170]

I argue that these divinities were influenced by distinctive karst terrain which Hittites and Greeks imagined as preternatural liminal zones. In this chapter, my focus is primarily on Hittite Telepinu and Greek Hermes as examples of deities that have mythic familiarity with karst hydrology. In my view, Telepinu is an avatar for the physical attributes of karst hydrology in a metaphysical context. Hermes, too, has several connections to karst hydrology. In the mythological tradition, his mother Maia, being one of the Pleiades, was a rain nymph; Hermes fathered sons on Herse (Dew), one of the three watery daughters of Cecrops, the man–snake hybrid king of Athens (Drake 1974:115); Chione the snow nymph bore his son Autolycus while another son, Daphnis, was linked to a fountain in Sicily (Drake 1974:116), and there are many more such examples.[171] Hermes is unusual in the Greek world for a number of reasons. Pertinent to this study is his ability, unique in the Greek world, to navigate imagined subterranean karst hydrology without risk.

There are a number of fragmentary, damaged texts about Hittite vanishing deity myths, including the Sun God (CTH 323), the Storm God of Nerik (CTH 671) and Inara (CTH 336), a Hattian goddess of the steppe. Although incomplete, the myths of Telepinu (CTH 324) and the Storm God (CTH 325) survive in the best condition (Kellerman 1986:117; Güterbock 1961:148) and provide a glimpse into the distinctive mindset of

[170] Dynamic in the geological sense of change (LaMoreaux 1991:216) and transformation.
[171] Hermes has additional links to karst hydrology via trees and sites with sacred groves either his own (for example, Kato Syme) or with the *alse* of other chthonic deities such as the oracle of Trophonios. Chittenden (1947:98) notes that little interest has been shown in the link between Hermes and trees as an example of a Minoan legacy.

the Hittite world. While much has been written on the genre of disappearing deity myths, I restrict my discussion to those aspects associated with karst phenomena and reference Hoffner's translation of the three versions (TMI, II, III) of the Telepinu myth.

At first glance, these myths appear to be a variation on the familiar theme of a dying/reviving vegetation god found in ancient cultures. But closer inspection shows that this god and other Hittite deities[172] did not die and revive; rather, they entered liminal zones or travelled to the underworld and returned to the surface risk-free.[173] Subterranean waterways and the underworld were part of their familiar milieu and, as argued by Macqueen (1959) and discussed in the previous chapter, their mobility reflected erratic karst hydrology. The resulting potential to unbalance the cosmos created alarm for both mortals and the divine pantheon. A properly functioning cosmos required the return of the god and the removal of his bad temper or negative energy to the Dark Earth. The Telepinu myth, which is Hattian in origin (Hoffner 1998:9; Güterbock 1961:143), contained magic formulae from Kamrusepa, the ancient Hittite goddess of magic, and was used in conjunction with mortal rituals of entreaty (Kellerman 1986:121).[174] It was probably in use for some 400 years, from the Old Hittite to the Empire periods (Kellerman 1986:117).

In the *Telepinu Myth*, the missing god needs to be found. To my mind, the myth reveals the power of Anatolian mother goddesses to find the solution and, because of the Storm God's error, shows their control of liminal thresholds. He sends an eagle to locate Telepinu, failing to grasp that an eagle can operate in only two cosmic zones: sky and land. In contrast, Hannahanna, one of the typical Anatolian mother goddesses (Macqueen 1959:177), sends a bee because she understands Telepinu will retreat to a liminal zone (Della Casa 2011:272). A bee is able to operate across multiple zones – air, land and openings to the underworld – and thus is able to move freely into a zone of transition.

Briefly, the Telepinu myth relates the anger of Telepinu, the manifestation of mist[175] (Hitt. Nom. *kammara-* c.) and smoke (Hitt. nom. *tuhhui-* c.) to the alarming reversal of normal conditions exacerbated by Telepinu's retreat to liminal places: the steppe (*gimri*), the moor or, more aptly, the marsh (*marmaras andan*), the meadow (*wellui-*) in TMI (§3 A i 11–13) and, in TMIII (§2 B ii 3–4), a meadow in a forest at Lihzina. This

[172] Kellerman (1986:122) raises the possibility that the TM was a template whereby any deity's name could be substituted for Telepinu, which raises the question of whether all Hittite deities could move freely between cosmic zones.
[173] Thus have a marginal resemblance to the Greek myth of Persephone (Bryce 2002:214).
[174] The exorcist who performed the *mugawars* (rituals of entreaty) was usually female and referred to as $^{MUNUS.}$SU.GI, an Old Woman, and originated in the pre-Hittite era (Taracha 2009:75; Kellerman 1983:121).
[175] Interestingly, *kammara-* (mist, fog, cloud) is also a term for a swarm of bees. The root probably comes from Indo-European *kem-* (cover) (Weeks 1985:19 1.74 sv Mist).

results in the sterility of the earth. The Storm God and Hannahanna, a wise divine grandmother (Hoffner 1998:110 sv Hannahanna), must find Telepinu, lure him back and remove his anger in order to restore the normal functioning of the universe. Hannahanna and her bee succeed in finding him and Kamrusepa, the goddess of magic, removes his anger, which restores order to the cosmos. In Hoffner's (1998:15–20) translation of the Telepinu myth version 1 (TM I), the first few lines of text reveal a *mundus inversus* with compelling references to the karst environment filled with what I refer to as 'liminal markers': wilderness, marshland, meadow, grove.

> §1 (A i 1–4) Telipinu [. . . screamed]: "Let there be no intimidating language." [Then] he drew [on the right shoe] on his left foot, and the left [shoe on his right foot].
> §2 (A i 5–9) Mist seized the windows. Smoke [seized] the house. In the fireplace the logs were stifled. [At the altars] the gods were stifled. In the sheep pen the sheep were stifled. In the cattle barn the cattle were stifled. The mother sheep rejected her lamb. The cow rejected her calf.
> §3 (A i 10–15) Telipinu too went away and removed grain, animal fecundity, luxuriance, growth, and abundance to the steppe, to the meadow. Telipinu too went into the moor and blended with the moor.[176] Over him the *halenzu*-plant grew. Therefore barley (and) wheat no longer ripen. Cattle, sheep, and humans no longer become pregnant. And those (already) pregnant cannot give birth.
> §4 (A i 16–20) The mountains and the trees dried up, so that the shoots do not come (forth). The pastures and the springs dried up, so that famine broke out in the land. Humans and gods are dying of hunger. The Great Sun God made a feast and invited the Thousand Gods. They ate but couldn't get enough. They drank but couldn't quench their thirst.

Goetze (1969:126) offers this translation of the first surviving line: 'Telepinus [flew into a rage and shouted:] "There must be no inter[ference!"', and notes that the upper third of the tablet, consisting of some 20 lines of text, is missing; thus a reason for Telepinu's annoyance at being intimidated or distracted has been lost.

The first sign that all is not well occurs with the manifestation of mist and smoke that 'seize' the house and 'stifle' the hearth, the gods and the domestic animals. Domesticated life enters a darkened state of suspended animation; mist and smoke reduce light and visibility. Mist, caused by moisture, creates an otherworldly atmosphere reminiscent of the threshold zones (Cook 1992:5) described in Homer's *Odyssey*: the cloud-wrapped Cimmerian lands at the edge of Hades (*Od*. 11.15) and the mist-shrouded sea where the fast Phaeacianships sail (*Od*. 8.562).[177] Telepinu abducts fertility and retreats to the *gimra* or wilderness (Beckman 1999:162), an act that appears to break the hiatus, pushing physical and metaphysical life into a dangerous spiral of drought and sterility as dynamic natural water supplies disappear. Famine looms for humans and deities.

[176] In geological terminology a moor is 'a wet peat bog' (Fields 2002:125 sv moor).
[177] The Cimmerians and Phaeacians were located at thresholds between mortal/immortal, living/dead and even paradise/underworld because the Phaeacians, unlike the Cimmerians at edge of the death zone, were 'near kin of the gods' (Hom. *Od.* 5.36). Cook (1992) and Segal (1962) present further discussion.

Fig. 79. Central Anatolian rolling steppe with a small pond.

Fig. 80. Original Central Anatolian steppe vegetation (currently under threat).

Telepinu moves through a numinous landscape of steppe, meadow and marsh (figs. 78 and 79). Puhvel (1969:65) notes that *wellu-* ('meadow') is of Indo-European origin and can represent 'a meadow of the otherworld', being the desired afterlife for deceased royalty (KUB 30.24. ii 1–4) or a marginal space between two cosmic zones or states (Della Casa 2011:268; Della Casa 2010:102; Van Gennep 1960:18). Furthermore, Telepinu's choice of resting place is under the *halenzu*-plant. This provides the clue to his preferred destination, as *halenzu* is a water-plant that flourishes on the surface of lakes and ponds (Hoffner 1998:110 sv *halenzu*). In other words, Telepinu has 'blended' with the wetland by disappearing into a pool. While Telepinu is considered a vegetation god (Della Casa 2011:268) or storm god (Hoffner 1998:14; Güterbock 1961:144), I support Macqueen's (1959:171–188) contention that Telepinu originated as a water god, so in this text Telepinu returns to his natural element of water. Where Della Casa (2010:103) proposes that Telepinu is trapped by vegetation in 'primordial chaos', I suggest Telepinu's behaviour mimics erratic karst hydrology evident in the Hittite

environment. In Anatolia it is not only springs and rivers that vanish and reappear; lakes display this type of hydrological phenomenon too, and feature in the Hittite world as imagined portals to the underworld (Rojas 2015:201).[178] Metaphysically, Telepinu has moved from the ordered world of mortals, livestock, nature and deities 'both built and inhabited'; from the known city to the unknown wilderness (Della Casa 2011:265; Beckman 1999:162), an intermediate place on the edge of no return, potentially beyond the reach of his mortal worshippers.

Version 1 of the myth continues with the realisation of the Sun God (Hatt. Taru) and Storm God (Hatt. Estan) that Telepinu is missing. The Sun God instructs his representative, the eagle, to search the landscape and sea:

> §6 (A i 26–31) "Search the deep valleys. Search the Blue Deep." The eagle went, but didn't find him. But he brought back a message to the Sun God: "I couldn't find Telipinu, the noble god." The Storm God said to Hannahanna: "How shall we act? We are going to die of hunger." Hannahanna said to the Storm God: "Do something, Storm God. Go search for Telipinu yourself."
> §7 (A i 32–35) The Storm God began to search for Telipinu. In his city (the Storm God) [grasps] the city gate, but can't manage to open it. Instead the Storm God broke his hammer and his wedge(?). He wrapped himself up (in his garment) and sat down. Hannahanna sent [a bee]: "Go search for Telipinu."

§7 line 33 provides an example of the Storm God, a major deity, who has lost freedom of movement and cannot cross the threshold of his city's gates. The crossing of a threshold has both physical and metaphysical implications of moving from one space to another, and from one zone to another (Della Casa 2010:104; Van Gennep 1960:18). The threshold has closed against the Storm God because he does not possess the attributes to find and return the errant god. Only Hannahanna and her bee can fulfill this quest.

Hannahanna is asked to assist when the Storm God's efforts fail.[179] Her role as DINGIR.MAH, a mother goddess (Archi 2013:8), is associated with individual births, humanity's genesis (Bryce 2002:174) and mortal wellbeing (Archi 2013:15). Della Casa (2011:269) proposes that Hannahanna has the attributes to return Telepinu to ordered 'cosmic space' from the wilderness or 'chaotic space' following Telepinu's rebirthing by the natural elements in the marsh. Thus Telepinu's new birth will usher in a new Hittite cosmos. Bryce (2002:215) observes that there is no hint of the crisis. Being a recurring seasonal event similar to that of Persephone, the tone of the myth is reactive, the drought is current and emphasis is on the volatile behaviour and return of the god. TMI (§4 A i 16–18) describes the drought clearly. It is the water-starved landscape that

[178] Known geologically as a ponor (Fields 2002:144 sv ponor).
[179] Hannahanna can also disappear, as seen in in CTH 334 (Hoffner 1998:30). Her return required sacred water from the Queen of the Spring being poured onto the fire in order for the vapour to enter the goddess' body (§13 A iii? 23–29).

provokes the need to find vanished deities who personify (Bryce 2002:214) erratic karst waters. The myths were vehicles for rituals to pacify an irritated deity and maintain the well-being of the community or an individual (Bryce 2002:213; Guterbock 1961:144). In my opinion, the issue of fickle karst hydrology was the underlying driver. Thus, I emphasise Hannahanna's role as a guardian of mortal quality of life, rather than supporting mortal births.

In vanishing deity myths and elsewhere, Hannahanna was often in the company of the Gulses of the netherworld, fate goddesses of Hattian origin who 'marked, engraved' (Archi 2013:15) the length of each mortal life at birth (Archi 2013:3).[180] For example, in TMII (Hoffner 1998:18), Hannahanna and the Gulses, together with the other deities, gather under the hawthorn tree, 'a place of convocation' (§22 A iii 28–34). In the myth of the disappearance of the Storm God (CTH 325), his father seeks the advice of the fate goddesses and Hannahanna (§10 A i 37–38), who will send her bee. Like Hannahanna and all mother goddesses, the Gulses were linked to riverbanks (Archi 2013:10), where humanity was created from mud. The Gulses have the power to decide when to cut the thread of human life, a notion that comes from Hattian culture (Archi 2013:15). As life-providers (Archi 2013:3) the chthonic Gulses were also death-bringers, as they chose the moment when a mortal crossed into the netherworld (Archi 2013:4); thus the goddesses were at home in the subterranean realm. Telepinu's watery refuge would therefore be familiar territory.

Aside from her association with birth, Hannahanna is responsible for mortal well-being. With mortal life under threat, it is no surprise that Hannahanna and the fate goddesses assist in the search. In Hattian myth, problem solvers tend to be goddesses rather than gods (Macqueen 1959:177) and honeybees – the pollen-gatherers – are female. Via her bee, Hannahanna becomes the motivator for a successful outcome. With the disappearance of life-giving water, the goddesses responsible for human quality of life will solve the problem by finding the restless water god, thereby restoring the fertilising waters and proper functioning of the cosmos.

While risk-free ease of movement between cosmic realms is rare in Greek myth, it was a characteristic of Hermes, another restless god who, like Telepinu, was 'here, and there, and everywhere' (Bakke 2007:297). Unlike the alarm caused by Telepinu's mobility, Hermes' freedom of movement echoed that of the Hittite mythic bee by enhancing unity between people and the gods (Radulović et al 2015:54) as Angelos ('messenger'), Kerykeios ('herald') and Diaktoros ('ambassador') (Dickson n.d. web),

[180] The Hittite notion of fate being 'engraved', *guls-*, resembles the Greek concept of *moira* or 'lot' (Archi 2013:15) and is an Indo-European concept (Archi 2013:6).

to mention a few.[181] This unusual aspect is evident in Hermes and Hecate, as both Greek deities had right of way to all cosmic zones, showed sympathy towards people and encouraged unity between mortals and gods (Bakke 2007:299; Boedeker 1983:82). Physical and metaphysical borders, borderlands, crossroads and thresholds in cities and, particularly, the wilderness were the familiar habitat of Hermes. With his ability to enter and exit heaven, earth and underworld at will and without risk (Bakke 2007:297), he was present at real and imagined places of transition, whether on lofty mountains, in cities or in the caves and chasms of the netherworld.

Like the Sun Goddess of Arinna who knows the way to the Beyond because the Great Road belongs to her (Hoffner 1998:17), Hermes knows the labyrinthine pathways through the netherworld because Zeus had appointed him to be the sole messenger to Hades (*HH* 4.572). Moving effortlessly above and below the earth, he leads mortal souls to the realm Beyond as Hermes Pompaios ('guide'), Kataibates ('who leads down'), Psykhopompos ('conveyor of souls') and Nekropompos ('conveyor of the dead') (Dickson n.d. web). The damp, dark road Hermes travels with the 'gibbering' spirits of Penelope's slain suitors (Hom. *Od.* 24.5–15) has all the eerie drama of karst hydrology:

> …he roused and led the spirits, and they followed gibbering. And as in the innermost recess of a wondrous cave bats flit about gibbering, when one has fallen from off the rock from the chain in which they cling to one another, so these went with him gibbering, and Hermes, the Helper, led them down the dank ways. Past the streams of Oceanus they went, past the rock Leucas, past the gates of the sun and the land of dreams, and quickly came to the mead of asphodel, where the spirits dwell, phantoms of men who have done with toils.

Thus, Hermes, the god who favoured the highest, brightest places on earth, was equally relaxed in its lowest, darkest levels.[182] Being born of the nymph Maia in a cave on Mt Kyllene (*HH* 4.12), he has no fear of the bat-filled cave.[183] He was venerated in caves, associated with Pan, cave-dwelling nymphs (Sporn 2013:203; Larson 2007:145) and Hecate, 'a transfunctional goddess' (Boedeker 1983:92; Clay 1984:32). Familiar from Circe's description (Hom. *Od*. 10.508–16), the watery landscape, like Hermes, 'wavers between two worlds' (Van Gennep 1960:18) and is marked by the duality typical of transitional space: living/dead, mortal/immortal, light/dark (Turner 1974:61).

While Odysseus and his companions moved horizontally to the dank edge of Hades (Hom. *Od.* 10.190), Hermes and the spirits will travel vertically. As with the animal flocks he protects above (Larson 2007:148), he leads this gibbering flock deeper towards the sphere of subterranean karst hydrology so graphically described in Hesiod's *Theogony* (730–780). It is an imagined death zone of no return. Although this zone is

[181] The next chapter (11) discusses his connection with bees, bee maidens (HH 4.555) and bees as a divinatory tool (Larson 2007:145).
[182] His attachment to remote mountains included Mt Juktas and Akakesion in Arcadia, Mt Kerykion in Boeotia, the temple of Zeus on Mt Lykeios (Chittenden 1947:97) and Mt Kyllene in Arcadia, reputedly his birthplace (*HH* 4.1–2).
[183] The description is so sharply observed that surely the author had stood in such a bat-filled cave.

safely accessible to Hittite deities (Tatišvili 2007:190), in the Greek world only Hermes, a god 'betwixt and between', travels the world above and below and returns unscathed to light and life.

A 5th century Greek notion of a preternatural Homeric waterland (Bakke 2010:38) at the chasm to the underland (Bakke 2007:290) has survived the millennia. The Lykaon Painter's fine red-figure *pelikē* (fig. 82) shows Hermes accompanying Odysseus as he meets with the spirit of his companion, Elpenor.[184] In Bakke's opinion (2010:28; 2007:287), with which I strongly agree, karst hydrology is a key feature of the scene's mythic environment. The clue is provided by the spirit of Elpenor emerging from Erebus (Hom. *Od.* 11.51) through a fissure in the earth, a clear karst phenomenon (figs. 80 and 81). Homer's description (*Od.* 10.515) of the chasm near a rock with two turbulent rivers fits the geological definition of a karstic sinkhole, or *katavothra* (Bakke 2007:290) or ponor.

Fig. 81. Entrance to the Dersios sinkhole, Mt Parnon, Arcadia.
The sinkhole is 170 m deep. The water-filled cave was drained in 2005.

A ponor or sinkhole is the disappearance of river or lake waters, often rapidly, down a cave or vertical shaft (Fields 2002:168 sv sink; sinkhole) and into an underground karst ground water system (Fields 2002:144 sv ponor). In some instances, depending on

[184] Elpenor had died accidently on Circe's island and remained unburied (Hom. *Od*. 11.64–72).

water volumes, the flow may re-emerge kilometres away as a spring in the bed of a lake, a river or the sea, or as a spring in a cave, an embankment or a wetland, to mention a few (Connors & Clendenon 2016:150). Baleriaux (2015:186) has taken an excellent photograph of a *katavothra* (fig. 81) illustrating her discussion on the link between karstic water, Artemis Stymphalia and the hunter and deer sucked down a ponor in the marshy Stymphalian plain (Paus. 8.22.8–9).[185]

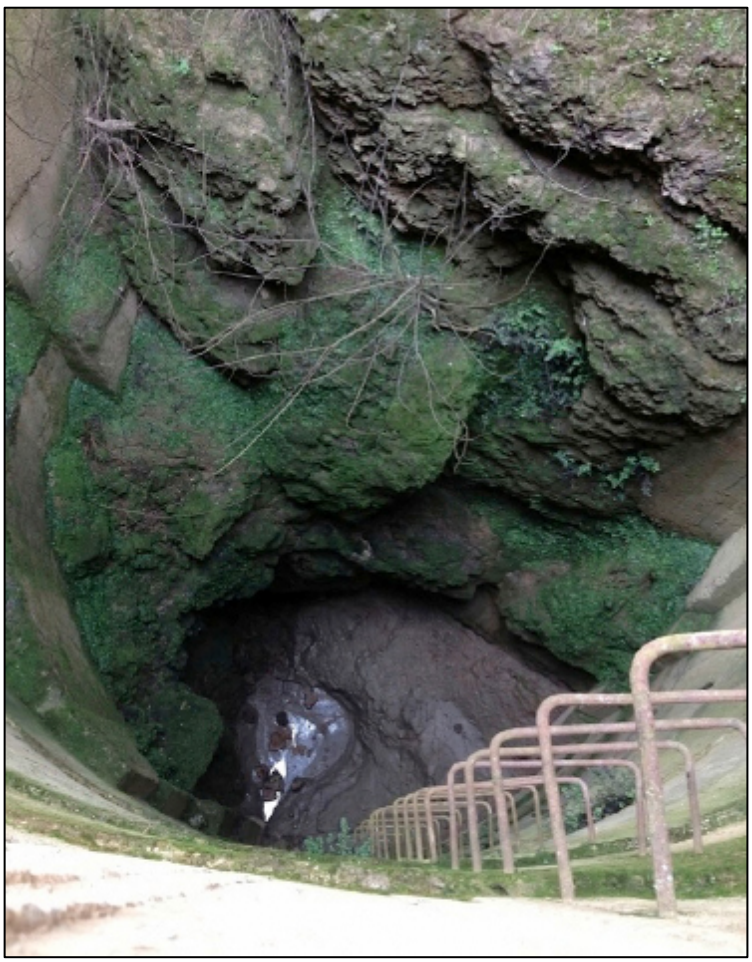

Fig. 82. The Stymphalian *katavothra*.
Note the mud and moss-covered rocks indicating the damp environment.

The Lykaon Painter depicts a *katavothra* in the wetland so aptly described by Circe (Hom. *Od.* 10.508–541) and places Hermes at the scene (fig. 82). His presence is appropriate because the god of travellers, boundaries and crossroads (Bakke 2007:310; Larson 2007:144) knew the way in and out of the Underworld (*Od*. 24.10) and would ensure Odysseus' return to the light (Bakke 2010:42). In other words, Hermes, so often commemorated on high mountain passes (Bakke 2007:315), was also familiar with

[185] The Stymphalian Lake displays the characteristics of a transitional point and *mundus inversus* where the hunter becomes the hunted – flesh-eating birds pursued humans and were expelled from the area by Heracles (Borgeaud 1988:18). Pausanias (8.22.7) notes that 'maidens of white marble, with the legs of birds' stood at the back of Artemis' sanctuary.

subterranean ‘dank ways’ (Hom. *Od.* 24.11) that are typical of ambiguous karst phenomena: sinking rivers, labyrinthine tunnels, caves and chasms.

Fig. 83. Hermes (right), Odysseus (centre) and the spirit of Elpenor (left) at the threshold to the Underworld. Red-figure pelikē. The Lykaon Painter c.440 BCE.

In fig. 82, the spirit of Elpenor (depicted on the left) has pulled himself halfway out of the dank chasm. His left hand is raised above his head and grips the towering rock above him, presumably the rock Leucas (Hom. *Od.* 24.12) where the infernal rivers meet. Water plants grow around the damp mouth of the chasm and frame his torso, an image reminiscent of Telepinu sinking below the *halenzu*-plant (Hoffner 1998:15) imagined in a remote Anatolian wetland. In the centre, Odysseus is seated on a low rock shelf facing Elpenor. His sword guards access to the blood of the sacrificed ram and ewe (Hom. *Od.* 10.527) that drips into the pit at his feet. Behind Odysseus, on the right, Hermes stands defined by his winged boots and cap and bearing his herald’s staff or *kerykeion,* originally a shepherd’s crook (Farnell 1909:20).

Hermes is not the focal point, yet the sophisticated composition gives him weight. Three strong vertical shapes (Elpenor, Odysseus, Hermes) are linked by a rising diagonal that runs from Elpenor’s hand near his hip, through the ram and Odysseus’s sword to Hermes’ outstretched right hand and the wand in his left. The raised arm of Elpenor creates another subtle diagonal that leads the eye to the standing figure of Hermes. Above the three figures is a border with a stylised floral motif that points to the living world above. At the base runs a meander, hinting at the twisting rivers of the

underworld (Bakke 2010:35) lying beneath the feet of the living, the dead and the deathless.[186] By implication, the Lykaon Painter has placed his image of the Homeric Beyond within the context of the cosmos as part of heaven, earth and the underworld.

Conclusion

Hermes and Telepinu are found in dynamic space and ambiguous points of transition. As an erstwhile water god, Telepinu has volatile karst hydrology embedded in his nature. Hermes is attached to karst hydrology via his role as psychopomopos, conductor of souls. The Anatolian and Greek examples reveal differing views regarding karstic water. Telepinu highlights the unmanageable aspect of erratic water flow and the very real fears of pre-industrial people regarding the consequences of drought.[187] Hermes provides a more positive view, not in terms of managing fickle water, but rather in navigating a daunting hydrological underworld under the protection of a benevolent deity. Both cultures morph alarming karst phenomena into a reference point to contain fears about drought, famine, death and the Beyond.

[186] Bakke (2010:35) highlights the link between a meander and infernal karst hydrology in his discussion of a funeral krater from the Athenian Kerameikos cemetery, part of the Diplon group in the National Museum of Athens, Cat. No. 990.

[187] Ironically, our 21st century world is becoming aware of the same disturbing consequences of vanishing water sources.

CHAPTER 11: LIMINAL CREATURES

> The symbolism attached to and surrounding the liminal *persona* is complex and bizarre (Turner 1964:48).

Among all the real and imagined creatures associated with liminal places, a small insect presents a living archetype of physical and metaphysical zones in the Hittite and Aegean worlds. The honeybee is an example of Turner's (2008:95) liminal *persona,* not in the sense of an initiate but rather as a catalyst imbued with ambiguities affiliated to transitional points in both cultures. Real bees, foraging in wild karst environments to create nutritious honey and wax, provided inspiration for the insect's extraordinary mythic attributes that are evident in both cultures. In so doing, the terrestrial passage of the bee through the karst landscape informs a symbolic passage (Van Gennep 1960:22), played out through complex, often unusual motifs (Turner 1964:48), some of which are discussed in this chapter. In the imagined world of the Hittites, this chapter hopes to show that one of her roles is to be an active force in maintaining cosmic stability in the face of uncontrollable karst phenomena. In the Aegean world, her choice of habitat encouraged the notion of a mediator between the living, the dead and the deities.

Why should an insect, even a useful one, be imbued with such wide-ranging attributes? The ancient Mediterranean was a region without sugar, a situation difficult to imagine for 21st century people surrounded by sugar and sugary products.[188] Although dates and figs were a source of sweetness (Mazar 2014:40), honeybees generated a unique and valuable source of sweetness for people in the ancient world. The honeybee foraged for pollen in typically liminal places sustained by karst water, such as forests, meadows, wetlands, mountains, gorges or steppe. Tree shrines were closely associated with bees (fig. 83), beehives (Crowley 2014:137) and trees with divination (Bonnechere 2007:29). Honey and wax were harvested from wild hives before bees were tamed c.2400 BC to become part of domestic life (Harissis 2017:18). Produced by *Apis mellifera*, honey provided a food and a fermented drink. It ranked alongside water and milk as a life-giver, one reason the honeybee (Ransome 2004:19) held an esteemed position in the physical and metaphysical world of the Hittites and Greeks. Nevertheless, bees needed

[188] Cane sugar was grown in China and northern India, although it rarely made its way west. Persia developed a taste for it c.200 AD and medieval Arab expansion brought it into the Mediterranean world (Galloway 2005:25).

to be treated with care and respect, as the bounty of honey came at the risk of being stung. A Mycenaean gold ring (fig. 83) depicts this duality. On the extreme left and right stand stone beehives in proximity to trees. In the centre is an imposing female figure. On the left, a youth turns his face away as he attempts to capture a swarm of bees in the foliage of the tree (Harissis 2017:20).[189]

Fig. 84. Gold ring from Mycenae.

Apis mellifera, the honeymaker, prefers to nest in cavities (Jones 2017:15), hence the association with passages between the earth above and the earth below. Consequently, the bee occupies both physical and symbolic space (Van Gennep 1960:18). In both cultures, the tiny free-ranging bee represented a beneficial bridge (Francia 2016:241; Carlson 2015:20) between humanity and its deities, between the living and the dead. Thus it is no surprise that Hermes, who travelled effortlessly between cosmic zones (Bakke 2007:297), should have the power of divination by bees (Larson 2007:145) and associate with bee maidens (*HH* 4.555), while Telepinu, the erstwhile Hittite water god (Macqueen 1959:174), should be returned from liminal space by a honeybee.

In Hittite disappearing deity myths, the familiar role of the honeybee was as an agent of cosmic recovery and, in my view, of cosmic equilibrium. Honey and wax were valuable commodities and beekeepers' hives and swarms were legally protected from thieves under Hittite laws §91 and §92 (Hoffner 1995:228), part of a legal collection that originated in the Old Hittite period c.1650–1500 BC (Hoffner 1995:214). Anatolian honeybees (*Apis mellifera anatoliaca)* were excellent producers, more placid than their Syrian and Greek cousins (Cook 1895:2), although Aristotle (*HA* 9.40) notes that Greek bees differed considerably depending on location: forest-dwelling bees were 'more shaggy, smaller, more industrious and more fierce'. Interestingly, the Anatolian honeybees generated higher quantities of honey, which may explain why Israel imported them in the 10th century BC (Simon 2014:716; Mazar 2014:45).[190] Beeswax

[189] Crowley (2014:137) notes the difficulty of deciphering the difference between dots indicating bees and dots indicating flowers. While tree shrines are linked to bees and beehives, she emphasises the need to consider 'the full glyptic repertoire'.

[190] The only bee remains and apiary found in the Ancient Near East come from the archaeological site at Tel Rehov (Mazar 2014: 41, 44) although signs of beekeeping are attested at Çatal Höyük c.8000–7000 BC (Akkaya & Alkan 2007:120).

(Sum. DUH.LÀL) was used to seal vessels, thereby preserving the food within; it was applied to parts of the body as a purifier and defence against evil and, because heat turned wax from solid to liquid, it became a tool for analogic magic (Hoffner 2003:101).

Honeybees feature early in the written record and Hittite texts display detailed terminology for apiculture, including Hittite *milit-* and Sumerian LÀL for honey (Hoffner 2003:101) and sweetness (Simon 2014:717), LÀL.GIBIL for fresh honey, LU.NIM.LÀL for a beekeeper, E.NIM.LÀL for a beehive (Simon 2014:717) and NIM.LÀL for a honeybee (Weeks 1985 3.82 sv bee). Hittites thought bees carried honey within their bodies, attested in the myth CTH 335.2 (KUB 33.13 ii 21) where the mother goddess tells the bee, 'ŠÀ-i*t* LÀL-*it harši*' ('you hold honey in your body') (Simon 2014:717).[191] Similarly, honey and wax were considered to be the little bee's fuel in the search for missing Telepinu (TMIII):

> §2 (B ii 15) The bee searched the high mountains; it searched [the deep valleys; it searched the Blue] Deep. The honey was exhausted in its interior, [the . . .] was exhausted [in its . . .]. But [it found] him in a meadow in the town of Lihzina, in a forest. It stung [him] on his hands and feet, so that he got up.

Why should a small insect succeed in locating a fractious deity camouflaged in the wilderness when a powerful, sharp-eyed eagle fails? The eagle seems an obvious choice for the task. Storm gods, sun gods and mortal kings were connected to the eagle as the 'powerful king of the air' (Görke & Kozal 2014:1671). The raptor played an important role in Hittite waving ritualsused to purify the monarchs and temples from negative influences (Görke & Kozal 2014:1669).[192] In KUB 29.8 obv. Ii 6–8, after a living eagle had been waved over the royal couple it was released to carry negativity into the air (Görke & Kozal 2014:1699), effectively into another cosmic zone. Capturing a huge, fierce adult in the wild seems unlikely; presumably young eagles were caught and tamed for ritual purposes. In CTH 324, the second version of the *Telepinu Myth* (TMII), the Sun God's eagle has failed to find the missing deity.[193] When Hannahanna, a mother goddess (Archi 2013:8), decides to send her bee, the Storm God naturally asks this question:

> §4 (A i 12–16) The Sun God sent the swift eagle: "[Go] search for Telipinu." The eagle went. It searched [the springs(?). It searched] the rivers. But it didn't find him. So it brought back a report to the Sun God: "I didn't find him."
> §5 (B ii 4–9) Hannahanna sent a bee: "You go search for [my son] Telipinu. When you find [him], sting his hands and feet and make him stand up. Then take wax and wipe him off. Then purify him and make him holy again. Then conduct him back here to me."
> §6 (B ii 10–14) The Storm God said to Hannahanna: "Now the great gods and the lesser gods were searching for him, but didn't find him. So will this bee go find him? Its wings are small. It too is small. And furthermore it is all by itself ?)."

[191] A Neo-Hittite copy of an Old Hittite composition (Simon 2014:717; Kloekhorst 2007:18).
[192] German 'Schwenkriten' (Görke & Kozal 2014:1699).
[193] Hoffner (1988:18).

Appropriately, the eagle has searched springs and rivers, portals to the netherworld set in numinous karst landscapes, yet fails to find Telepinu. Hannahanna, protector of the living, knows that as her representative,[194] the bee will succeed in tracking down her son Telepinu.[195] Archi (2008:177) points out an enigmatic phrase of Hattian ancestry in KUB 48.7 III: *an-na-as* NIM.LÀL-*as*, meaning 'the bee as a mother' or possibly 'the mother (is) a bee'. Della Casa (2010:272) and Collins (2007:175) consider the bee to be a symbol of the productive world of community with home at its centre. I suggest that beneath this notion of 'hearth and home' (Collins 2007:175) is the practical observation of people who interacted closely with the surrounding landscape and its creatures. Aware of the unpredictability of springs, rivers, sinkholes and so on, the bee became a symbol of a creature who could successfully navigate both the ordered human world and the potentially dangerous karst wilderness existing between towns (Beckman 1999:163). The bee harvested the *gimra* to produce a rich bounty of honey and wax for its own colony and, indirectly, for humanity; thus she tames the wilderness for the benefit of city dwellers. Nevertheless, the Sun God raises practical concerns regarding the small size, tiny wingspan and solitary search of the bee. The mother goddess responds:

> §7 (B ii 15–19) [Hannahanna] said to the Storm God: "Desist. It will go find him." The bee [went]. It began to [search for Telipinu]. It searched the . . . [. . .] . It searched the [. . .] rivers. It searched the [. . .] springs. [. . .] [*The rest of this section is broken away*.]

Fig. 85. Bee collecting water from a pond covered in duckweed plants to cool the honeybee colony.

Clearly, the bee is familiar with karst environments in a way that the eagle is not. The wild honeybee interacts intensely with the landscape, foraging for pollen in *maquis* and woodland, nesting inside dark rock cavities or ancient trees and landing on pond plants in quiet pools to gather water (fig. 84). A similar connection between bees, purity and carrying sacred water is made in the Greek world (Call. *H*. 2.110[196]). TMIII (§2 B ii 1–

[194] It is contained in the KI.LAM festival text (Archi 2008:177).
[195] Alternatively, Telepinu may be the son of the Sun Goddess of Arinna (Della Casa 2010:100).
[196] 'And not of every water do the Melissae carry to Deo/but of the trickling stream that springs from a holy fountain, pure and undefiled, the very crown of waters.' In his translation of Callimachus and Lycophron, Mair (1921:59 fn. c) notes that the priestesses of Deo (Demeter) were called *Melissae.*

5) shows the mythic bee's ability navigate wetlands, meadows and forests across considerable distance:

> §2 (B ii 1–5) The bee searched the high mountains; it searched [the deep valleys; it searched the Blue] Deep. The honey was exhausted in its interior, [the . . .] was exhausted [in its . . .]. But [it found] him in a meadow in the town of Lihzina, in a forest. It stung [him] on his hands and feet, so that he got up.

The bee's synergy with the wilderness and openings into the earth, and as a provider of nutrition to humanity, gave her the skills to 'punch above her weight', as it were. Unlike the eagle, she can function freely in air, on earth and at thresholds to the netherworld; hence, in TMI §3 A i 13 (Hoffner 1998:15), she was able to locate Telipinu in a pond under the *halenzu*-plant. Thus, two aspects reflecting karst phenomena in the myth of Telepinu are interdependent: a deity that vanishes in the same manner as capricious karst hydrology and a productive honeybee in a beneficial symbiotic relationship with karst environments. Nevertheless, as I have noted previously, restless karst hydrology can be unpredictable and violent. Hittites and Greeks would be aware of the positive/negative duality of karst hydrology where such waters sustained life yet could bring death and destruction. I suggest that, on being wakened by the bee, Telepinu's furious reaction activated a flash flood: springs burst and rivers broke their banks to sweep through the landscape and engulf settlements. As seen in the continuation of TMIII, Telepinu's action is terrifying:

> §3 (B ii 6–12) [This is what] Telipinu said: "I was both angry and [sleeping]. [Why did] you [plural] [arouse] me when I was sleeping? Why did you make [me] talk, when I was sulking?" [Telipinu] became (even more) angry. [He . . . ed] the spring He drew the rivers and brooks(?). He [. . .]ed [the . . .] and made them leap/flee. [He . . . ed] the riverbanks. He knocked down [cities(?)]. He knocked down houses.
> Åò4 (B ii 13–16) He destroyed people. He destroyed cattle and sheep. The gods . . . ed [. . .]. "Telipinu has become angry. [. . .] How shall we act? [How] shall we act?"

Although the damaged text allows only a glimpse of the annihilation wrought by uncontrolled water, we are familiar with its power from images of raging rivers and flooded cities through modern media. The Greeks also recognised the potent duality of water. Their rivers were seen as powerful bull-men, emphasising the fertility generated by water and the havoc of a flooding river (Larson 2007a:66). In karst landscapes, the rapid rise of ground water levels will provoke a karst flash flood (Bonacci et al 2006:195). [197] Coupled with substantial flow above and below ground, rising subterranean water induces sudden powerful outpourings via many permanent, intermittent and fossil springs (Bonacci et al 2006:198). The description of a flash flood given by Bonacci, Ljubenkov and Roje-Bonacci (2006:196) is remarkably similar to the disaster activated by Telepinu: 'Flash flood waters move at very fast speeds and can kill people, roll boulders, tear out trees, destroy buildings, obliterate bridges and increase

[197] The term 'ground water' refers to subterranean water (Fields 2002:85 sv ground water).

the potential for landslides and mudslides'. The bee is helpless before this startling karst phenomenon and, although the following passages of TMIII are missing, TMII describes how additional help was required. The eagle and a mortal pacified the god and 'stopped him' (§10 D ii 18–20). The necessary rituals ensured the return of the god to his duties.

In efforts to maintain cosmic stability, the mythic honeybee's role was not limited to returning errant deities from watery places. An obscure fragmentary medical incantation, *The Ritual of Fire* (CTH 457.8 KUB 43.62), contains a historiola[198] (Francia 2016:235) similar in structure and form to the *Telepinu Myth*, but with a key difference: it is not a vexed deity that vanishes but Fire itself (Francia 2016; 236; Ünal 1992:495). Like water, fire can be both beneficial/purifying and destructive – the characteristic duality associated with liminality (Turner 1974:61). In this fascinating fragment, Fire, a major elemental force providing light, warmth and cooked food (Ünal 1992:495), has vanished into the Dark Earth (Ünal 1992:496). The healer might associate his patient's burning pain with Fire or a coiled snake (Francia 2016:240–241) or use the tale of victorious Fire as 'psychological therapy' (Ünal 1992:495).

In order to find Fire, the bee, the eagle and the snake join forces. The eagle has dominion over the air (Görke & Kozal 2014:1671), the bee over the wilderness and thresholds to the underworld, and the snake below the earth. Effectively, the eagle, bee and snake patrol the zones of the cosmos: heaven, earth and underworld (Francia 2016:241). However, in CTH 457.8 Fire has disappeared below ground in anger, as the text notes (Francia 2016:235; Ünal 1992:494) halfway into the fifth line,

> Fire became enraged, son of Sun god
> lt began to wander in the night
> and it is slipped/sneaked in the night like a snake,
> [and it] gathered [itself] like a *kunkuliyati,*
> lt disentangled? <like> a bee, [199]
> it took off like an eagle.

Due to its ability to shed old skin for new, the snake was a typical symbol of 'growth and death' (Turner 1964:49) and, as seen in the *Myth of Illuyanka* (CTH 321), was a creature fond of subterranean places and often attached to springs (Bakke 2007:239). Of the three animals, only the reptile can navigate the dark earth and locate Fire (Ünal 1992:496), a crucial component for civilised living. Fire is being held below the earth by the demon Gulzanzipa, who attempts to thwart the Storm God's rescue plan while the eagle, bee and snake watch from a tall tree (KUB 43.62 iii 1ff), possibly a laurel (Ünal 1992:497). The snake coils amidst the roots, the bee buzzes midway around the

[198] 'Little story'. Modern term describing 'brief tales built into magic formulas, providing a mythic precedence for a magically effective treatment' (Graf 2006 sv historiola).
[199] *Partai-*, translated here as 'disentangled', could mean 'pruned' (Ünal 1992:496) as well as '…to unravel, to unknit', possibly meaning that the bee removed wax and pollen from itself in preparation for the search (Ünal 1992:499).

trunk and the eagle sits in the *lahurnuzzi-,* meaning 'treetop' in this context (Ünal 1992:497).

Ünal's translation (1992:496) of iii 1ff provides a clue to the natural phenomenon that is actually taking place:

> '…The god Gulzanzipa drags relentlessly at [the coat] of the storm god. They dig the clay (and make a hole) behind him. (It is on this spot that) the dark ea[rth crack]ed and released it (the Fire to the surface). (Thus) [it] could defeat Gulzanzipa. Mankind [has witnessed this event]'.

I suggest that the description of fire (or lava) flaming out of a crack in the earth points to a fissure vent (Krock 2002 sv vent), which can occur in a volcanic area. Prehistoric remains of fissure vents are evident on the volcanic mountains of Mt Hasan (Aydar & Gourgaud 1998:136) and Karaca Dag (Global Volcanism Program 2013 web), among others, in Anatolia (fig. 86).[200] It is fire or, in my view, more specifically lava that destroys the demon Gulzanzipa.

Fig. 86. Example of an erupting fissure vent

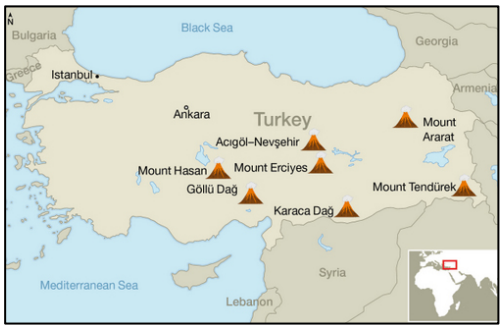

Fig. 87. Turkey's key volcanic mountains.

In addition to channelling molten lava from below the ground to the surface via an eruption, fissure vents (fig. 85) have another curious parallel with deities that vanish into liminal places. On occasion, the molten rock pouring out from a fissure may drain back into the same fissure or another fissure (Krock 2002 sv fissure), and thus 'disappear' from the surface.[201] I consider it feasible that the observation of positive or negative geothermal phenomena that affect communities underpins this historiola.[202] On the one hand, fire is necessary to sustain civilised life; on the other hand, fire can destroy it. The high central Anatolian plateau can be bitterly cold in winter (Ünal 1992:495), so a cosy hearth and a hot meal would be a necessity. Furthermore, Fire

[200] Soysal (2017:83) posits tentatively that CTH 457.1A, another medical incantation with an account of the depletion of fire due to overuse in medical remedies, might describe a volcano. In my opinion, the description of glowing rivers and mountains, burning meadows and mountains, and houses reduced to mud (Soysal 2017:82) clearly points to the result of a volcanic eruption.

[201] The geological term for this process is 'drainback' (Krock, 2002:4 sv fissure).

[202] Volcanoes and earthquakes reflect the restless tectonic geology of Turkey (USGS 2000:9 web) and may function in synergy. Ironically, active tectonic landscapes are often more agreeable to continual human settlement than stable geology where water tables can fall as landscapes are lowered through erosion (King & Bailey 2010:5).

appears to be the son of the Sun Goddess (or possibly the Sun God); thus firelight could be associated with the warmth and brightness of sunlight (Ünal 1992:495).

In my view, the action in the myth is based on a real volcanic landscape although it is set in a metaphysical context of gods and demons. The threads that bind the physical to the metaphysical and the human to the divine are the eagle, the bee and the snake. These creatures flourish in both dimensions and serve to link the zones of man to the zones of the gods. Each brings a crucial aspect to the thread: the eagle, its power of magic (Görke & Kozal 2014:1669); the bee, its power of detection and familiarity with liminal thresholds (e.g. TMI §3 A i 13) and the snake, like fire, its ability to enter the zone of the dead (Ünal 1992:499), revive and return.

Although the bee, unlike the snake, cannot enter the netherworld she does have an intriguing connection with the afterlife, a notion that belonged to the Hittite tradition (Archi 2008:174). In *The Voyage of the Human Soul* (CTH 457)[203] column I lines 5–10, the bee and waterbirds are tasked with finding the 'plenty' that will allow the soul to separate from the living and begin a successful journey to 'second birth' (Taracha 2009:159; Archi 2008:191).[204] Although the body was cremated on the second day and laid to rest in the mausoleum[205] on the third day, the total separation of the soul from the mortal required a fourteen-day ritual (Archi 2008:182). In this text the bee, usually Hannahanna's messenger, is also the messenger of the Sun Goddess of the Earth who has free access to over sky and earth/underworld (Tatišvili 2007:188):

> 5 [Wher]e did it come for it? (If) it is on the mountain,
> let the bee bring it and put it in its place.
> 7 (If) it is on the plain, let the bee bring it
> and put it in its place. What is
> 9 from the ploughed field, let the bees bring it
> and put it in its place. Let the bee(s) go a journey of three
> days,
> 11 of four days, and let them bring my plenty.
> If it is from the sea, let the (migratory) lahanza-duck
> 13 bring it and put in its place.
> But if it is from the river, let the swan(?) bring it
> 15 and put it in its place.

The soul receives sustenance from 'my plenty' (Watkins 1995:288), which allows her to thrive 'with (all) its parts' (I 24–25) (Archi 2008:175).[206] The 'good drink' and the 'plenty' *(iyatar-mit*) appear to be key to a flourishing soul and will allow its resurrection, unlike the wretched dead in §4 (iii 6–7) who '…do not drink my good

[203] Comprising the fragments KBo 22.178 + KUB 48.109 + 43.60 which were joined by Hoffner (Archi 2008:170). The text mentions a spindle and a woman's headdress, the *kuressar* (Archi 2008:171); thus, the soul belonged to a woman and I refer to the soul in the feminine.
[204] As Archi (2008:185) notes, 'The bee and birds denote those spaces beyond human control'.
[205] For royalty, this tomb would be the É.NA$_4$ (Archi 2008:185), as discussed in regard to Gavurkalesi in Chapter 6.
[206] Archi's translation (2008:175) uses the translation by Watkins (1995) and, with minor adjustments, follows the analysis of Košak in Hethitologie-Portal Mainz (Archi 2008:172).

drink. They eat bits of mud. They drink waste waters(?)' (Hoffner 1988:34). Souls without access to the 'good drink' (§4 iii I) lose their memories of life and are doomed to eat mud and drink foul water (Hoffner 1998:34). Could the 'plenty' and the 'good drink' be transformative sacred spring water and the flourishing life it brings? The bee can find it on the mountain, the plain (meadow?) or the ploughed field, and waterbirds might find it in a river or the sea – all spaces but one are 'beyond human control' (Archi 2008:185). Hunting for fresh water in the sea may seem improbable, yet this is another curious feature of karst hydrology, known as a submarine spring (Connors & Clendenon 2016:150; Fields 2002:178 sv spring, submarine).[207] A well-known example is Genesion in the Gulf of Argos, where powerful submarine fresh water springs caused visible ripples on the surface of the sea (Connors & Clendenon 2016:155).

Potent karst hydrology clearly encouraged notions of spiritual resurrection in the Greek world; for example, Orphic beliefs and the oracle of Trophonios revealed by bees (Paus. 9.40.2), as foreseen by the Delphic Bee (Paus. 9.40.1). Some 1 200 years after the Hittite text, Orphic initiation of the 5th and 4th centuries reveals an underworld with magical springs where souls murmured and swarmed like bees in a meadow (Verg. *Aen*. 6.707–709). Drinking the subterranean waters of Lethe ('Oblivion') robs the soul of memory and cognition (Watkins 1995:283). Drinking the waters of Mnemosyne ('Memory') will retain cognition, 'which confers, through rebirth and Persephone's grace, external bliss and apotheosis; to die and to be reborn a god, to travel the way of Zeus, the way which is holy, to the Isle of the Blessed and the company of heroes' (Watkins 1995:283).[208]

The Greek initiate, like the Hittite soul, travels the way of a deity, being Zeus for the Greeks and the Sun Goddess of the Earth for the Hittites. The divine 'ways' are waterways in both cultures. As all Hittite soulsbelong to the deities (1. 31), and the Sun Goddess of the Earth in particular, souls will return to the deities (Archi 2008:191) on death.[209] Thus, the day of death was referred to as 'the good-day' (Hitt. ^{D}*Izzistanu*, logographic ^{D}UD.SIG$_5$) in anticipation of the soul's return to her origin and therefore her resurrection (Archi 2008:191). The severing of the soul from the body exemplifies an archetypal three-stage rite of passage. The soul has left her mortal casing and crossed a physical frontier (Van Gennep 1960:19) to a metaphysical space of liminality, neither

[207] Also termed 'drowned springs', where rising lake waters or sea levels cover functioning springs (Fields 2002:176 sv spring, drowned).
[208] Wagenvoort (1971:115) argues that the way of Zeus was originally the way of Hercules, for the hero led souls to the distant western paradise as Hermes led souls to the underworld. He posits that the concept of an Isle or Islands of the Blessed possibly predated Homer and 'must have been peculiar to the ancestors of the Greeks about at the end of the second millennium BC' (1971:113), possibly emerging from people living on the west coast of Asia Minor (1971:118). Wagenvoort's discussion is most interesting and, while not pertinent to this study, is worth further investigation.
[209] Hittite deities and animals also had souls, but the souls of animals died with their bodies (Taracha 2009:158).

fully alive nor dead. The soul is in 'an instant of pure potentiality when everything hangs in the balance' (Turner 1974:75) before reaching her final destination and second birth (Archi 2008:191). Rife with danger, portent and possibility, this moment of liminality is 'both more creative and more destructive' (Turner 1974:78) than the everyday world and is clearly described in hydrological terms (§3 i 26–37): a perilous river and pool, the harrowing *tenawa* and the well-watered (Archi 2008:188) desirable meadow.

> 31 A holy thing of the Sun-goddess (of the Earth) is the soul. To
> the gods belongs the soul.
> "Why should I go the perdition of the mortal?
> 33 Should I go the *dàsanata*? I will fall into the river. I will fall
> into the pool. Should I go the tenawa? Let me not go!
> 35 The *tenawa* is evil . . . [
> to the meadow let [me] trav[el quickly
> 37 [Let me not (?) be] struck down by a god ["

At birth, the soul leaves the Sun Goddess of the Earth and is brought to earth through the mortal mother. On death, the biological mother, whether living or deceased, will take the hand of her child's soul and guide them back to the Sun Goddess of the Earth once more (Taracha 2009:159; Archi 2008:190). This is the quest of hope activated by the search of the bee and the water birds for the 'plenty'. [210]

The Hittites recognised that on death, a human being *(danduki-)* lost some mysterious life spark (Archi 2008:180); thus only the body (*tukka-,* NÌ.TE) remained while the sentient, metaphysical component (*istantsa[n]-,* ZI),[211] the 'soul', vanished to some unknown place (Archi 2008:183). Unlike the Greek *psyche* ('soul'), the Hittite *istantsa-* included intellect, emotion and sexual drive (Archi 2008:183), and thus the term 'soul' is not ideal. In the Hittite mindset the soul was not symbolised by a bee, as found periodically in the Greek tradition (Archi 2008:178; Wagenvoort 1971:123; Cook 1895:19). The Greek view, particularly with later thinkers such as Sophocles (*OC* 468), (*Aen*. 6.707) and Porphyry (*De. Antr. Nymph* 11–12), included the notion that souls of the virtuous were embodied as bees, insects noted for their industry and purity (Archi 2008:178; Larson 2001:86; Elderkin 1939:213; Cook 1895:19). The Hittite bee was a catalyst that activated the transition of the soul to his/her second life (Archi 2008:190).

Hittite souls left earthly life for a dangerous 'magico-religious' (Van Gennep 1960:18) state suspended between the living, the dead and the deathless. As described above, this state presents as a metaphysical landscape rich in unusual imagery and symbolism (Turner 1964:48). Ejected from their human bodies (the previously familiar structure), the souls are in transit before crossing a threshold into an unknown, potentially dangerous new structure of existence. They inhabit a space of creative possibility

[210] KUB 39.49 and KUB30.28+ (Archi 2008:190).
[211] Watkins (1995:284) uses *istanza* from the stem *istanzan* and offers the term ZI-*anza* in the Sumerian style.

(Turner 1974:75; 1964:53) that is at once 'unstructured, destructured and prestructured' (Turner 1964:49). In such liminal states 'the past is momentarily negated, suspended, or abrogated, and the future has not yet begun' (Turner 1974:75). Hittite imagination drew on the karst ecosystem for real, yet mythic, agents (bees and waterbirds) to activate the journey of souls via the frightening *tenawa*[212] to their new existence in an eternal meadow.

Regarded as chthonian (Archi 2008:174; Cook 1895:19), Greek honeybees shared certain similarities with their Hittite counterparts, as their ability to move in and out of cosmic zones made them a bridge between the human and divine realms (Carlson 2015:20) and, via nymphs (Larson 2001:11), with a strong attachment to water. As Cook (1895:18) notes, bee symbolism in the Aegean world can be classified according to three types, inspired by the choice of nesting place in rock crevices and caves (Hom. *Il*. 12.167), tree hollows, particularly on mountains (Hes. *WD* 233), and in animal or human carcasses (Hdt. 5.114). Nesting in spaces of preternatural significance, Greek honeybees acquired a variety of complex connections to birth (Larson 2001:60; Cook 1895:3) and resuscitation (Larson 2001:59; Cook 1895:11), portals to the underworld and spirits of the dead (Ransome 2004:106). As nurturers of the young, honeybees had a high status in their own right. Zeus was born in their sacred cave on Crete (Cook 1895:2) and fed by bees and birds (Cook 1895:4). Karst phenomena added a perilous twist. Antoninus Liberalis, in *Metamorphoses 19*, relates how local people reasoned that the blaze issuing annually from the cave entrance was caused Zeus' birth blood boiling up within, a description remarkably similar to lava welling up from the depths.

Caves were favoured homes for bees and nymphs*, agronomo*i[213] (Hom. *Od.* 6.105–8, 13.103), whose alluring natural gardens (Larson 2007a:59) provided a haven for bees. The close association between nymphs and bees is relevant to this study because both were creatures of the wilderness delighting in liminal spaces. According to Hesiod (*Th*. 126–130), nymphs were born of the Earth and allied to springs (Larson 2001:8). Their knowledge of nature allowed them to gift humanity with civilising skills such as beekeeping (Ransome 2004:96; Larson 2001:86; Cook 1895:14). In certain instances, nymphs were bees and vice versa (Larson 2011:352), giving rise to the innovative concept of bee maidens.

Bee maidens taught divination and, via prophecy, could 'enable things to come into being' (Scheinberg 1979:10). In the *Homeric Hymn 4* (554–565), the description of the Thriae, three winged sacred sisters, possibly bee-priestesses (Ransome 2004:97), bears a

[212] Possibly a potent phenomenon of karst hydrology and discussed in Part Two, Chapter 1, page 143.
[213] 'dwelling in wild places' (Larson 2007a:58).

remarkable similarity to real bees.[214] Even 'their heads are besprinkled with white meal' (*HH* 4.555) which, according to Aristotle (*HA* 9.40), might be done if beekeepers wanted to keep track of certain bees 'when they are at work out of doors'. In service to Apollo before he gifted them to Hermes (*HH* 4.564), the winged sisters lived beneath a promontory on Mt Parnassus, flying hither and thither and feeding on honey, the catalyst for their prophecy. Possibly, an ancient rustic rite of bee-divination was based on the interpretation of buzzing, swarming and various flight patterns of bees, which presupposes that sacred bees were kept at Delphi (Sourvinou-Inwood 1979:241). Mortal worshippers of Hermes might hear the god's voice through the bee maidens (*HH* 4.566); thus murmuring bees gave the fortunate access to the god. Hence bees, with their ability move between the domesticated world of man and the wilderness – a numinous, often uneasy space of fickle deities and monsters (Turner 1964:52) – brought divinity safely within the ambit of humanity.

Fig. 88. Bee goddess. Repouseé electrum plaque. Rhodes 640–630 BC. Height: 3,2 cms. Width: 2 cm.

A 5th century gold plaque from Rhodes depicts this concept of bee maiden admirably (fig. 87). Woman and bee have been fused to create a winged bee maiden, a mirror to the pollen-gathering bee that is female and non-reproductive (Ransome 2004:106). The composite creature might represent a bee-Artemis (Cook 1895:11), the maiden divinity of transitions and liminal borderlands (Bonnechere 2007:23) associated with bees and nymphs, although rarely in cult (Larson 2011:349). She is set amid flowers that will provide her with pollen to create honey and thus inspire her revelations.

The association of bees with deities of the earth such as Hermes (Scheinberg 1979:6),

[214] Instead of the Thriae, Larson (2001:12) considers it more likely that the Korykian nymphs were the oracular bee maidens, as their cave near Delphi fits the description in the Homeric *Hymn to Hermes* and could have contained a wild or domesticated hive.

Artemis and Demeter, with her ‘sweet as honey’ daughter and honey-sweet priestesses (Larson 2001:24–25; Cook 1895:14, 17), suggests that the term *Melissae* was a distant echo of an ancient ‘bee totem’ (Middleton 1888:285). At remote, hidden Delphi, Apollo retained his link to mantic nymphs (Bonnechere 2007:24) by speaking through a mortal woman known as the Delphic Bee (Pind. *Pyth*. 4.60), thus emphasising the bee’s role as mediator between mortals and deities. Oracular Apollo retained his connection to prophesying nymphs (Bonnechere 2007:24), whose delight in springs, trees and natural gardens linked them to honeybees. Sourvinou-Inwood (1979:242) suggests that prophetic bees may have been honoured at Delphi prior to the Pythia; hence the term ‘Delphic Bee’ reflected that ancient practice. As seen with Hittite Hannahanna, bees became the Pythia’s ‘messengers’ by swarming out of the earth (Paus 9.40.2) to reveal the chasm of Trophonios’ oracle to the Boeotians at Lebadeia (Sourvinou-Inwood 1979:241). In so doing, the Delphic Bee broke the drought and returned the rain (Ransome 2004:109).

Fig. 89. Karst landscape of Delphi with Apollo’s temple (centre).

Delphi’s early temples are as otherworldly as the site’s dramatic topography (fig. 88) and show the connection between bee, divination, myth and karst phenomena. The first was a hut built of laurel, the second was of beeswax and feathers or wings (Cook 1895:5), the third of bronze and the fourth of stone, built by Agamedes and Trophonios. All the temples, except the laurel temple, were swept away by uncanny natural phenomena: a mighty wind (Pind. *Paean* 8.63–64) carried the beeswax-and-feather temple to the land of the Hyperboreans, while the bronze temple was swallowed by either a sinkhole or, like the stone temple, engulfed by fire (Paus.10.5.12; Pind. *Pyth* 8.72–74). This is no surprise, as Delphi, hidden in the vale of Pleistos within the Parnassus mountain range, is surrounded by volatile karst geology and hydrology. Beneath Apollo’s temple, significant tectonic fault lines intersect, giving rise to a toxic cocktail of hydrocarbon gases, periodic earthquakes and landslides (Masse et al 2007:16; Spiller et al 2002:191), causing springs to shift course or cease (De Boer

2014:87). The soil, travertine crusts and waters of the Kerna spring reveal the presence of carbon dioxide, methane and sweet-smelling ethane, providing a scientific reason for the Pythia's altered state within the *adyton* during the warmer months (De Boer 2014:88) and the distinctive air quality at the site (Franke & Mircea 2005:105).

The end of Delphi's oracle under Julian the Apostate c.AD 361 sounds remarkably similar to another earthquake in an area known for them.[215] Gregory (1983:356) translates the text of Kedrenos as: 'Tell the emperor that the Daidalic hall has fallen. No longer does Phoebus have his chamber, nor mantic laurel, nor prophetic spring – and the speaking water has been silenced.'[216] Arguably, Delphi's end, like its early temples, was due to powerful natural forces.

At Delphi, bees and beeswax feature in intriguing ways. While several texts have brief mentions of Delphi's early temples, Pindar's fragmentary eighth *paean,*[217] Plutarch (*De Pyth. or.* 17) and Pausanias (10.5.9) provide material of particular interest regarding the mythic beeswax-and-feather temple, natural phenomena and the liminal land 'beyond (*hyper*) the North Wind (*Boreas*)' (Sandin 2018:13). The enigmatic Hyperboreans of the north (Hdt. *Hist.* 4.14–15), according to Boeo's hymn (Paus.10.5.8), sent their sons to establish the oracle for Apollo at Delphi. The earliest mention of beeswax and feathers comes from an ancient Delphic verse noted in Plutarch (*De Pyth. or*. 402d) as part of a discussion on Delphi's sacred water and the Earth's mantic shrine, where, as translated by Babbit (1936:305), the verse was sung originally:

> [p. 305] Eudoxus, therefore, was wrong in believing those who declared that this is called the water of the Styx. But they established the cult of the Muses as associates and guardians of the prophetic art in this very place beside the stream and the shrine of Earth, to whom it is said that the oracle used to belong because of the responses being given in poetic and musical measures. And some assert that it was here that the heroic verse was heard for the first time:
> Birds, contribute your feathers, and bees, bring wax as your portion.
> Later Earth became inferior to the god and lost her august position.' (Plut. *De Pyth. or.* 17)

This brief mention does not supply detail as to the builder of the temple, only that birds and bees, both recognised as builders (Sourvinou-Inwood 1979:243), supplied the materials. Pausanias (10.9) notes that bees constructed the temple and Harissis (2019:93) suggests that the beeswax could also be understood as propolis, the water-resistant substance bees create to reinforce their hives. Similarly, bees and prophetic

[215] The movement of tectonic plates ensures that Greece continues to be an earthquake zone (Hughes 2006:228).
[216] Gregory (1983) focuses on the implications of the 12th century text of Kedrenos as a Christian forgery, which is not pertinent to this study.
[217] According to Pausanias (9.23.2), beeswax was the catalyst for Pindar's talent as a lyric poet. As he slept in the heat of the day, 'bees alighted on him and plastered his lips with their wax'.

birds[218] were strongly embodied in the metaphysical space as intermediaries between humanity and divinity (Ant. Lib. *Met.* 19), reflecting Hittite thought (Archi 2008:185). The addition of birds, feathers or, specifically, wings, points to an ancient double cult of bees and birds that was essentially chthonian, as plausibly argued by Cook (1895:5). Cultic activity is attested at Delphi as early as c.1400 BC (Harissis 2019:91) and, according to the Delphic verse, the temple of Earth lost its status when Apollo arrived. Perhaps the beeswax temple, possibly a portable shrine (Harissis 2019:117) adorned with either feathers or, more pertinently, wings, was similarly usurped, resulting in the mythic temple being dispatched to distant Hyperborea by either a wind (Pind. 8.63) or the god himself (Paus. 10.5.9):

> [9] The Delphians say that the second temple was made by bees from bees-wax and feathers, and that it was sent to the Hyperboreans by Apollo.

While Pausanias does not explain how Apollo transported the temple north, Pindar (8.63) proposes it was carried by a powerful wind and, like Pausanias, outlines the natural phenomena that removed the other early temples:

> Famous seers of Apollo.
> I (have come?) over the land,
> over the ocean
> and to (the shrine?) of Themis
> (lines 5–61 are missing or fragmentary)
> Charmers
> [63] temple. The one a furious wind
> brought to the Hyperboreans…
> [65] O Muses. But of the other, what arrangement
> Was shown by the all-fashioning skills
> Of Hephaestus and Athena?
> The walls were of bronze and bronze
> columns stood in support,
> [70] and above the pediment
> sang six golden Charmers.
> But the children of Cronus split open
> the earth with a thunderbolt
> and buried that most holy of all works,

A theme of seasonal migration is apparent at Delphi. Apollo travelled over land and sea to reach Delphi and migrated north annually with the swans (Bridgman 2005:118), as did the constellations of Lyra, Cygnus and Delphinius (Liritzis & Castro 2013:189–191).[219] In winter, when the god decamped to Hyperborea for three months (De Boer 2014:85), reduced water flows lowered the gas emissions, thereby precluding successful oracles via the *pneuma entousiastikon* or 'spirit of euphoria' (Liritzis & Castro

[218] Descended from the Cretans who entered Zeus' forbidden birth-cave and were transformed into birds by the god's thunderbolt: blue rock thrushes, woodpeckers, *kerberoi* (unknown) and *aigōlioi* owls (possibly the Ural Owl, *Strix uralensis*, which nests in holes in tree trunks) (Arnott 2007 sv aigōlios).

[219] Liritzis and Castro (2013:189–191) analyse the constellations of Lyra, Cygnus and Delphinus that are visible in summer above the cliffs called Faidriades, behind Apollo's temple at Delphi. Like Apollo, the constellations of Lyra, Cygnus and Delphinus travel north in winter and return to Delphi's skies in summer. The lyre was Apollo's chosen musical instrument and the god has several interesting associations with swans. Swans were linked to the sun, to the transportation of certain royal souls and to Hyperborea. Apollo, in the guise of a dolphin, guided the Cretan ship into the Crisaean Gulf.

2013:188). As a result, the Delphic Bee followed suit and 'migrated' from the adyton in the winter months (Liritzis & Castro 2013:186), silencing the oracle. Similarly, bees reduce their activity in winter, venturing out only on clear sunny days. The temple made by bees followed Apollo's path north and disappeared, never to return.

The notion of a migrating beeswax-and-feather temple has some foundation in the beekeeping practices of the ancient world. Migratory beekeeping was practised in the ancient Peloponnese, Attica and Euboea, where bees and beehives, depending on the season and fluorescence, were transported to richer meadows, including sailing from one island to another (Harissis 2017:24).[220] The beeswax-and-feather temple did not migrate by sea or land. According to Pindar (*Pyth*. 10.29), Hyperborea was inaccessible by foot or sea; thus the winged beeswax temple travelled on a powerful, possibly favourable (Harissis 2019:105) wind in a region populated by strong, often capricious winds, many of which are localised (Romanic 2019:1). Ancient Greeks recognised the complexity of their winds by creating a variety of atmospheric deities. Those linked to the cardinal points are the most familiar: Aeolus and 'god-sent' Boreas from the north, Notos[221] from the south and Zephyrus from the west (Hes. *Th.* 871). Like water, winds were not necessarily a consistent boon to humanity and secret rites were performed to calm their ferocity using the amulets of Medea (Paus. 2.12.1).[222] Malicious sea winds could fling ships about and drown sailors (Hes *Th*. 875), land winds dumped dust on fertile fields, creating chaos (Hes. *Th*. 880), while damp destructive winds, imagined as the sons of Typhoeus (Hes. *Th*. 869 and 742), raged in Tartarus.

In addition, the Mediterranean's mountainous karst topography stimulates extreme weather events both regionally and locally (Raveh-Rubin & Wernli 2015:2404), including gusting windstorms and intense downpours (Raveh-Rubin & Wernli 2015:2405; Hughes 2006:228; Morton 2001:93). Ancient Greek terminology displays a keen observation of winds ranging from a breeze (*aúrē*) or a blast (*aētēs*) to a whirlwind (*aellē*) and a furious storm wind (*thyella*), to mention a few (Cursaru 2017:1). Little has changed between ancient and modern wind patterns (fig. 89) (Morton 2001:5). Boreas of the ancient Greek world may be the bora of today, a well-known cold northerly wind that blows across the plains of Thessaly and funnels through mountain ravines (Morton 2001:55), periodically manifesting in ferocious gusts in excess of 70 metres per second (Romanic 2019:4).[223] The destructive strength of this wind is well described in Ovid's *Metamorphoses*. His account of Boreas and Orithyia (Ov. *Met.* 6.675–721) gives Boreas

[220] In the 19th century pastoral beekeepers used trains (Harissis 2017:24) to relocate their hives seasonally. Sailing bees and hives from one place to another remained popular until recently (Harissis 2017:25).
[221] The modern Sirocco or Leveche in the eastern Mediterranean and the Khamsin in Egypt (Morton 2001:50).
[222] Her connections to the eastern Black Sea region are well known via her home city of Colchis.
[223] Meteorologists recognise different manifestations of the bora resulting from particular atmospheric conditions, for example, the black bora (cyclonic) and the white bora (anti-cyclonic) (Romanic 2019:4).

a cloak of 'far-flung dust', dark wings of ice and a violent anger that uproots mighty oaks and batters the land with hail, reaching into the deepest caverns of the ancient Earth. Even the warm Etesians (Turkish 'meltemi') that blow throughout summer can cause violent storms (Romanic 2019:6, Morton 2001:48), while the greus and karajol gust across the western coast of the Black Sea region (Romanic 2019:9), one of several possible locations for Hyperborea (Votsis 2016:42; Bridgman 2005:21).

Fig. 90. Local winds of Greece and the Balkans. Warm southerly winds shown in red, cold northerly winds shown in blue. More than 25 local winds occur in the region.

In the Greek mind of poetic possibility (Arist. *Poet.* 1451a),[224] the land of Hyperborea with its flawless climate (Romm 1989:106), lovely trees (Pind. *Ol.* 3.33) and bubbling streams (Bridgman 2005:58) had metaphysical connections to revered artefacts and sacred buildings (Votsis 2016:42). Thus Delphi's mythic winged temple, like the swans, flew north on mercurial currents of air to numinous Hyperborea (Sandin 2018:13).[225] Heracles braved the swirling hurricane of the Boreades to fetch a golden apple growing in the garden of the Hesperides, gifted to Zeus by the Earth and guarded by a deathless serpent (Apollod. 2.5.11); under the auspices of Artemis, the hero brought a Hyperborean olive tree to honour his Olympic games (Pind. *Ol.* 3.14–18), and on Delos at the threshold to Artemis' temple, the tomb of the Hyperborean maidens rested under an olive tree (Hdt. 4.34). The sanctuaries of Delphi, Delos and Olympia were in themselves thresholds between the mortal world and that of the deities (Bridgman 2005:65). There is a repeated duality of physical linked to metaphysical (Votsis 2016:46; Bridgman 2005:38), for example, Delphi, the founding Hyperboreans and the mythic temple; Olympia and the Hyperborean olive; Delos and the tomb of supernatural maidens. Thus earthly space is created into a numinous channel between humanity and

[224] Aristotle *Poetics* 1451a, as translated by W H Fyfe 1932: '…a poet's object is not to tell what actually happened but what could and would happen either probably or inevitably'.
[225] Aelian NA II.I recounts how great flocks of swans settled in Apollo's temple precinct at Hyperborea and joined in the sacred chants.

divinity (Votsis 2016:48; Bridgman 2005:38), a concept encountered with the Hittites at Gavurkalesi in Part One.

Although various geographic locations and peoples are proposed and debated, my interest is not focused on Hyperborea's possible reality, physical location or even whether its people were 'pre-Hellenic or non-Hellenic' (Casson 1920:1).[226] Nevertheless, it is interesting to note that, as Greek understanding of geography advanced, Hyperborea's location migrated further away from 'Thrace to the area north of the Dodona, the Danube, the zone north of the Black Sea/Sea of Azov/Caspian Sea, the Alps and then to northern India' (Macurdy 1920:141; Bridgman 2005:54). Pertinent to this study is the ambiguous nature of its distant location beyond the Okeanos (Bridgman 2005:58), which cannot be entered on foot or reached by ship (Pind. *Pyth.* 10.29); even the hero Perseus required divine Athena as his guide (Pind. *Pyth.* 10.46). The later Greek notion of an unsullied utopia (Bridgman 2005:3) populated by people who were more than mortal yet less than divine (Votsis 2016:47) points to an imagined threshold between the lives of mortal Greeks and those of their deities (Votsis 2016:44).

In this respect, Hyperborea reflects the same attribute of the honeybee as a conduit between humanity and the divine. Like the Delphic Bee who channelled Apollo's voice, the long-living Hyperboreans enjoyed a special relationship with Apollo (Pind. *Pyth*. 10.35, *Ol*. 3.16–17). Pindar describes this liminal zone, beyond the reach of mere mortals, in the *Pythian Odes* (10.29–44):

> Neither by ship nor on foot could you find [30] the marvellous road to the meeting-place of the Hyperboreans—Once Perseus, the leader of his people, entered their homes and feasted among them, when he found them sacrificing glorious hecatombs of donkeys to the god. In the festivities of those people [35] and in their praises Apollo rejoices most, and he laughs when he sees the erect arrogance of the beasts. The Muse is not absent from their customs; all around swirl the dances of girls, the lyre's loud chords and the cries of flutes. [40] They wreathe their hair with golden laurel branches and revel joyfully. No sickness or ruinous old age is mixed into that sacred race; without toil or battles they live without fear of strict Nemesis.

It is this aspect of mediation between one zone and another that mirrors the role of the Greek honeybee and, with Delphi at the centre, completes a mythic migration reflecting the triple-phase structure proposed by Van Gennep (1960:21). An uncanny karst landscape with its bee-sustaining *maquis* and sacred springs defines the known pre-liminal point. The transitional or liminal phase manifests with divining bee maidens and their honey from the *maquis,* the beeswax/feather/winged temple provides the visual point of contact, carried by an earthly/divine wind to a mythical threshold to the world of deities. The unexpected, the ambiguous and the remarkable are characteristic of this median liminal space (Turner 1974:57). Hyperborea exists in a different geographic

[226] To mention a few theories: Illyria, Thrace, Macedon, Thessaly (Macurdy 1920:138), Rhipean Mountains in the Balkans (Casson 1920:3) or Celts (Bridgman 2005:3).

location (Turner 1974:58; Van Gennep 1960:18) and a parallel liminal zone, known yet unknown, neither mortal nor divine, yet both and neither (Turner 1964:48), indicating another typical feature in the passage to a change in status. The final post-liminal stage, being a changed state often associated with an elevated status (Turner 1974:57), occurs with the presence of Olympian Apollo, revealed by a mortal woman. Through her, the passage leaves the metaphysical zone and returns to the physical world of karst hydrology. Here the Delphic Bee returns the god's voice to humanity annually via gas vapours rising from a karst spring (De Boer 2014:88).

Conclusion

Clearly, the Hittites and Greeks expanded the connection between karst landscape, water and honeybees to build mythic narratives that involved a physical and metaphysical journey to a liminal space in order to provide answers to profound human concerns. The observation of honeybees in their natural habitat as they gathered pollen in the *maquis*, collected water in ponds and springs, or nested in caves led to the idea that bees were able to cross the threshold into other cosmic zones.

For Hittites, the bee initiated the intimidating journey to a 'second life' after death and mitigated the dangers of potent karst hydrology. Delphi's restless karst geology defined the earth above and below; it affected springs, water quality and even the air, creating a place that remains palpably awe-inspiring. In my view, karst landscape birthed the divining bee and underpinned the mythic winged beeswax temple that vanished into a utopia between heaven and earth. At Delphi, bees and bee maidens gave way to a grander god for a new era, yet the ancient echoes remained.

In their different ways, both Hittite and Greek honeybees became helpers of humanity, mediators of physical and divine vagaries and catalysts in the process of change. Both cultures looked to honeybees to open a safe channel between worshippers and their deities. Consequently, these insects became one of the comforting threads that bound the physical world of mortals to the divine world of gods and goddesses.

SUMMATION TO PART TWO

What becomes apparent in Part Two is how both cultures referenced dramatic karst landscape, hydrology and ecosystems to forge complex, strange, yet, on close inspection, cogent explanations to conceive an ordered cosmos, an alluring afterlife and a way to set divine proxies aside in favour of more powerful deities. Mountain, spring, woodland, meadow and cave were familiar liminal markers in both cultures, as Hittites and ancient Greeks inhabited lands that continue to be transformed by flowing water and soluble rock. The myths discussed in Part Two reveal a variety of unearthly, potentially destructive karst phenomena in the form of subterranean rivers, sinkholes, disappearing springs and lakes, floods, earthquakes and lava. Periodically, real creatures and plants were placed into these restless, often forbidding, imagined landscapes. In my view, ancient people used their environment, particularly the wilderness, with great ingenuity to fashion mythical zones filled with complex symbolism and creative possibility (Turner 1964:48).

In the Hittite mental landscape, communication with the deities and ancestors required a physical channel that was formed by the combination of rock and water (Harmanşah 2015a:92), a familiar feature in karst landscape. This requirement was so crucial that if a rocky outcrop was lacking at a suitable spring, one would be constructed, as is evident at Eflatun Pınar. Certainly, the issue of erratic water sources, a typical feature of karst landscapes, was of huge concern to the Hittites. I suggest it was creatively depicted (and resolved) in the Myth of Illuyanka (CTH 321). The Aegean world emphasised the combination of caves and springs, often in conjunction with lush natural flora. Circe's sacred woodland (Hom. *Od.* 10.261) is all the more alluring as Odysseus, assisted by Hermes, will soon travel an infernal marshland in his search for Elpenor.

Efforts to control wayward karst phenomena become evident in the activities of Hittite Telepinu and Greek Hermes. For different reasons, both gods are able to move freely above and below the earth. I have argued that, as an embodiment of unpredictable water flows, Telepinu needed to be cajoled from time to time in order to avoid drought. In contrast, Hermes as psychopompos provided a positive way for the living and the dead to navigate the unpredictable subterranean waterlands. In essence, both deities inhabit a liminal space that 'wavers between two worlds' (Van Gennep 1960:18) and play a role in managing fears about drought, water destruction, death and the afterlife.

The Hittite and Greek deathscapes are particularly relevant in answering the question of how notions of transitional space manifested. A key difference between the two cultures was the role of deities in conjunction with the underworld. The Hattian underworld was not the dominion of a ruling deity, as it is in the Greek concept. Hittite (Hattian) deities entered and exited the underworld willingly and without risk, whereas Greek deities and

heroes entered under duress and usually exited with unique knowledge.[227] Both cultures considered the road to the afterlife as a waterway through dangerous territory that is plainly inspired by karst hydrology.

The use of karst landscape as a transitional zone to the Beyond is extraordinarily creative and unusual (Turner 1964:48). For example, the Hittite soul descended into a cavern and travelled a fearsome subterranean marshland to the afterlife, while Greek Elpenor rises from a sinkhole to greet Odysseus as he waits, protected by Hermes, in a gloomy marshland beyond the mortal world. In both cultures the honeybee becomes a divine messenger, acquiring a key role as a catalyst and channel between humanity and the divine world. Uncanny aspects of karst geology have been transformed into metaphysical zones of transition where certain deities and divine proxies are skilled to offer safe passage and hopeful alternatives.

[227] Hermes and Hecate are interesting exceptions.

CHAPTER 12: CONCLUSION

> Finally, the series of human transitions has, among some peoples, been linked to the celestial passages, the revolutions of the planets, and the phases of the moon. It is indeed a cosmic conception that relates the stages of human existence to those of plants and animal life and, by a sort of pre-scientific divination, joins them to the great rhythms of the universe (Van Gennep 1960:194).

This study opened with the words of Seneca (*Ep*. 41.3) describing humanity's sense of marvel in places of unique natural beauty, and how such places (which we now know resulted from fluctuating karst terrane) stimulated the perception of a divine presence and nurtured the desire to be a mindful part of the great cosmos. It now closes with the final sentence in Van Gennep's *The Rites of Passage* (1960:194). Some 2000 years after Seneca, Arnold van Gennep's conclusion reflected a similar notion: that for many cultures, transitional points are tied to the natural world and humanity intuitively strives to fashion a conscious place within the ceaseless movements of the universe. Following Turner's (1964:55) ideas of liminality, I suggest the intrinsic porosity so visible in karst landscapes – caves, springs, sinkholes, sinking rivers, marshes and so on – nourished the concept of sacred porous points that were regarded as both of this world and the one beyond it, an earthly connection to the deities inhabited by supernatural beings. Topography that linked the subterranean to the surface and the surface to the sky were spaces for transitioning to somewhere else, where physical manifestations gave rise to metaphysical interpretations. Formed by the ceaseless movement of water on soluble rock, these landscapes connected reality to imagined zones for the people who walked them.

Because the Hittites and ancient Greeks literally lived and died with karst environments, my primary research question explored how karst geology influenced the Hittite and Greek consciousness to create zones of transition, both material and mythic, that allowed interaction with the preternatural. This investigation firstly required an understanding of the physical features that defined such liminal spaces, which were often located in remote wilderness. Comparing and contrasting the two cultures revealed that the same karst markers acquired significance and inspired similar themes in both, of which openings in the earth as portals to the underworld are the most familiar. But there

were notable differences in the symbolism attributed to the various aspects of karst terrane. Hittite culture carried a unique concept – the Hattian dual cosmos. This notion, arguably inspired by porous karst terrane (Tatišvili 2007:187), meant that deities were of the sky and of the earth/underworld simultaneously (Tatišvili 2007:190), which gave them free access through all cosmic zones. Greek deities, with their familiar tripartite cosmos, were aware of the danger of trespassing into another cosmic zone. Unlike Hittites, Greeks regarded certain karst phenomena as actively malevolent, even evil; thus an individual had to remain alert to danger in liminal places. This disparity is most obvious in the contrasting types of afterlife. Where the Hittites looked forward to an immortal meadow as a matter of course and possibly a second life, for many in the Greek world, the afterlife would be joyless Hades or dank Tartarus.

I then sought testimony for the impact of this remarkable topography on Hittite and Greek consciousness through a variety of avenues, comparing evidence found in geology and karst ecosystems against evidence of the archaeological remains of sacred sites, iconography and texts.

PART ONE: PHYSICAL ZONES OF TRANSITION

As seen in Part One, karst geology, particularly karstic water, is endemic to the landscapes that inspired the Hittite and Greek choices to build sanctuaries in isolated places. Thus a cave, sinkhole, marsh or gorge, to mention a few, was a fundamental feature of the sanctuary (Sourvinou-Inwood 1993:8; Van Gennep 1960:18). Without a dramatic natural feature (or built representation) the sanctuary would lose its significance, an aspect that is particularly evident at the sites discussed. Lying beyond the ordered security of city or settlement, such kinetic landscapes were regarded as places of portent where the fabric separating humanity from the deities became permeable.

We see that, while both regions were karstic, the topography of the Aegean world differed significantly from the high inland plateau of central Anatolia. In Greece, the central spine of the Pindus range broke the terrain into a patchwork of small plains, valleys and stony mountains, resulting in relatively isolated communities where the sea was never far away. Such remote communities tended to retain particular ancient cultic practices and beliefs (Baleriaux 2015:38), whereas Hittite culture amalgamated diverse influences into their cultic practice and pantheon. Nevertheless, due to waves of Indo-European immigrants, neither Hittite Anatolia nor the Aegean world had homogeneous populations, prompting a melting pot of influences that influenced belief systems.

To gain familiarity with karst geology and resulting ecosystems, Part One opened by outlining the characteristics of karst topography and its unusual phenomena by using

examples from the ancient world. It becomes apparent that in Anatolia and Greece, similar karstic indicators determined the choice of sanctuaries and activated the concept of imagined topographies. For pre-scientific people, the duality of karst landscape, either lush and alluring or capricious and menacing, emphasises its intrinsic power and mystery. Chapters 5 to 8 investigated how physical topography stimulated ideas of potent transcendent landscapes, which encouraged the creation of sanctuaries and coalesced with aspects of their particular deities. The examination of three forms of natural feature via three paired Hittite and Greek sanctuaries produces analogous themes – mountains as a cosmic axis; caves and springs as life-givers and death-bringers; and karst hydrology as a catalyst to revelation – which are outlined below.

MOUNTAINS AS A COSMIC AXIS

A fissured mountain with gushing springs and marshland at its base dominates the sites of Gavurkalesi and Mt Oeta, revealing the relevance of the broader karst environment to the sanctuaries of both Hittites and Greeks. The surrounding geography presents a physical horizontal plane to which the mountain is fixed as a vertical/mythic connection between earth and sky (Sørensen & Lumsden 2016:82), and thus can be interpreted as a cosmic axis, a threshold to a new state of consciousness (Turner 1964:51; Van Gennep 1960:21) and a channel between this world and the next for both cultures. At Gavurkalesi this manifested through a built funerary chamber resembling a cave, therefore possibly a Divine Road of the Earth, which held the hope of an afterlife in a lush immortal meadow.

In a similarly remote karst environment, the apotheosis of Heracles through fire on Mt Oeta is seen to embody a threshold to Olympus (*HH*.15), another sacred mountain and home of the gods. The broader context of the site includes caves and forests, with a high meadow and vanishing pool at the mountain's summit, and thermal springs and marshland at its base. These are all what I refer to as 'karst markers', which indicate a liminal zone. At both sites the springs that gush from below the earth extend the connection underground to the chthonic zone. Heracles is a 'son of the earth' (Apollod. 2.5.6), the protector against pernicious chthonic forces and guardian of thermal springs (Croon 1956:214). Set in an inviting, yet uncanny, landscape, the springs and mountain for both Hittites and Greeks anchor the heaven, earth and underworld, and thus connect humanity to its deities and the cosmos.

CAVES AND SPRINGS AS LIFE-GIVERS OR DEATH-BRINGERS

Caves and springs as entrances to the underworld loom large in the imagination of ancient people. Hittite Ivriz and Greek Brauron describe slightly different interpretations of comparable karst features and the deities attached to them. At Ivriz, the focus is strongly on the characteristic Hittite cultic requirement of rock and water

(male and female), particularly the icy seasonal spring (and the missing deity it embodies) that surges from a high water-cave. The mercurial water deity embodied in the spring uses the cave to travel above and below ground, and thus it can be seen as a Divine Road of the Earth (Hawkins 2015:8). For pre-scientific people the concern was whether the deity (the spring) would return and restore the earth's fruitfulness. The reliefs and altar above the cave mouth point to a numinous place where mortals could petition the disappearing water deity to return from the subterranean netherworld, restore the life-sustaining water flow and thereby avert drought and famine.

Correspondingly, Brauron's spring remained the sacred core of the sanctuary (Papadimitriou 1963:115). The cave and spring received the earliest cultic worship c. 7th century BC (Themelis 2002:108) and became associated with liminal goddesses and a heroine and their roles in birth and death. This supports Turner's (1964:49) observation of 'tombs and wombs', where one symbol (in this instance, the cave) that encapsulates opposites is a typical indicator of a liminal state. Like the vanishing Ivriz spring and its unknown god, duality is echoed in the transitional nature of the goddesses. Artemis, who nurtured young life and successful births, was brutal in delivering death. The cave, arguably once inhabited by a prehistoric birth goddess (Hollinshead 1985:425), became Iphigenia's tomb and linked to death in childbirth. Hecate, guardian of transitions and their risks, mediated between cosmic zones, deities and mortals. Her ability to enter all cosmic zones (Hes. *Th*. 425–427) evokes the traits of the Hittite Sun Goddess of Arinna and the Earth. Set within their charismatic karst environments, the sanctuaries came into being because the springs and caves were perceived as thresholds and transitional points in a variety of ways, of which the theme of life and death were most important.

KARST HYDROLOGY AS A CATALYST TO REVELATION

The pairing of rock and water as a precondition to divine interaction comes into sharp focus in Chamber 2, with the Sacred Pond Complex at Südburg and the Oracle of Trophonios at Lebedeia. The cultic contexts are different, which may account for the difference in ambience between the reported encounters at the sanctuaries. The Hittite king, as the channel between deity and the people, communed with his deity in an intimate setting protected by his ancestor (Erbil & Mouton 2012:58). Solid stone, incised with his gratitude for a military victory, enclosed him. The back wall depicted a winged sun, which probably represented the sun god, custodian of justice. At his feet lay a pool of sacred water with a pit (^{D}*api*-) connecting him to another cosmic zone. It is an ordered space built to mimic the natural karst phenomena denoting a DINGIR.KASKAL.KUR (Hawkins 1995:44) and a zone of transition – a cave, subterranean water and a portal to the netherworld. We cannot know what insights the deity granted to the king, only that in this special place between the known and unknown, the king might receive divine inspiration.

At Lebadeia, Trophonios gains his mantic powers from the earth in a deified landscape both attractive (sacred springs, streams and a sacred grove) and forbidding (steep mountains soaring above a gorge). He acts as a 'ferryman' (Bonnechere 2007:31) at a physical and metaphysical threshold between the mortal petitioner and the deities. Having tasted the spring waters symbolising Lethe and Mnemosyne, the petitioner descended into the earth via a chasm to interact directly with the numinous realm, a unique situation in ancient Greece (Schachter 1967:7). The similarities with the Hittite king are noteworthy: both enter the earth through an artificially enhanced or built tunnel set in a dramatic karst landscape, both take the physical and spiritual journey alone and, for both, water enables divine communion. At the same time, a significant difference is evident in the journey and the ambience. The Hittite king enters a space specifically designed for him to access the netherworld via rock, water and an opening into the earth. He is surrounded by depictions of his own victories, his god and his royal ancestor. As monarch, he holds a daunting but favoured position with the deities, and thus surely he considers himself invited and expected. The Greek petitioner, suitably primed by the sacred springs, undertakes his harrowing journey in the dark towards an unknown epiphany with life-altering – possibly unfavourable – knowledge from beyond the grave. The Hittite experience seems to be familiar and orderly; the Greek experience is filled with risk and fear. Both stand at physical thresholds patterned on or forged by karst phenomena that will open a metaphysical zone of transition.

PART TWO: METAPHYSICAL ZONES OF TRANSITION

Part Two revealed the extraordinarily creative transformation of physical karst terrane into entire mythic worlds and deathscapes. Having investigated the effect of physical karst landscape above ground, we turned to the mythic topography below and beyond the earth and found that similar keenly observed aspects of karst phenomena were used to create eerie afterworlds. Benevolent or menacing karst geology is a defining feature in mythic landscapes. These imagined zones were populated with divinised karst features, deities affiliated to karst duality, and chthonic creatures such as bees and water snakes. Similarities and differences are discussed below under three key themes: mythic watery landscapes, deities and liminal creatures.

WATER AS A THRESHOLD AND PATHWAY

Both cultures were preoccupied with the unpredictable nature of karst hydrology and the implications for prosperity. Hittites were particularly conscious of vanishing springs and sinking rivers, attaching the same mobility to their deities and liminal creatures. Anatolian deities seem accustomed to the tendency of their peers to vanish (analogous to erratic karst hydrology) and had solutions to the recurring problem. The Storm God asks the Marassanta River to block Nerik's Storm God from accessing the netherworld

via another river (CTH 671) and Hannahanna knows her bee will track down Telepinu in the watery *gimra* (CTH 324). Snakes favour damp holes, and thus seemingly control the flow of subterranean water to the surface. The Storm God and Illuyanka, a chthonic water snake, fought a life-and-death battle over water at a *hattessar* (CTH 321), as did Heracles against the Hydra in the Lernaean wetland (Paus. 2.37.4). The shared motif of wetland, a charged environment at the margins of civilised life, represented the last point of return before the land of the dead. Hittite steppe wetlands provide the pools where Telepinu could disappear underground, taking precious water supplies with him. Circe describes a forbidding watery borderland to Odysseus in his quest to meet with Elpenor's shade (Hom. *Od.* 10.510–516).

Those who ventured to the margins of the known world and beyond required a physical journey through a liminal wilderness representing the border between the living and the dead. We see that the underworld protected the earthly zone by imprisoning harmful emotions and deities. Waters that dived below the surface into serpentine tunnels provided ample Hittite and Greek inspiration for the way to the afterlife, a zone of dampness, mist, subterranean pools, springs and rivers. The Hittite notion of a Great Road to the netherworld (CTH 457) was such a waterway, carrying deities, human souls and negative emotions to the Dark Earth (CTH 324). The journey is notable for the alarming karst obstacles along the way: a river, a pool and the ominous *tenawa* (§3 I 26–37). Similarly, Odysseus' journey to Hades is filled with menacing karst hydrology: the Okeanos is the frontier crossing, followed by a dark wetland and a damp chasm – a *katavrothra* (Bakke 2010:29) – at the confluence of baleful rivers (Hom. *Od.* 10.513–515).

Unlike the Hittites, the Greeks conceived of an even deeper cavernous space below Hades. Tartarus, in Hesiod's *Theogony,* is an extraordinary description of the physical karst underworld transmuted into an ambiguous death zone containing a most interesting river. The Styx is an excellent example of the way the Greek mind built on the potent duality of karst hydrology. An ancient deity and an early ally of Zeus, she is the only river that pours from rock (*Th.* 792), her glittering waterfalls become the towering silver pillars of her cave-like home and her icy waters form the infernal boundary. As oath-bearer, she limits the power of Olympian deities and ensures unity; her waters hold back primeval chaos from Zeus' ordered cosmos and she binds the upper and lower worlds physically and metaphysically.

DEITIES AS MEDIATORS OF KARST HYDROLOGY

Both Hittites and Greeks constructed remarkably detailed imagined landscapes that reflect or amplify the reality of karst geology. These ambiguous places had an element

of danger attached to them, echoing the volatility of karst waters. The way Hittite and Greek deities interacted with mythic waterlands shows interesting differences.

Hittite deities could access the underworld risk-free and at will, a characteristic found only with Hermes and Hecate in the Greek world. When stressed, Telepinu, as an erstwhile water god, retreated to his safe watery place beyond human civilisation – under a *halenzu*-plant floating on a steppe pond in the *gimra*. The Lykaon Painter's depiction of the threshold to the Underworld is a strikingly similar mythic wetland. Hermes and Odysseus are depicted with Elpenor's *eidolon*, who is framed by water plants as he rises from below through a damp sinkhole. The free-ranging mobility of Hittite deities into subterranean places, so reminiscent of karst water, upset the balance of the Hittite cosmos by withdrawing water and threatening drought. Solutions provided by Hittite goddesses, not gods, set the cosmos right by returning temperamental deities to their duties. In the Greek world, deities associated with water did not vanish underground willingly. Instead, we see that certain deities and heroes were protectors of physical water sources, particularly springs, with Heracles being one example. Nevertheless, like Hittite springs, a spring might be a deity in her own right, as with Telphusa (*HH* 19.5).

The goddess Hannahanna, DINGIR.MAH (Archi 2013:8), responsible for human welfare, keeps company with the chthonic Gulses who cut the thread of human life (Archi 2013:4) Her successful solution is to send the roving honeybee, an insect that forages karst topography vigorously and navigates physical and metaphysical zones safely for the benefit of humanity. Hermes resembles the Hittite mythic bee in this aspect, for he is betwixt and between the living and the dead, fond of lush, flowering places (Hom. *Od.* 5.67–75), familiar with caves (*HH* 4.12) and, like the bee and Hecate, he becomes a moderator for harmony between humanity and the deities (Bakke 2007:299). More pertinently, he knows the way to the Underworld, even though the road is unnamed and Hermes does not own it. In contrast, the Hittite path to the Beyond was the Divine Road of the Earth, the Great Road that belonged to the Sun Goddess of Arinna (Hoffner 1998:17). As psychopompos, Hermes guided souls safely through perilous karst hydrology to the death zone described graphically by Hesiod (*Th.* 730–780).

Clearly, karst hydrology was referenced by both cultures to create imagined landscapes that reflected human anxieties. The associated deities were familiar with ambiguous karst topography and offered comfort to their worshippers in different ways. Telepinu embodied the real dangers of erratic karst hydrology that could provoke drought, famine and death. The goddesses offered reassurance that, with the correct rituals, such vagaries could be managed. Hermes, as a god of boundaries, was acquainted with the

enticing and dangerous aspects of karst hydrology and knew the way in and out of the subterranean labyrinth. As a guide and benevolent intermediary between the deities and humanity, he delivered the souls and the dead safely to their final destination.

MYTHIC BEES AS A COSMIC STABILISER

Of the several creatures that acquired mythic aspects for Hittite and Greeks, the free-ranging honeybee was able to navigate both the unpredictable wilderness and the ordered human world without risk. She nested and foraged in liminal karst landscapes, provided valuable honey and wax and was equally at home in the air, on land, in caves or collecting water from ponds. With her ability to cross thresholds to other cosmic zones, *Apis mellifera* acquired a rich and strikingly innovative symbolic repertoire.

For Hittites, she became a stabilising agent in controlling errant deities, such as Telepinu, that embodied unpredictable karst hydrology. In one text (CTH 457.8 KUB 43.62), she is teamed up with the eagle (lord of the air) and the snake (controller of subterranean water) to mitigate Fire, or, in my view, lava produced by volcanic activity. Hittites transmuted her intimate experience of karst wilderness, the basis of mythic topography, into the search for 'the plenty' (CTH 457) that allowed the human soul to thrive. I suggest 'the plenty' was sacred water with its promise of fruitfulness. She therefore played a key role in the process of the human soul's journey to a second life. With these mythic attributes, the honeybee represented a benevolent bridge between humanity and the deities; she allayed the risks of uncontrolled karst phenomena and was a catalyst for a positive outcome in the afterlife.

Greek consciousness regarded the honeybee as having the same overarching benefits for humanity, although the way she acquired her mythic characteristics was quite different. Honeybees became interchangeable with nymphs, who were similarly drawn to caves and springs in karst environments. This affiliation gave rise to the ingenious notion of prophesying bee maidens (half human woman, half bee) whose honey inspired revelations. It is no surprise to find that Apollo gifted divining bees to Hermes, for both were 'here, there and everywhere' (Bakke 2007:297) and, like the Hittite bee, moved risk-free in and out of the numinous *eschatia*. The connection between bee, priestess, divination, myth and perplexing karst phenomena is evident at Delphi. We see that Greek bees, like their Hittite counterparts, functioned as the Pythia's messengers, swarming from the earth at Lebadeia, which led to the return of rain (Ransome 2004:109). Possibly, the Delphic Bee evolved from a prehistoric divining bee cult (Sourvinou-Inwood 1979:242) which could be connected to the beeswax-and-feather (or winged) temple that was borne by the wind to the liminal utopia of Hyperborea.

In both cultures the honeybee can navigate benevolent or menacing karst landscapes and move seamlessly between physical and mythic topography. In the consciousness of the Hittites and the Greeks, she opens a safe channel to the Beyond while working actively to ensure cosmic stability. In her role as a reassuring catalyst and intermediary between mortals and deities, she offers safe passage to the afterlife and comforting answers for profound human anxieties.

LIMITATIONS

There have been two notably limiting factors in this study. Much is to be gained from walking the sanctuaries and surrounding areas, and I have walked only a few of the ones discussed. Research tends to focus on the sanctuaries themselves and the surrounding landscape as they relate to the sites; thus the information I require is not necessarily covered. This is where Harmanşah's descriptions of the broader landscape have been so useful. For the same reason, finding relevant photographs of some areas has been difficult, even impossible, despite Google Earth. Because landscape is the core of my study, the geology and ecosystems surrounding sanctuaries are also relevant. Here again I have struggled to find certain information I want and, even then, some of the articles are highly scientific and it has been a challenge to understand them. The second aspect is my limited knowledge of languages both living and dead. I have relied on scholarly translations of primary sources and scholarly articles in both cultures. My interest in scholarly opinions written in Turkish, Russian and Georgian will have to wait for another day.

OPPORTUNITIES FOR FUTHER RESEARCH

This study has raised several areas for further research. For example, Hecate's earlier incarnation and her role as a transfunctional goddess may shed light on connections to karst terrane. Similarly, the aspect of Artemis as an embodiment of karst hydrology (with its promise of fertile earth) presents a stimulating avenue for further research. The role of cultic standing stones and static rock deities formed by karst geology presents another worthwhile area of investigation in both cultures.

A comparison of Hittite and Greek 'divine roads' would be rewarding, as Hittites and Greeks considered them as waterways under the protection of a specific deity; respectively the Sun Goddess of Arinna and possibly Heracles (later Zeus), who was closely aligned to natural water sources.

As highlighted in certain footnotes, I have been struck by how sacred water, caves and liminal karst landscapes were carried into subsequent religious practice, and believe it would be valuable to track the subject to periods later than those dealt with here.

No matter how humanity evolves over centuries and millennia, dynamic karst geology will always be with us. To fully understand its influence on the imagination of pre-scientific people in the ancient world, more input is needed from geologists, hydrologists, botanists and zoologists with an interest in sacred sites and surrounding karst ecosystems.

Despite referencing evidence from different periods between the two cultures, we see that the influence of karst phenomena on consciousness retained a strong presence in the Aegean world. From this study we find that, even though their process and context differed, both Hittites and Greeks transformed porous karst characteristics into similar concepts: a channel between earth, heaven and underworld; a way to interact with their deities; a reference point to envision complex mythic landscapes and a template for navigating the afterlife. Both cultures were aware of karst duality and applied this paradox most creatively to afterworlds, deities and liminal creatures. Beneath these nuanced layers was the same need: to be safe, to prosper, to have a relevant place within the cosmos and to know what the future holds – in life and in death.

GLOSSARY

HITTITE TERMS

7 KASKAL^{MES} Seven Roads that allowed deities and spirits to enter the mortal world (Erbil & Mouton 2012:60).

A.ŠÀ pastures and fields (Schachner 2017:45).

AN.TAH.SUM Hittite spring festival of the crocus (Guterbock 1997:89).

alwanzatar sorcery or black magic (Beckman 2013:94).

Dark Earth netherworld (Hoffner 1998:109 sv Dark Earth). An obscure term that has several possible meanings 1) the land inhabited by humanity (Haas 2006:2021); 2) the underworld or 3) a supernatural being (Haas 2006:2022). Della Casa (2019:223) notes that it was the realm of 'chthonic deities usually associated to magic and birth, and ruled by the Sun-goddess of the Earth; an area of the world tied to death, and polluted elements which were ritually locked down, inside of it…'.

^{D}*api-* a sacrificial pit connected to the Hittite term *hattessar*, a hole in the ground (Macqueen 1959:172); thus, a portal to the netherworld (Hawkins 1995:45).

DINGIR.KASKAL.KUR, ^{D}KASKAL.KUR Divine Road of the Earth (Hawkins 2015:1). The term is usually linked to typically karst characteristics such as springs, sinkholes, ravines, tunnels and caves. It is a familiar cuneiform term found in Hurrian and Hittite texts and rendered as 'The Divine Road of the Earth' (Harmanşah 2014:154). Gordon (1967:78) argues convincingly for its meaning as a physical 'underground watercourse', and thus the ideogram can be associated with 'ponor, *düden* and *kathabothron*' (1967:80). In Hittite treaties, the term was used to define borders (Gordon 1967:71). Like many ancient people, Hittites established boundaries using physical features as landmarks (Gordon 1967:73).

E.NA$_4$DINGIR-LIM	'Divine Stone House' (Van den Hout 2002:75). Denotes a tomb or mausoleum where the mortal remains of royal family members rested (Van den Hout 2002:86; Taracha 2009:164).
gimra	wilderness**.** In his 1999 article 'The city and the country' Beckman unpicks these terms in detail, noting that *gimra* carried many meanings, depending on context. *Gimra* was applied to a planted field or a farming complex; it was a legal term for agricultural land; it was associated with military campaigns and might be interchangeable with the Sumerian KASKAL. It could be a suitable place for rituals carrying a threat of pollution and, like HUR.SAG, *gimra* might be the untamed steppe and/or mountains. Wild plants were 'of the *gimra*'.
halenzu	'a plant which grew in the moor and could be found on the surface of lakes and ponds' (Hoffner 1998:110 sv *halenzu*).
hattessar	source of a subterranean river or the mouth of a spring, and thus a portal to the underworld of a type familiar in the Classical era (Macqueen 1959:173).
HUR.SAG	untamed wilderness (Schachner 2017:45).
huwasi	'… a stone stela, sometimes relief-carved and set on an altar in the sanctuary of the temple…. A *huwasi* could be larger, a rough monolith, set up in open country and representing a separate deity, or one of a number and marking off a sacred area. It thus seems that this manifests the indigenous, essentially chthonic cultic tradition of the Anatolian countryside, long pre-dating the Hittite state' (Burney 2004:256).
kammara- c	**(**Hitt. nom.) mist and the manifestation of mist (Della Casa 2011:266; Hoffner 1998:15). *Kammara-* is also a term for a swarm of bees (Weeks 1985:19.1.74 sv Mist).
KASKAL	Sumerian; meaning a path, a way or a road, possibly it could mean a crossroad, equally a journey and military engagement (Gordon 1967:75).
KASKAL.KUR	Road of the Earth (Beckman 2012:158); therefore, a portal to the underworld (Ökse 2011:225). Gordon's research (1967:75) showed KASKAL.KUR was linked to mountains, rivers and springs, never to artificial features.

KUR Sumerian, several meanings, including ‘foreign land’, ‘underworld’, or rarely, ‘mountain, highland’ (Gordon 1967:75).

lituus a royal staff with a curled end carried by deities.

marmara- c watery moor, marsh (Della Casa 2011:268; Hoffner 1998:15). Telepinu ‘went into the moor [Hitt. *marmaras andan*]’ (Della Casa 2011:266). In geological terminology a moor is ‘a wet peat bog’ (Fields 2002:113 sv moor).

mugawar a ritual of entreaty originating from the Anatolian tradition (Taracha 2009:155).

^{NA4}*hegur*, ^{NA4}*hekur* ‘a rocky outcrop, a mountain peak, profane in origin that often acquired divine proportions and could become a sanctuary’ (Imperati 1977 quoted in Van den Hout 2002:75). The *hekur*-complex could include the people, infrastructure and arable land to manage and sustain the cult complex (Taracha 2009:134). The E.NA$_4$DINGIR-LIM (‘Divine Stone House’; see above) was similar in that both were built on or near rock, had cults to ancestors with staff and land (Van den Hout 2002:86). The key difference was that the Divine Stone House always contained royal remains; it was a tomb (Van den Hout 2002:86).

^{NA4}*hekur* SAG.US ‘“Eternal Peak” which was a cult place of a dead king or queen without necessarily containing their mortal remains’ (Taracha 2009:165).

papratar contamination or impurity (Beckman 2013:94).

siunaš per the ‘house of god(s)’ (Beckman 2013:85).

Tawannanna ‘Originally the name of a Hittite queen, this term came to be a title or designation of all Hittite queens’ (Hoffner 1998:113 sv *Tawannanna*).

tenawas, tenawa ‘an evil force, sometimes portrayed topographically, which seizes souls in the afterlife, causing forgetfulness. It may be compared to Lethe, the mythological Greek River of Forgetfulness’ (Hoffner 1998:113 sv *tenawas*).

tuhhui- c **(**Hitt. nom.) smoke (Della Casa 2011:266; Hoffner 1998:15).

wellu- meadow. Puhvel (1969:65) notes that *wellu-* is of Indo-European origin and can represent ‘a meadow of the otherworld’, being the desired afterlife for deceased royalty (KUB 30.24.ii 1–4) or a marginal space between two cosmic zones or states (Della Casa

2011:268).

GREEK TERMS

alsos loosely, a sacred grove or wood with a spring nearby. It was '…a delimited place sacred to the gods, but it is planted, even if not extensively' (Bonnechere 2007:19) with many or few wild or domesticated trees. It might be defined by a hedge, *horoi* or stone walls.

barathron pothole, pit, deep ravine linked to wetland, sinkholes, volcanic activity and noxious fumes (Connors & Clendenon 2016:158).

bothros pit (Larson 2007:204).

dinē whirlpool in a river, a lake or the sea (Connors and Clendenon 2016:155).

eschatia '…an intermediate area of marginal, waste or scrub land on the slopes of mountains and near the sea, which was exploited in times of economic expansion and abandoned in times of economic decline. This was land was called *eschatia*' (Bremmer 2012:28). Cole (2004:233 sv *eschatia*) offers this definition: 'edge zone at a frontier or on the coast; border area of a *polis*'.

horos 'in its simplest obviously recognisable form, the *horos* is a stone stele inscribed with the four letters ΟΡΟΣ. The horos informs the reader that a border has been established at a particular point in space, and implicitly commands the reader to act accordingly' (Ober 1995:91).

katavothron **'**a closed depression or swallow hole' (Fields 2002:110 sv *katavothron*). 'A swallow hole or swallet (British) is a place where water disappears underground in a limestone region. A swallow hole generally implies water loss in a closed depression or blind valley, whereas a swallet may refer to water loss into alluvium at a streambed, even though there is no depression' (Fields 2002:189 sv swallet; swallow hole). '*Katavrothron* can be understood as a sink; sinkhole. (American.) 1. A point where a stream or river disappears underground. The sinking water may filter through a choke that excludes cavers, or may flow into an open horizontal cave or vertical shaft, and while active all of these may be termed sinkholes. The flow of water may be very small, but in full flood many sinkholes swallow flows of tens of cubic meters per second. The character of sink water (or swallet

	water, as it is commonly termed by hydrologists), flowing directly and rapidly into an open cave, distinguishes it from percolation water. 2. General terms for closed depressions' (Fields 2002: 168 sv sink; sinkhole).
koilos	hollow in a landscape, depression enclosed by mountains, a mountain defile or connected subterranean caves (Connors & Clendenon 2016:157).
leimon	meadow. 'Flowering in the spring, meadows are omnipresent in literary descriptions and (like the sacred groves) at the same time a reality in the Greek landscape and a *topos* in the landscapes of the mind. Related by their frequent association with chasms and grottoes leading to the netherworld, the two realities seem at times to overlap, at others to be juxtaposed…' (Bonnechere 2007:20).
limnē	wetland or lake (Connors & Clendenon 2016:154).
potnia theron	mistress of the animals (Hom. *Il*. 21.470–72).
temenos	'a piece of ground surrounding or adjacent to a temple; a sacred enclosure or precinct' (Oxford Dictionaries 2017 sv temenos).
topos	place (Oxford Dictionaries 2017 sv topos).

DEITIES, DAEMONS, HEROES AND HEROINES

Achelous ‘A river of Aetolia in Greece and its god who wrestled Heracles for the hand of Deianeira…’ (Theoi Project 2017).

Acheron ‘Underworld river of pain and its god’ (Theoi Project 2017).

Asclepius ‘God of medicine. He was a student of the centaur Chiron who became so skilled in the art of healing that he could bring the dead back to life. Zeus struck him dead with a lightning-bolt for defying the natural order’ (Theoi Project 2017).

Apollo ‘God of prophecy, music and healing and one of the twelve great Olympians. His deadly arrows were the bringers of plague’ (Theoi Project 2017).

Artemis ‘Goddess of hunting, wild animals, childbirth and children, and one of the twelve great Olympian gods. Her deadly arrows brought sudden death to women and girls’ (Theoi Project 2017).

Calypso ‘Goddess-nymph of the island Ogygia who detained the hero Odysseus for many years’ (Theoi Project 2017).

Circe ‘Goddess of sorcery who was skilled in the magic of transmutation, illusion, and necromancy. She lived on the mythical island of Aiaia with her nymph companions’ (Theoi Project 2017).

Cerberus **‘**The gigantic, three-headed hound of Haides which guarded the gates of the underworld and prevented the escape of the shades of the dead’ (Theoi Project 2017).

Demeter ‘Olympian goddess of agriculture and the fertile earth. Her Mysteries promised mankind passage to a blessed afterlife’ (Theoi Project 2017).

Dionysos ‘Olympian god of wine, vegetation, pleasure, festivity, madness and wild frenzy’ (Theoi Project 2017).

Gulses Hittite fate goddesses who ‘marked, engraved’ (Archi 2013:15) the length of each mortal life at birth (Archi 2013:3); named Isdustaya and Papaya (Archi 2013:15). Often associated with Hannahanna, a DINGIR.MAH (mother goddess) (Archi 2013:8) and, like Hannahanna and all mother goddesses, the Gulses were linked to riverbanks (Archi 2013:10) where humanity was created from mud.

Hades 1) ‘King of the underworld and lord of the dead. He was one of the three great sons of Cronus who, with his brothers Zeus and Poseidon, drew lots for the division of the cosmos after the defeat of the Titans. 2) The land of the dead, the gloomy realm of the god of the same name’ (Theoi Project 2017).

Haldi A warrior god and head of the Urartian divine pantheon (Piotrovsky 1969:66). His key temple was at Musasir in the mountainous region between Lake Van and Lake Urmia.

Hannahanna ‘Hittite goddess of birth, and mother goddess. The word *hanna* means “grandmother”. In the cuneiform script, taken over by the Babylonians, she is called DINGIR.MAH (= exalted deity) or Nintu (= mistress of birth). The bee serves her. In myth she plays a part in the search for a vanished god’ (Lurker 2004:138 sv Hannahanna). Archi (2013:8) notes that as a DINGIR.MAH, Hannahanna was responsible for human wellness and was often in the company of the Gulses, the Hittite fate goddesses (Archi 2013:10).

Hazzi and Namni Sacred mountains and home to Teshub, the Storm God of Hatti; equated with the limestone peaks of Jebel Aqra in Syria. Known to the Greeks as Mt Kasios (Lane Fox 2008:259).

Hecate Protective deity of liminal places, able to to travel between the upper and lower worlds (Larson 2007:166). Also ‘goddess of witchcraft, ghosts and necromancy. She assisted Demeter in her search for Persephone and afterwards became a minister of the young goddess in the underworld’ (Theoi Project 2017).

Heracles ‘Greatest of the Greek heroes who was famed by the Twelve Labours imposed upon him by King Eurystheus. Upon his death he ascended to join the

ranks of the gods on Olympus becoming a divine-protector of mankind' (Theoi Project 2017).

Herkyna 'Naiad-nymph of the stream Herkyna near Lebadeia in Boiotia (central Greece). She was a childhood companion of the goddess Persephone and a minor deity of the chthonian oracle of Trophonios. Herkyna's name means "Guard Dog" or "She who Wards Off" from the Greek words *eruô* "to guard", *kyôn* "dog" and *erukô* "to ward off". The Lebadeans, however, connected the name with *herkos*, a bird-catching net or noose. Herkyna was probably identified with the goddess Hekate for both were childhood companions of the goddess Persephone and chthonic deities associated with dogs' (Theoi Project 2017).

Hermes God of travellers, boundaries and crossroads who is able to enter and exit the underworld at will (Bakke 2007:310) – the 'Olympian god of animal husbandry, trade, messengers, merchants and athletes. He was also the personal herald of Zeus king of the gods' (Theoi Project 2017).

Hydra 'A gigantic, nine-headed water-serpent, which haunted the swamps of Lerna. Herakles (Heracles) was sent to destroy her as one of his twelve labours, but for each of her heads that he decapitated, two more sprang forth. So with the help of Iolaos (Iolaus), he applied burning brands to the severed stumps, cauterizing the wounds and preventing the regeneration. In the battle he also crushed a giant crab beneath his heel, which had come to assist the Hydra. The Hydra and the Crab were afterwards placed amongst the stars by Hera as the constellations Hydra and Cancer' (Theoi Project 2017).

Illuyanka 'Hattian or Hittite common noun meaning "serpent" used as the designation of the foe of the Storm God in the Illuyanka Myth' (Hoffner 1998:111 sv Illuyanka). In the myth of Illuyankas the snake emerges from his subterranean lair to fight a closely contested battle with the Storm God (Bryce 2002: 216).

Inara Old Kingdom goddess and daughter of the Storm God of Hatti. She ruled over wild places and the hunt and may have evolved from Hattian Teteshapi (Great Goddess) (Collins 2007:175). 'A goddess, a daughter of the great Storm God, who seems to have roamed the steppe, perhaps as a huntress. She figures in Old Hittite myths with a Hattian background' (Hoffner 1998:111 sv Inara).

Kamrusepa ‘A goddess of magic. Her Hattian name was Kattahziwuri (Hoffner 1998:111 sv Kamrusepa).

karuiles siunes Hittite primeval gods, ‘former deities’ and ‘infernal deities’ (Hoffner 1967:385) who were consigned to the netherworld by Tessub and the newer pantheon (Hoffner 1998:112 sv Primal Deities). Refer to ANUNNAKI, ‘a very important group of gods, who in the Hurro-Hittite conception presently dwelt in the netherworld. The term is a Sumerogram, which probably corresponds to Hittite “primeval gods” (*karuiles siunes*)’ (Hoffner 1998:110 sv ANUNNAKI).

Kumarbi ‘A grain deity, equated with Semitic Dagan in god lists from Ugarit. Son of the god Alalu. Third king of the gods. Called “wise king” and “Father of the Gods”. His chief cult centre was the North Mesopotamian city of Urkis. Chief antagonist of Tessub in the cycle of Kumarbi myths. Couples sexually with various females, including a wife, Sertapsuruhi the daughter of the Sea God, and becomes the father of many gods and monsters (Ullikummi, Hedammu, Silver, and possibly LAMMA)’ (Hoffner 1998:111 sv Kumarbi).

Lelwani Queen of the Infernal Regions (Bryce 2002:142).

Nymphs ‘Beautiful, female nature-spirits. There were various types of nymphs – Naiades (of fresh water), Oreads and Dryads (of pine and oak trees), Meliae (of ash trees), Oceanides (of rivers, springs and clouds), Haliae (of the sea) and the Lampades (of the underworld)’ (Theoi Project 2017).

Pan **‘**The god of shepherds and hunters, and of the meadows and forests of the mountain wilds. His unseen presence aroused panic in those who traversed his realm’ (Theoi Project 2017).

Persephone ‘Queen of the underworld. She was a spring-time goddess abducted to the land of the dead by Hades. Her mother Demeter brought famine to the world until Zeus agreed to let her return for part of the year’ (Theoi Project 2017).

Poseidon ‘King of the sea, god of horses, rivers and earthquakes. He was one of the twelve Olympian gods who received the sea as his domain when the three sons of Cronus drew lots for the division of the cosmos after the fall of the Titans’ (Theoi Project 2017).

Seri and Hurri Day and Night, the immortal bulls that pulled the chariot of the Storm God of Heaven (Akurgal 2001:125).

Storm God of Hatti 'Sovereign head of the hierarchic order determining the shape and destiny of the Hittite realm…. The ideogram for this god could represent different divinities, deriving from language and cultural context: the Hittite Tarhunt(a), the Luwian Datta, the Hurrian Tesub, the Akkadian Adad and even the Sumerian Iskur and the Northwest Semitic Ba'al. Understandably there were innumerable local manifestations of the Storm God; and most cult centres gave him a place in the hierarchy to be worshiped' (Burney 2004: 257).

His pre-Hittite Hattic name was Taru and he ensured cosmic order and protection for the people of Hatti. When benign, he sent rain. When angry, his storms or drought wreaked havoc. Located at mountain peaks, his symbols were the axe and lightning bolt. His sacred animal, the bull, was noted for power and potency. A pair of bulls pulled his chariot (Bryce 2002 144).

Styx Infernal river of the Underworld and first ally of Zeus with the power of the oath (*Th.* 400). She ensures cosmic stability being the force that controls the deities, including Zeus (Lye 2009:12).

Sun God 'In Old Hittite myths he is the Hattian solar deity Estan, son of the Great Storm God and brother of Telepinu. In the New Hittite Kumarbi myths he is the Hurrian solar deity Simige, an ally of Tessub' (Hoffener 1998:112 sv Sun God).

Sun Goddess of Arinna 'While ostensibly to be regarded as an Indo-European sky deity, she was in fact of Hattian origin and chthonic rather than celestial in character. Her high status was especially revered in relation to the cult center of Arinna…at the heart of the kingdom. Under the Empire, the native triad of the Sun-Goddess of Arinna, the Storm-God of Hatti and the Storm-God of Nerik was identified with the Hurrian divinities Hebat, Tesub and Sarruma' (Burney 2004:257). Her Hattic name was Wuru(n)semu. Her chthonic link was recognised with the title 'Queen of the Earth' (Bryce 2002:142).

Sun Goddess of the Earth (= netherworld) The Hattian form of her name is unknown. 'In New Hittite texts with a Hurrian background she is referred to either by her the descriptive title "Sun Deity of the Earth" or by the Hurrian word Allani "the lady"' (Hoffner 1998:112 sv Sun Goddess of the Earth).

Telepinu ‘Son of the Weather-God, and in one text was credited with the foundation of the Hittite Kingdom. He was the hero of the Myth of the Missing God, whose disappearance led to catastrophic impoverishment of the land, with failure of crops and sterility of livestock. After much ritual activity, the wrath of Telepinu was eventually appeased, and he set about restoring general fertility’ (Burney 2004: 268).

Telphusa ‘Naiad-nymph of the Boeotian spring Telphusia. Apollo buried her waters beneath a pile of stones when she attempted to deceive him’ (Theoi Project 2017).

Tessub ‘The supreme Storm God. Reigning king of the gods according to Hurrian theology. Son of Anu. His consort is Hebat (= Sun Goddess of Arinna). His sons are Sarruma and the Storm God of Nerik. His vizier is Tasmi(su). His two divine bulls are Seri(su) and Hurri (or Tella). His principal cult center and “home” is Kummiya in Northern Mesopotamia’ (Hoffner 1998:113 sv Tessub).

Trophonios ‘A man swallowed up by the earth and transformed into an oracular daemon’ (Theoi Project 2017).

Typhon Half human, half serpent monster with multiple heads who lived underground. Originating from prehistoric times, he personified the hurricane and volcanic power and fathered a variety of monstrous children, including the three-headed hellhound Cerberus, the Lernaean Hydra and the Chimera (Theoi Project 2017).

Ullikummi ‘Blind, deaf stone monster, which Kumarbi engenders from sexual union with a huge boulder or cliff’ (Hoffner 1998:113 sv Ullikummi).

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