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Pictures from the Sea:

The Role of Marine Imagery and Artefacts in the Bronze Age Aegean

Vol. 1: Text

This thesis is submitted in fulfilment of the requirements for the degree of doctor in Philosophy

2008

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Emma Saunders

Summary

The Minoan civilisation which flourished on Crete in the Bronze Age delighted in depicting sea creatures in art. The marine world featured in every artistic medium and had great longevity within the Minoan artistic repertoire. While specific genres of marine art such as the LM IB ceramic Marine Style have been studied in depth, there is no single work tracing the development of marine imagery across the artistic media or examining the social functions of marine imagery and artefacts. Furthermore, the reasons for the popularity of marine imagery in Minoan art have traditionally been explained in purely economic terms, as the 'natural' outcome of the practical importance of the sea to Minoan life. This does not explain why the Minoans developed this artistic genre while other island communities did not. It is my contention that the social role of the marine world, its cultural, religious and symbolic importance, was a key factor influencing its portrayal in art. This thesis explores this issue by examining the social, religious and funerary associations of marine imagery and artefacts in the Bronze Age Aegean. It will also examine the development of marine motifs and the marine biological basis to the depictions (in terms of physical form, behaviour and habitat).

The methodology presents a new way of looking at the evidence. Marine imagery has traditionally been the subject of art historical rather than archaeological analysis, with little examination of its functional context. This thesis takes a multidisciplinary approach, examining the evidence from archaeological, art historical and scientific perspectives. A rigorous methodology is established for the study of ritual practice and its identification in the archaeological record. This methodology emphasises the importance of context and association in determining how an object or image was used, while the aesthetic reasons for the use of particular motifs or materials are also considered. These methodologies are combined with a marine biological analysis of the motifs and careful use of comparative studies to explore issues of cross-cultural influence and to provide insights into the possible ways in which marine artefacts such as shells were used. Additional tables and appendices provide full descriptions of much of the material discussed and collate this evidence together for the first time.

Chapter 1 provides a critical analysis of the evidence for the marine aspect to Minoan cult practice and belief. Examining the different categories of evidence available, I found that the marine aspect to cult was more extensive than has previously been recognised. An analysis of the social functions of marine-oriented cult practice revealed that an intensification of interaction with the sea in the Neopalatial period led to increased participation and investment of resources in the marine aspect of cult. The intervisibility of sea and shrine was also found to be an important factor governing the locations in which marine cult practice took place, while the evidence suggests that further cult practice took place *in situ* at harbours and on boats. While the exact belief system of the Minoans cannot be determined, an iconographic analysis reveals that the Minoans made a connection between a female figure, possibly of divine status, and the marine world. In Chapter 2, my analysis of the social role of triton shells revealed how and why these objects were used as cult equipment. Contrary to popular belief this was not their only use: triton shells were in fact used in a range of social contexts as funnels, vessels and trumpets. My study of imitation triton shells confirms that this shell type had a high cultural value in Minoan Crete. In Chapter 3, a study of the group of stone vases with marine relief imagery revealed that these vessels emerged from the wider tradition of marine relief work and may have preceded the ceramic Marine Style. Analysis of their imagery and function suggests that they were used in ritual activities and that their imagery served to reinforce this use. In Chapter 4, the role of marine imagery on Minoan coffins is examined and a catalogue of this material is provided for the first time. It is argued here that the marine imagery on larnakes was meaningful and was part of a wider iconographic programme of depicting regenerative imagery on coffins.

In conclusion, this thesis shows that many of the finest marine images and artefacts were linked with Minoan religious ritual and funerary practice. The marine world acquired a place within the Minoan cosmology and belief systems and marine imagery clearly resonated with meaning to the Minoan viewer. The social, funerary and religious roles of marine imagery and artefacts, as outlined in this thesis, help to explain the high visibility of marine imagery in Aegean art.

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Fig. 199: **L11**. Chest larnax with double octopus panels, papyrus and huge spirals (Mavriyannaki 1972, Pl. XXX).

Fig. 200: **L27**. Tub larnax with octopi and huge fish from Petras Papoura, on display in the Ayios Nikolaos Museum.

Fig. 201: **L3**. LM IIIC octopus chest in the Chania Museum.

Fig. 202: **L4**. Chest with three linked octopi in the Chania Museum.

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Fig. 207: **L52**. Tub from Episkopi with octopi swimming horizontally, on display in the Heraklion Museum.

Fig. 208: **L61**. LM IIIA tub from Pachyammos with an octopus, scale pattern and papyrus motifs (Marinatos and Hirmer 1960, Pl. 126: top).

Fig. 209: **L13**. Chest from Maroulas with octopi, papyrus and spirals, on display in the Rethymnon Museum.

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Fig. 214: **L18**. Chest from Armenoi with argonauts in otherwise terrestrial landscapes with an inset detail of one of the argonauts, on display in the Rethymnon Museum.

Fig. 215: **L61**. Tub from Pachyammos with internal fish (Sakellarakis 1999, 110).

Fig. 216: **L27**. Detail of the huge fish inside a tub from Petras Papoura, on display in the Ayios Nikolaos Museum.

Fig. 217: **L23**. Chest from Vasiliki Anogheia with fish, ducks and papyrus plants (Higgins 2001, Pl. 145).

Fig. 218: **L21**. Chest from Palaikastro with a fish and a water-bird (Watrous 1991, Pl. 82b).

Fig. 219: **L34**. Tub with turtles swimming around the interior, from the Siteia region, on display in the Siteia Museum.

Fig. 220: **L34**. Turtle on the inside of a tub from the Siteia region, on display in the Siteia Museum.

Fig. 221: **L32**. Seal on the inside of a tub larnax from Kritsa, on display in the Ayios Nikolaos Museum.

Fig. 222: **L127**. Chest from Tanagra with warriors and a giant water-bird walking in a landscape filled with seaweed (Vermeule 1965, Pl. XXVIII).

Fig. 223: MM IIB Kamares jar with tunny fish and spiral waves, Phaistos (Kanta 1998, 26).

Fig. 224: LM IB amphora with wavy lines on the neck above octopi and tritons, Knossos (Sakellarakis 1999, 73).

Fig. 225: Amphoroid krater from Ligortino with wavy lines on the neck above octopi, on display in the Louvre Museum, Paris.

Fig. 226: **L97**. Chest with wavy lines from Knossos-Gypsades (Rutkowski 1966, Pl. VII.2).

Fig. 227: **L92**. Chest larnax with the wavy border motif, on display in the Ayios Nikolaos Museum.

Fig. 228: EC II 'frying pan' from Syros with a boat and spiral waves, on display in the National Museum of Athens.

Fig. 229: Fowling scene from the Tomb of Nebamun, Thebes, c.1400 BC (Carrington 1972, Pl. 5).

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Fig. 233: **L25**. Chest from Gazi with a large ship and possible ingots, on display in the Heraklion Museum.

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Fig. 237 The Ayia Triadha stone sarcophagus (Sakellarakis 1999, 115: top).

Fig. 238: Detail of the presentation scene on the Ayia Triadha sarcophagus, on display in the Heraklion Museum.

Fig. 239: Model boat from Moni with an unusual interior, in the Mitsotakis Collection of the Chania Museum.

Fig. 240: **Arg.10**. Argonaut necklace from a tomb at Sellopoulo on display in the National Museum of Athens.

Fig. 241: **Arg.5**. Female skeleton wearing a double argonaut diadem, Phourni, Archanes (Sakellarakis and Sapouna-Sakellaraki 2002, 128, fig. 107).

Fig. 242: **J31**. Octopus cut-outs with only seven tentacles from Shaft Grave IV, Mycenae (Meletzis and Papadakis 1996, Pl. 29).

Fig. 243: **L122**. Chest larnax from Armenoi with hunting and suckling scenes (Vermeule 1979, fig. 24).

Fig. 244: **L58**. Tub from Pachyammos with an octopus panel and two horned cows with a calf in suckling position (Sakellarakis 1999, 110: top).

Museum Abbreviations

AM	Ashmolean Museum, Oxford
ANikM	Ayios Nikolaos Museum, Crete
BrArch	Brauron Archaeological Museum, Greece
BM	British Museum, London
ChM	Chania Archaeological Museum, Crete
HM	Heraklion Archaeological Museum, Crete
KSM	Knossos Stratigraphical Museum, Crete
NM	National Museum of Athens, Greece
RM	Rethymnon Museum, Greece
SM	Siteia Museum, Crete

Journal Abbreviations

AA	Archäologischer Anzeiger
AAA	Athens Annals of Archaeology
AD	Άρχαιολογικόν Δελτίον
AE	Άρχαιολογική Έφημερίς
AJA	American Journal of Archaeology
American Antiquity	Memoirs of the Society for American Archaeology
Antiquity	Antiquity. A Quarterly Review of Archaeology
Arch Reports	Archaeological Reports
ASAtene	Annuario della Scuola Archeologica di Atene
AthMitt	Mitteilungen des Deutschen Archäologischen Instituts, Athenische Abteilung
BCH	Bulletin de correspondance hellénique
BICS	Bulletin of the Institute of Classical Studies

BSA	Annual of the British School at Athens
CAJ	Cambridge Archaeological Journal
Expedition	Magazine of the University of Pennsylvania Museum of Archaeology and Anthropology
IJNA	International Journal of Nautical Archaeology and Underwater Exploration
JHS	Journal of Hellenic Studies
Kadmos	Zeitschrift für vor- und frühgrieschische Epigraphik
JPR	Journal of Prehistoric Religion
OJA	Oxford Journal of Archaeology
OpAth	Opuscula Atheniensia
MAN	A Monthly Record of Anthropological Science published by the Royal Anthropological Institute, London
Manchester Memoirs	Memoirs and Proceedings of the Manchester Literary and Philosophical Society
PAE	Πρακτικά της εν Άθήναις Άρχαιολογικής Έταιρείας
SIMA	Studies in Mediterranean Archaeology
SMEA	Studi Micenei ed Egeo-Anatolici

Special Abbreviations

CMS = *Corpus der Minoischen und Mykenischen Siegel*, (series), Berlin, Mann.

CS = V.E.G. Kenna 1960, *Cretan Seals: With a Catalogue of the Minoan Gems in the Ashmolean Museum*, Oxford, Clarendon Press.

Klados = C. Morris (ed.), *Klados: Essays in Honour of J.N. Coldstream*, BICS Supplement 63, London, Institute of Classical Studies.

La Crète mycénienne = J. Driessen and A. Farnoux (eds.), *La Crète mycénienne: Actes de la table ronde organiseé par L'École Française d'Athénes*, BCH Supplement 30, Athens and Paris, L'École Française d'Athénes.

L'Iconographie minoenne = P. Darque and J.-C. Poursat (eds.), *L'Iconographie minoenne. Actes de la table ronde d'Athènes (21-22 avril 1983)*, BCH Supplement 11, Athens, L'École Française d'Athénes.

Meletemata = P.P. Betancourt, V. Karageorghis, R. Laffineur and W.-D. Niemeier (eds.), *Meletemata. Studies in Aegean Archaeology Presented to Malcolm H. Wiener as He Enters His 65th year*, Aegaeum 20, Liège, Université de Liège.

PM I = A. Evans 1921, *The Palace of Minos: A Comparative Account of the Successive Stages of the Early Cretan Civilization as Illustrated by the Discoveries at Knossos*, Vol. I, London, Macmillan.

PM II = A. Evans 1928, *The Palace of Minos: A Comparative Account of the Successive Stages of the Early Cretan Civilization as Illustrated by the Discoveries at Knossos*, Vol. II, London, Macmillan.

PM III = A. Evans 1930, *The Palace of Minos: A Comparative Account of the Successive Stages of the Early Cretan Civilization as Illustrated by the Discoveries at Knossos*, Vol. III, London, Macmillan.

PM IV = A. Evans 1935, *The Palace of Minos: A Comparative Account of the Successive Stages of the Early Cretan Civilization as Illustrated by the Discoveries at Knossos*, Vol. IV, London, Macmillan.

Potnia = R. Laffineur and R. Hägg (eds.), *Potnia: Deities and Religion in the Aegean Bronze Age*, Aegaeum 22, Belgium, Université de Liège.

Sanctuaries and Cults = R. Hägg and N. Marinatos (eds.), *Sanctuaries and Cults in the Aegean Bronze Age: Proceedings of the First International Symposium at the Swedish Institute in Athens, 12-13 May, 1980*, Stockholm, Paul Åströms Förlag.

TAW I = C. Doumas (ed.), *Thera and the Aegean World I. Papers Presented at the Second International Scientific Congress, Santorini, Greece, August 1978*, London, Thera and the Aegean World.

TAW III(1) = D.A. Hardy, C.G. Doumas, J.A. Sakellarakis and P.M. Warren (eds.), *Thera and the Aegean World III. Proceedings of the Third International Congress, Santorini, Greece, 3-9 September 1989*, Vol. 1, London, The Thera Foundation.

TAW III(2) = D.A. Hardy, J. Keller, V.P. Galanopoulos, N.C. Fleming and T.H. Druitt (eds.), *Thera and the Aegean World III. Proceedings of the Third International Congress, Santorini, Greece, 3-9 September 1989*, Vol. 2, London, The Thera Foundation.

TAW III(3) = D.A. Hardy and A.C. Renfrew (eds.), *Thera and the Aegean World III. Proceedings of the Third International Congress, Santorini, Greece, 3-9 September 1989*, Vol. 3, London, The Thera Foundation.

Introduction

The Minoan civilisation which flourished on the island of Crete in the Bronze Age displayed a fascination with the marine world that is unparalleled among other ancient Aegean societies. Marine imagery forms one of the most striking categories of Minoan art. Few visitors to the Heraklion Archaeological Museum fail to notice the extraordinary scenes of octopi, dolphins, argonauts and fish. The most naturalistic scenes, and those which people are generally most familiar with, include the famous 'Dolphin Fresco' from the palace of Knossos (Fig. 61) and the ceramic vessels of the LM IB 'Marine Style' (Fig. 3) on which highly realistic octopi and other sea creatures seem to return the viewer's gaze, their suckered tentacles curling and writhing as they swim around the vase. Yet these more famous scenes are merely the tip of the iceberg: the marine world is in fact represented in every artistic medium, from large-scale wall- and floor-paintings to the small-scale scenes on sealstones and finger rings. Marine motifs are found on frescoes, ceramics, jewellery, metalwork, ivory and faience; they even featured on Minoan painted coffins. Some of the very finest marine pieces date from the LM IB period, a time of great creativity on Crete when the elite inhabitants of the Minoan palaces and villas served as patrons of the arts. However, the origins of marine imagery can actually be traced to long before this and its legacy continued right up to the final stages of the Aegean Bronze Age. The extent and longevity of the Minoan love of the sea in art is, in fact, remarkable.

What is perhaps most unusual about Minoan depictions of sea creatures in comparison, to say, later Greek and Roman marine imagery, is that the marine creatures are usually celebrated in and of themselves. As Betancourt (1977, 43) has observed, 'The Bronze Age Aegeans, whose lives centred around the sea, were one of the earliest peoples to treat its creatures as worthy themes for art in their own right rather than as mere background for some other subject'. In contrast to ancient Egypt for example, where scenes of fishing were common in art, the theme of fishing is extremely rare in the art of the Aegean Bronze Age. The most famous fishing scenes occur on frescoes from the Cycladic island of Thera. On two life-size fresco panels

painted on the wall of Room 5 of the West House, one of which is shown in Fig. 4, two young fishermen are shown carrying strings of fish in a type of scene named by Sakellarakis (1974) as 'the return of the successful fisherman'. A variation of the same theme can be seen on a painted clay stand from Phylakopi on Melos (Fig. 5) which shows a line of four fishermen returning home with their catch. Aside from these Cycladic scenes, however, the theme of fishing is seldom found in Aegean art and on Minoan Crete it recurs only on a small number of scenes on sealstones (Table 1: **FS1-9**; Fig. 6a-e). Most of these seals show a single male figure holding one or more fish aloft. On one MM III seal from Knossos, however, the fisherman also holds an octopus (**FS3**; Fig. 6b). Aside from these fishing scenes, marine creatures appear in conjunction with human figures on a small number of glyptic scenes where their position, flanking the figure in a heraldic mode, suggests that they accompany a marine deity or 'Mistress of the Animals'. This category of evidence is discussed in Chapter 1; here, it will suffice to note that such scenes of human-marine interaction are rare. In general, the marine world is shown removed from the world of human action, with the marine creatures often depicted within their natural underwater habitat.

The products of the sea were clearly economically important to the Minoans. It is generally accepted that marine produce was more abundant in the Aegean in antiquity than today, as the smaller human population, comparatively primitive fishing technologies and limited capacity to fish in open water would have kept fish populations dense (Economidis 2000, 558). That marine produce would have formed a substantial part of the Minoan diet is suggested both by fishing scenes in art and by the remains of fish, shellfish, urchins, cuttlefish and crabs found at archaeological sites on Crete and the Aegean islands. At Akrotiri, for example, Mylona has identified fish bones from a wide range of species, most of which were small varieties from the littoral zone, living in shallow or medium-deep waters. This suggests that fishing was generally done from the shore or boat in shallow waters (Mylona 2000, 563-64). At Pseira on Crete, Rose has identified evidence for the consumption of fish such as sea bream and picarels, as well as larger types like the grouper (Rose 1995a, 1988, 1999).

Equally, at Mochlos and Kommos, a wide variety of fish species have been identified including large open water fish such as the barracuda and tunny, which show that the Minoans also fished in deeper waters (Mylona 2004, 121; Rose 1995b, 204-205). Scientific analysis of human bones can provide further evidence for the importance of marine produce in the Aegean diet, as the role of marine proteins in the ancient diet can be determined by examining stable isotope values. Studies of skeletons in Grave Circle A, at Mycenae, for example, revealed that the individuals examined obtained about one-fifth of their dietary protein from marine sources (Tzedakis and Martlew 1999, 226). While an analysis of skeletons from the Armenoi cemetery failed to yield much evidence for marine proteins (Tzedakis and Martlew 1999, 226), further studies of Minoan skeletons may change this.

In addition to dietary contributions, the products of the sea were economically important in other ways. From the MM III period onward, the Minoans seem to have exploited the murex shellfish for its famed purple dye (Reese 1987a, 206). Three species of murex produce the dye, *Murex trunculus*, *Murex brandaris*, and *Thais haemastoma*, and these shell types are often found at Aegean archaeological sites. As the dye is procured from the glands of the live shellfish however, and as huge quantities are needed to produce a small amount of dye, large amounts of *crushed* shells are required to identify dye production archaeologically. Such evidence has been found at a number of sites on Crete, including Palaikastro, Kouphonisi, Malia and Kommos (Reese 1987a; Ruscillo 1998, 392) as well as at the Minoan site of Kastri on Kythera (Coldstream and Huxley 1972, 36-37, fig. 3e), suggesting that dye production may have been an important industry in Minoan times. Known in later antiquity as Royal, Tyrian or Imperial purple, the dye was highly lucrative and was famously exploited by the Phoenicians and by the Romans, who from the time of Nero used it exclusively for the garments of their emperors. The full extent of the Minoan exploitation of murex dye is not yet known, but the colour-fast dye may have been used for textiles, as suggested by a reference to 'royal purple' on a Linear B tablet from Knossos (KN X976) as well as further references to purple textiles, some or all of which may have been dyed from murex purple (Burke 1999, 78 and n.16;

Ventris and Chadwick 1973, 321, 405: KN L758 and KN L224 = L474). Analysis of coloured pigments at Akrotiri also points to the use of murex purple as a pigment in Aegean frescoes (Chryssikopoulou and Sotiropoulou 2003).[1] In addition to the exploitation of marine produce, Minoan interaction with the sea also came in the form of extensive overseas trade and foreign contact, factors which were integral to the rise of the palaces and the wealth of the Minoan elite, as we shall see later.

Clearly the sea was of great economic importance to the Minoan islanders. As a result, the reasons why the Minoans delighted in depicting the world of the sea have traditionally been explained in purely economic terms. Over the years, numerous scholars have stated with certainty that the marine scenes arose as a *natural* result of the Minoan islander's close interaction with the sea. Bosanquet, for example, writing in 1904 about LM IB Marine Style vessels, observed that;

> At ports where sailors and fishermen and divers for sponges and purple came and went, it was *natural* for an imaginative race to acquire that sense of the magic and mystery of the sea, that curiosity about life in its depths, which found expression in these ceramic pictures (Bosanquet 1904a, 321; my italics).

In more recent years, Betancourt espoused the same opinion, stating that as the sea played such an important role in the lives of the Minoan islanders 'it is *not surprising* that the artists of that island turned to it for a wealth of decorative imagery' (1977, 38; my italics). By stressing the 'naturalness' of this outcome, scholars have traditionally underplayed the uniqueness of Minoan marine art: the Minoan islanders were just one of many ancient island communities living in close relationship with the sea, yet they alone produced marine art on this scale. Practical economic factors alone do not

[1] At Minoan Kastri on Kythera, Coldstream and Huxley also pointed out possible evidence for the use of murex purple on pottery, suggesting that the distinctive purple paint used on local MM III pottery vessels, some of which were found in association with murex shells, may have been derived from the murex (Coldstream and Huxley 1984, 282, 108). This has been convincingly refuted by Rutter and Zerner (1984, n.76), however, who point out that the paint cannot have been purple dye manufactured from murex, as it was clearly applied before firing and if organic, would have blackened in the firing process.

explain why the Minoan islanders developed this artistic genre while other island communities did not.

In considering the reasons why animals are depicted in art, Powell notes that two main factors govern the motifs which a society selects for artistic use: environmental factors, that is, the physical world with which the society interacts, and social factors, the symbolic, cultural, religious or other significance which that society ascribes to an animal, object or motif (Powell 1992, 314). Anthropological studies show that in many cases the choice of motif is not determined by purely practical and economic 'environmental' concerns, but by cultural factors or a combination of the two (Morphy 1989). It is my contention that the social role of the marine world, its cultural, religious and symbolic importance, were important factors influencing the Minoan decision to portray marine imagery in art. This thesis is an attempt to explore this issue, by examining the social role of the marine world in Minoan Crete, focusing in particular on its role within the artistic, ritual and funerary spheres.

My interest in the topic of the marine world in Minoan art arose primarily from my own love of all things marine. As a young undergraduate on my first trip to Crete, I was captivated by the marine imagery I encountered in Minoan art. As an avid diver I was amazed at the marine biological awareness evidenced in such scenes: the correct awareness of habitats and behavioural observations, as well as the depictions of rarely seen creatures such as the argonaut. The scenes prompted many questions. What was the basis for the Minoan interest in the marine world and why was it so consistently popular in Minoan art? What role did actual marine artefacts, such as shells, play in society? What cultural resonance did the marine motifs have for the Minoan viewer? Did the marine motifs have symbolic meaning? With such questions in mind, and with my own firsthand experience of many of the creatures depicted, it was the obvious choice of research topic for my postgraduate years.

Hitherto, research on the subject of marine imagery has been limited in scope, as most studies of marine imagery have focused on specific artefacts, media or motifs. A few

of the finer marine pieces have been singled out as the subject of detailed study: these include the stone triton shell with relief carving from Malia (Baurain and Darque 1983) and the gold cup with octopi, dolphins and argonauts from Dendra (Hurwitt 1979). Regarding marine motifs, only the dolphin motif has been the subject of individual study (Czernohaus 1988; Immerwahr 1990a). Other popular motifs such as the argonaut, octopus and triton shell have not been analysed in such detail. Moreover, there is no single work tracing the chronological development of marine motifs across the various media. Perhaps the best studied medium is LM IB Marine Style pottery. Betancourt (1973, 1977), Mountjoy (1977, 1984) and Müller (1997) have explored the marine themes depicted on this pottery style and have tried to identify pottery groups. Although now over twenty years old, Mountjoy's 1984 corpus of Marine Style pottery remains an invaluable resource for the study of this pottery style. Müller's more recent work (1997) includes some new additions to the corpus, as well as discussions of the marine motifs used. It also has excellent illustrations, including detailed photographs of motifs on specific vases. In contrast to these works, Mountjoy's 1985 article highlighting the presence of LM IB Marine Style pottery in ritual contexts on Crete moves beyond an art historical analysis of the motifs towards a more archaeological approach to their use. While Mountjoy does not explore the role of the marine world in ritual in any detail, her work highlighted the potential of further analysis of this issue.

Aside from vase painting, the roles of marine imagery in other types of media are usually discussed only as part of a wider study of the range of motifs found in a particular medium. Thus, for example, to examine the use of marine imagery on sealstones, the scholar must sift through the many published CMS volumes to find relevant examples. That aside, Aegean Bronze Age scholarship has produced some excellent studies of particular artistic media, in which examples of marine and other imagery are included. These include works on wall paintings by Immerwahr (1990b) and Morgan (1988); on fresco floors by Hirsch (1977, 1980); on ivory by Poursat (1977); on faience by Foster (1979), on stone vases by Warren (1969), on relief work by Foster (1982) and Kaiser (1976), and on larnakes (coffins) by Watrous (1991) and

Rutkowski (1966, 1968). Many of these studies are largely art historical rather than archaeological in focus, paying little attention to the find context of the pieces. A rare exception is the excellent publication of the miniature frescoes from the West House on Thera, in which the marine motifs and their function are given careful consideration (Morgan 1988). In most of the above works, however, the actual role of the imagery remains largely hidden behind interpretations based on decorative value, with little analysis of the functional context in which the imagery was to be viewed.

While researching the topic of marine imagery and artefacts, I was struck by the general lack of exploration of the function of marine imagery in art and by how little interest has been expressed in the symbolic aspects of marine imagery, particularly in its role in religious ritual and in funerary art. Both Boulotis (1987) and Vandenabeele (1991) have examined the role of the marine world in Minoan cult to varying degrees. These works lay the groundwork for a more extensive study, for, despite drawing attention to the role of the marine world in Minoan religion, these authors have omitted whole categories of evidence in their discussions, while neither work examines the social function of marine rituals in any great depth. A more holistic analysis of the evidence needs to be undertaken to assess the true extent of the marine aspect to Minoan cult activity and its social function. Furthermore, the issue of whether the Minoans believed in a marine deity or indeed a deity with a marine aspect needs to be examined. In the funerary sphere, larnakes have been described as one of the least studied objects of Minoan Crete (Sakellarakis and Sapouna-Sakellaraki 1997, 473) and the question of why they were so frequently decorated with marine imagery has been little explored. In particular, Watrous' (1991) study of the iconography of larnakes fails to question old assumptions that the marine motifs on painted larnakes are influenced by Egyptian funerary art. The role of the sea in Minoan funerary belief needs to be reassessed in a more systematic way. Perhaps most surprising is how few studies have examined the marine imagery from a marine-biological perspective. The works on the identification of marine species by Gill (1985), Bradfer (1998) and Economidis (2000), however, show that an informed marine biological awareness of the imagery can add to our interpretation of it. These

gaps in the existing bibliography point to the need for an interdisciplinary study, examining marine motifs from archaeological and marine biological perspectives as well as art historically.

This thesis builds on the existing works on marine imagery, while addressing some of the issues hitherto left unresolved. While the specific focus of much of this work is on the role of the imagery within the social, ritual and funerary spheres, general questions concerning the overall use and development of marine imagery are also considered. Chapter 1 examines the role of the marine world in Minoan religious ritual, evaluating the evidence for the use of marine artefacts and imagery in shrines. A methodology for the study of religious ritual in the archaeological record is established before critically examining the types of marine artefacts and imagery found in shrines and the ways in which they were used. The social role of marine oriented ritual practice is explored and the evidence for the role of the marine world within the Minoan belief system is assessed. An additional appendix (Appendix 1) provides full descriptions of each of the ritual contexts discussed, along with details of the marine objects found there.

Chapters 2 and 3 take two particular groups of artefacts as case studies: triton shells and stone vases with marine relief imagery. Real and imitation triton shells feature widely in Minoan society and art. Numerous real triton shells have been found in archaeological contexts on Crete, many of which have manmade modifications. Triton shells also feature in Minoan art, where they are one of the four main motifs of the LM IB ceramic Marine Style, while a group of large-scale imitation triton shells made in materials such as stone and faience attests to the popularity of the motif in elite art. Scholars have long recognised that real triton shells were used by the Minoans as cult equipment. Despite this recognition, there has been little formal study of this shell type. Chapter 2 explores the role of triton shells in both ritual and daily life in the Aegean, addressing a number of important questions. Specifically: how were triton shells actually used in rituals and to what purpose? To what extent were they used in other social contexts? What was the function of the large-scale imitation

shells and how did this function relate to the wider use of the natural shell in Minoan religious ritual and society? What insights can the careful use of ethnographic analogy provide about Bronze Age shell use? By addressing such issues it is hoped that the true significance of this important shell type will emerge. As with Chapter 1, full descriptions of the contexts in which triton shells were found are provided separately in Appendix 2, which can be consulted for further information. In addition, catalogues of many of the items discussed, including triton shell representations on sealstones, triton shell trumpets and vessels, and large-scale imitation shells, are provided in Tables 5-9.

Chapter 3 examines the role of a special group of stone vases with marine relief imagery. It has been argued that relief-carved stone vases were a ritual class of vessel (Warren 1969, 175) yet the role of this marine group has not been analysed in relation to ritual. The aim of Chapter 3 is to consider the function and use of stone vases with marine imagery and to assess whether the imagery had a religious significance. An examination of the marine decoration found on these vessels also leads into a wider discussion of the origin and development of marine motifs in art. The relief work on the stone vessels is examined in relation to the broader Minoan tradition of ceramic relief work and in relation to the use of marine imagery in metal, faience and ivory work. Additional tables provide full descriptions of this material (Tables 10-16).

Chapter 4 focuses on the funerary associations of marine imagery, taking as a case study the LM III painted larnax (clay coffin). The aim of this chapter is to examine why marine imagery was so popular on Minoan coffins and to explore the significance, if any, of the imagery. I begin by analysing the range of marine motifs used, comparing the iconography to that used on contemporary pottery. This is followed by a critical assessment of current interpretations of the imagery, where I evaluate the possibility of an artistic transfer of ideas from Egypt, and assess the extent to which the marine motifs express complex funerary beliefs concerning regeneration, fertility and an Afterworld located overseas. In the course of my research, I created a database of larnakes with marine imagery. The results are

presented in a catalogue (Appendix 3), in which 130 published examples with marine imagery are collated for the first time, along with detailed descriptions.

The additional tables and appendices provided in this thesis are intended to supplement these chapters and provide more detailed information on the specific objects discussed. The marine items listed in the tables and in the larnax catalogue have each been given individual catalogue numbers and when mentioned in the text these numbers are written in bold type for easy cross-referencing. A chronological guide indicating the approximate dates of the time periods discussed is also provided for consultation (Fig. 2) along with a map of Crete showing some of the major sites (Fig. 1). A word must also be said about terminology. Regarding the term 'Marine Style', while some authors use the term indiscriminately to refer to any Minoan marine representation, the original term refers specifically to the ceramic marine style found on pottery vessels of the LM IB period (Figs. 3, 11, 14). This pottery style was characterised by representations of marine creatures realistically shown within their natural marine environment. The four main motifs of the style were the octopus, argonaut, dolphin and 'star' (Mountjoy 1984). It was an extremely popular style of art, exported and imitated widely, and as it is the type pottery of the LM IB period it is therefore important for dating archaeological contexts. In recognition of this, I use the term 'Marine Style' only in its narrower sense, that is, only to refer to the ceramic style of the LM IB period. In addition, regarding the plural of 'octopus' I have used the term 'octopi' here, as it is the more familiar term, although 'octopuses' is also correct (Castro and Huber 2003, 132).

The methodologies applied in this work are multi-disciplinary in nature. As this thesis concerns marine imagery and artefacts, it necessarily entails a mixture of archaeological, art historical and scientific approaches. In interpreting Minoan art, the pre-historian of Minoan Crete suffers from the disadvantage of having no texts to explain what a type of image or object meant in the Minoan worldview. Yet the surviving evidence is by no means silent. To unlock the past and uncover the function of an ancient image or artefact, the pre-historian must first consider its functional

context. As a general methodological tool, I have paid close attention to context and association in the interpretation of marine imagery and artefacts. Context refers both to the archaeological context in which an artefact or image was found and to its immediate context, for example, the object type on which an image was placed and its specific location on that object. Association can refer to the associated artefacts found with an object or the associated imagery juxtaposed with an image. Careful examination of these factors can help determine how an object was intended to function or how an image was intended to be 'read'. While the focus of my work is primarily on the ritual and funerary associations of marine imagery, I have not neglected the issue of aesthetics. An awareness of the more sensual and aesthetic elements of the imagery and of the physicality of the objects is integral to an understanding of how they functioned in antiquity. Throughout my work, the artistic reasons behind the decision to use particular motifs or materials are carefully considered. Phenomenological approaches are also used as I consider the experiential aspects of the imagery and artefacts, considering issues such as their size, colour, material and finish. Coupled with archaeological and art historical analysis my interpretations of the imagery are informed by a marine biological analysis of the motifs. My observations about the marine species depicted and Minoan awareness of their habitats and behaviour are interwoven in the text. In addition to these methodologies, I have made careful use of comparative studies, where relevant, to explore issues of cross-cultural influence and to highlight possible ways in which artefacts such as shells were used in the Aegean.

Finally, before embarking on our iconographic journey, it may be helpful to outline the different marine species found in Minoan art and to briefly discuss their behaviour and habitats, their depiction in art, their economic role and their visibility in the Aegean Sea in Minoan times. Two of the most commonly depicted species in Minoan art come from the cephalopod family: the octopus and argonaut. As we shall see, these creatures appear in Minoan art from as early as the MM II period and they are two of the most popular motifs of the later Marine Style (Figs. 3 and 11). A number of different species of octopus live in the Aegean and Mediterranean Seas. The most

common type is the aptly titled 'common octopus' or *Octopus vulgaris* (Figs. 7-8) which inhabits the rocky areas of the Aegean coastline and which is therefore thought to be the species depicted in Minoan art (Gill 1985, 75). Octopi are famous for their cunning and camouflage. The animal is widely regarded as intelligent by all who have dealt with it. Divers have witnessed its use of stones as tools to open bivalve shells, while scientific experiments have highlighted its apparent capacity for 'learned memory' and problem solving. Indeed, the ability of octopi to escape from tanks and other manmade prisons is legendary. Octopi are also masters of camouflage: they can instantly adapt their colour to blend in with their environment and can emit a cloud of ink to confuse would-be predators. In the finest examples of Minoan marine art, such as on the Marine Style 'pilgrim flask' from Palaikastro (Fig. 3), the octopus is depicted in a highly naturalistic mode, with overlapping suckered tentacles, large eyes and a realistic marine environment. From the level of accuracy displayed in such depictions it is clear that the Minoan artists were familiar with both the living creature and its natural habitat. Even in the most naturalistic depictions, however, the creature is painted with a degree of economy, with the suckers shown in a single rather than a double row (if at all). While the octopus is a popular item of food on Crete today, the remains of octopi do not survive in the archaeological record to confirm if they were eaten in antiquity. That they *were* eaten in Minoan times, however, is suggested by the scene on the sealstone from Knossos (Table 1: **FS3**; Fig. 6b), where an octopus and a large fish are shown being proudly held by a fisherman as if recently caught.

The other popular cephalopod is the argonaut or paper nautilus (*Argonauta argo*) (Figs. 9-10). Although related to the octopus, it is an enigmatic creature about which comparatively little is known. The female secretes a white paper-thin shell which she clasps to her body using her two uppermost tentacles. The shell serves both as an egg-sac and as protection for her body. The male is tiny by comparison: at less than 15mm in length, it is 10-15 times smaller than the female, and as it lacks her shell, it is almost unrecognisable as the same species. While it is clearly the female argonaut which is depicted in Minoan art, there is therefore no reason to suppose that the Minoans were aware of this. Moreover, none of the Minoan depictions of argonauts

show any indication that they were aware of the use of the shell to protect the eggs. The paper nautilus is an epipelagic octopod and is most commonly sighted bobbing on the surface of the open sea. That it is found in the open water rather than the shallows suggests that it was in the capacity of seafaring that the Minoans would have encountered it. Its popularity in Minoan art is somewhat surprising when one considers the relative rarity with which it is sighted. The shells have been known to wash up on beaches however, while the occasional mass stranding of hundreds or even thousands of argonauts has been documented in different parts of the world including Japan and Uraguay (Okutani and Kawaguchi 1983; Demicheli *et al.* 2006). The later Romans were clearly familiar with the living argonaut rather than just its shell. Pliny, for example, famously compared the argonaut to a sailboat, correctly observing that it has a wide membrane between its two dorsal arms which it can raise like a sail (Pliny *Nat.Hist.* IX 88; Guerra, González and Rocha 2002, 855). It is possible that the seafaring Minoans also regarded it as a prototype of navigation, as suggested by Evans (PM III, 130). While the argonaut motif was consistently popular in Minoan art, Gill has argued that the Minoans were perhaps more familiar with the empty shell than the living creature, as suggested by the standard convention of depicting it with its eight tentacles reduced to three and arranged in upward coils which emerge from the wrong, closed end of the shell (Gill 1985, 77; Fig. 11). On the other hand, they were clearly aware that the shell held a relative of the octopus. Equally, the standard depiction of only three upraised tentacles is, to some degree, a natural way to show this creature which usually withholds two or more of its tentacles within its shell.

In contrast, decapods such as the cuttlefish and squid are less often found in Minoan art. In contrast to the Cephalopods, the common cuttlefish (*Sepia officinalis*) has eight short tentacles and two longer retractable ones, and has a lateral fin running along its oval body (Fig. 12). It has a calcified internal shell known as the 'cuttlebone' which helps provide buoyancy. The discovery of such cuttlebones at Minoan Kommos and at Akrotiri on Thera suggests that the creature was eaten in Minoan times (Reese 1995c, 270). The sepia was a popular motif on a class of sealstones known as the

Talismanic group, dated to MM III-LM I (Fig. 69). While the identification of this glyptic motif as the sepia is discussed in more detail later, it is clear from the two long tentacles positioned alongside the oval body, and from the shorter tentacles shown above the head. The squid has a more elongated body than the sepia and instead of the lateral fin it has two short triangular fins (Fig. 13). Gill has observed that a small number of the motifs identified as the 'sepia' on Talismanic sealstones may in fact represent the squid, as they have a triangular addition at the end of the body (Gill 1985, 77 and n.60 with examples). Aside from these depictions on sealstones, the sepia and squid are otherwise absent from Minoan art.

Much more popular was the dolphin motif. While a number of dolphin species are found in the Aegean, most of those depicted in Aegean art seem to represent the common dolphin (*Delphinus delphis*). This species can reach up to 2.5 m in length and has a long narrow beak, a bluish-black back, white underbelly, dark flippers and alternating bands of yellows and greys on the sides (Fig. 15). The dolphins on the fresco from Knossos, however, may in fact represent the Euphrosyne dolphin (*Stenella styx*), as suggested by the distinctive band of colour extending from the area around the eye to the flippers (Morgan 1988, 61). While dolphins featured on a pair of identical LM IB Marine Style vases from Pseira (Fig. 14), the dolphin is surprisingly absent from most examples of this ceramic style. It is however, consistently popular in other art forms, such as glyptic art, metalwork, faience, ivory and frescoes. In many depictions, the natural bands of colour on its lower and upper belly are clearly indicated, suggesting a close familiarity with the real creature. What is odd then, is that these otherwise realistic depictions are marked by consistent zoological errors, with many examples showing a bulge or 'knop' in the tail and with the tail conventionally depicted on a vertical rather than a horizontal axis (Gill 1985, 69; Morgan 1988, 60-61). Moreover, the dorsal fin and flippers are usually shown in alignment when in fact the dorsal fin should be positioned at mid-body length while the flippers should be further forward (Morgan 1988, 61). The artistic reasons why such conventions came about will be explored later; here it is important to stress that despite these conventions, the dolphins in Aegean art create a quite realistic

impression, capturing their natural colouration and general body shape as well as a sense of lively movement. An unusual departure from these largely realistic scenes can, however, be seen on a LM III fresco floor from Ayia Triadha, where the dolphins have curiously fringed tails, 'humps' for dorsal fins and rather sad-looking flippers (Fig. 58). Clearly the artist who painted this fresco had little experience of the real creature.

Known throughout the world for their friendliness to man, dolphins are seldom used as a food source. However, a curious scene on a Neopalatial sealstone which appears to show three large dolphins strung up on a pole by their tails (Table 1: **FS4**; Fig. 6c) has raised the question of whether they were eaten in Minoan Crete. The depiction of a school of dolphins accompanying ships on a fresco from Thera, however, suggests that the people of the Aegean had a more amicable relationship with these creatures (Figs. 65-66). The scene evokes the idea of the dolphin as a 'companion to ships and sailors' (Morgan 1988, 62), while the fact that dolphins are painted on the hull of the flagship and appear as a prow motif suggests that they also evoked stealth and speed at sea. Marinatos (1993, 48-49) has drawn attention to an unusual group of sealstones on which dolphins are shown leaping over terrestrial animals in an aggressive stance (Table 2: **DS1-16**; Fig. 17a-j). While it is not always clear that the creatures in these depictions represent dolphins rather than fish, Marinatos suggests that the theme of 'dolphin as aggressor' was used as a Minoan symbol of dominance and came about from direct observations of aggressive behaviour in dolphins. Aggressive behaviour in dolphins has often been documented, from tales of dolphins ripping the nets of fishermen in search of an easy dinner to aggressive bouts among captive male bottlenose dolphins in which the loser is sometimes left unconscious (Parsons, Durban and Claridge 2003). While some or all of the Minoan scenes could, in fact, depict fish or sea-monsters, it is also possible that dolphins had both friendly and aggressive associations in the ancient Aegean.

Fish are also common motifs in Minoan art where they appear on sealstones from as early as the EM III period (CMS II.1 446, II.2 219). While most representations of

fish are generic, in some cases the fish are naturalistic enough to be identified. Examples include the large fish depicted on the glyptic fishing scenes discussed earlier (Fig. 6a-b, d-e) which may represent tunny fish (tuna) (Fig. 16), a fish type which is also recognisable on a MM II vase from Phaistos (Fig. 223; Gill 1985, 71) and on the inside of a number of LM III tub larnakes from the Siteia district (Appendix 3: **L26-28**, **30**; Figs. 200, 210 and 216). As we saw earlier, the discovery of bones of tuna and jackfish at MM III levels at Kommos provide evidence that these large seasonal fish from deep open waters were fished and consumed in Minoan times (Rose 1995b, 204-205). As tuna can reach up to 4m in length, they would have provided an important food source. The fish held by the fishermen in the frescoes from Thera (Fig. 4) have also been identified and they seem to represent the dolphin fish (*Coryphaena hippurus*) (Economides 2000; Mylona 2000). Further examples in which exact fish species can be identified are described by Gill (1985, 69-73), but one further fish species deserves a mention here: the flying fish. In Aegean art, flying fish feature on Talismanic sealstones (Fig. 74a-c) and as terracotta models (Fig. 30) and are most famously represented in the fresco from Phylakopi on Melos (Fig. 60). On many of these representations, however, the artist seems to have conflated aspects of both the real flying fish (*Exocetus volitans*; Fig. 18) and the similar, but unrelated, flying gurnard (*Dactylopterus volitans*; Fig. 19). The Temple Repository models, for example, clearly have the rounded pectoral fins and colouration of the gurnard combined with the double anal fins of the actual flying fish (Gill 1985, 69-70). Conversely, the fish shown on the Talismanic seal in Fig. 74c has the pectoral fins of the flying fish combined with the larger head of the gurnard.

While these are the most common marine motifs in Minoan art, other motifs are also found including crabs, seals, turtles and urchins. As these motifs appear only rarely in Minoan art they will be discussed as they are encountered. Shells were also used as artistic motifs and examples of some popular shell types are illustrated together in Figs. 20-24. Among them can be seen the cockleshell and trochus shell (monodonta) which were often used in ceramic relief work because of their distinctive shapes. The triton shell will be discussed later as part of a detailed case study. In addition to

representational imagery, abstract marine motifs were used in Aegean art to indicate the sea itself. These include the wavy line, spiral, tricurved arch, zigzag and scale pattern, all of which will be discussed in due course. Having completed this overview, let us now begin our journey.

Chapter 1

Sea and Shrine: The Marine World in Minoan Cult Practice and Belief

In 1903, Sir Arthur Evans uncovered a large cult deposit in two cists beneath the floor of the Central Palace Sanctuary at the Minoan palace of Knossos. These cists, known as the Temple Repositories, had been sealed early in the Neopalatial period (MM III-LM I). Among their contents were what Evans described as 'bushels' of seashells, many painted in bright colours, along with miniature faience models of flying fish, marine rockwork, argonauts and cockleshells (PM I, 517-22). These remarkable finds, with their associated cache of cult objects in a ritual storage deposit, provided some of the first evidence of the marine aspect to Minoan religion. Early writers on the subject of Minoan religion, such as Evans (PM I, 519; PM IV 109-10, 956), assigned great importance to the role of the marine world in Minoan cult and this role has been borne out by subsequent findings. Since the discovery of the Temple Repositories, marine artefacts and iconography have been found in a wide variety of Minoan cult contexts, from peak sanctuaries and sacred caves to built shrines in Minoan palaces and villas (as summarised in Table 3). It is the purpose of this chapter to provide a critical re-assessment of these marine finds and to examine the role of the marine world in Minoan cult practice and belief.

Three previous works have considered this topic in varying degrees. Vandenabeele's 1991 article, *Le monde marin dans les sanctuaires minoens*, focused solely on the evidence for marine cult practice rather than beliefs. Her work lists marine finds found in ritual contexts and deposits in Minoan Crete, organised in a chronological fashion. While providing a useful catalogue, it contains little interpretation of the material, little discussion of the different categories of marine artefacts found, and no consideration of either the types of cult practice represented or the associated beliefs. Moreover, her catalogue contains a number of important omissions and does not include some potentially important categories of evidence, such as the many vessels and objects with marine imagery found in ritual contexts. It needs to be updated in the light of both omissions and subsequent finds. Vandenabeele's conclusion that the

marine world is little present in Minoan sanctuaries can therefore be called into question (Vandenabeele 1991, 250). The second work which relates to the topic is Boulotis' work entitled *The Aegean Area in Prehistoric Times: Cults and Beliefs about the Sea* (1987). In contrast to Vandenabeele, Boulotis considers both cult practice and belief, providing a highly readable and often insightful discussion of some of the evidence. However, the scope of the work is limited - the author's stated aim was not to consider the extent and nature of the marine aspect of cult, as the present author seeks to do, but rather to consider only a selection of material evidence which he felt was 'most representative' (Boulotis 1987, 20). The discussion is therefore generalised rather than specific and whole categories of evidence are omitted or discussed only superficially. Moreover, cult practice and belief are discussed together with no methodological distinction between the two and there is little discussion of the criteria for identifying the finds as related to cult. Indeed, neither of these works on the subject of the marine aspect of cult practice and belief is explicit in its methodology. A third work, Mountjoy's 1985 article entitled *Ritual Associations for LM IB Marine Style Vases*, is also relevant here. As the title suggests, this article has a much narrower focus, but it makes an initial attempt to explore the relationship between marine imagery and Minoan ritual. In contrast, my chapter will take a more inclusive approach to the evidence rather than focusing on one particular medium.

From this brief review, it is clear that the marine aspect of Minoan religion is a subject that would benefit from more rigorous investigation. The evidence for cult practice and belief needs to be updated so that the full range of available evidence can be considered and evaluated. A more explicit methodology is needed which considers the nature of the evidence, and particularly the problems associated with identifying cult practice and belief archaeologically. None of the above works considers the issue of how to identify more 'embedded' rituals, which may be less visible archeologically. In this regard, it is worth considering what insights comparative studies might offer, particularly, the use of later Greek literary evidence and ethnographic research. While Boulotis touches upon the social implications of some

of these finds, this aspect deserves fuller attention. It could be explored by examining possible correlations between patterns in the evidence for marine-oriented cult practice and patterns in Minoan interaction with the sea, particularly in terms of overseas trade and contact and the use of marine resources.

In the course of this chapter, I hope to address these issues. The specific questions I wish to try to answer are as follows. What is the evidence for marine-related cult practice? What types of marine objects are found in Minoan shrines and cult deposits? In the absence of textual evidence, how can comparative studies, both historical and ethnographic, illuminate the more 'embedded' forms of Minoan cult practice which are less easy to identify archaeologically? What beliefs lay behind these rituals and is there any evidence for a Minoan deity/deities with a marine aspect? What were the social functions of these rituals - what marine concerns were to be addressed and why? Do these rituals and beliefs relate directly to wider developments in Minoan marine interaction? In order to answer these questions in turn, the chapter is structured into four sections, which come under the broad headings of methodology, cult practice, social function and beliefs. It is important to note that the distinction made here between cult practice and belief is solely for the purpose of analytical clarity, as it is widely agreed that cult practice is easier to identify archaeologically than the more nebulous area of beliefs (e.g. Edwards 2005, 116; Renfrew 1985, 12). I am aware however, that such a distinction recalls the familiar Cartesian dualism of action v. thought, and that cult practice and belief may have been fused for the Minoan religious participant.[1]

[1] The debate regarding which came first, ritual or belief, is outside the scope of this thesis, but see Bell (1992, 14-15) for a discussion of early arguments on the subject, and the primacy given to beliefs by early scholars such as Edward Tylor, Herbert Spencer and James Frazer.

Section A. Theory and Methodology

i. Theories of Ritual and Religion

A critical analysis of the marine aspect of Minoan ritual must involve a reflexive awareness of the methodological problems associated with the study of ritual and its identification in the archaeological record. The discussion must therefore begin by considering current theories on the study of ritual and religion, and by establishing a workable methodology. In recent years, there has been a surge in interest in the topic of ritual to the extent that 'ritual studies' has now emerged as a field of research in its own right. This alone is testament to how the study of 'ritual' is by no means cut and dry, but rather fraught with theoretical difficulties. A detailed examination of these difficulties is beyond the scope of this paper, and the reader is referred to the extensive discussions of more learned writers on the subject (for example, Goody 1977, Bell 1992, Brück 1999, Insoll 2004, with bibliographies). My purpose here is to highlight those theoretical issues arising from the study of ritual which are most pertinent to the archaeologist.

The most fundamental problem with the study of ritual arises from the recognition that the category 'ritual' is a theoretical construct. It has been argued that the identification and isolation of ritual as a distinct sphere of human activity is a product of centuries of the church-state divide in Europe and of post-Enlightenment rationalism (Brück 1999, 317-19; Bell 1992, 6). While early scholars on the subject of religion, such as Durkheim (1912, 33-39), argued for the universal separation of the sacred and profane, anthropology has since shown that the notion of ritual as a distinct category of practice is not common to all societies. For some societies, activities which an outside observer might call 'ritual' form an integrated part of daily life (Brück 1999, 319). In studying ritual as a distinct sphere of activity, the scholar therefore runs the risk of imposing a false category upon the evidence. Hviding, for example, argues that in privileging domains such as 'religion' and 'ritual', anthropologists and archaeologists mirror major ontological presuppositions in

western bourgeois culture (Hviding 1996, 167). In isolating ritual and religion as categories for study there is a danger of reifying these phenomena as well defined bounded systems (Tambiah 1990, 29). The problem was succinctly put by Bell (1992, 14) who noted that the notion of ritual is more than an analytical tool: 'rather, it has been integral to the mutual construction of both an object for and method of analysis'. As we shall see below, the imposition of a ritual-secular dichotomy on the past leads to serious interpretative problems for the archaeologist.

Further problems concern the definition of ritual and how it can be distinguished from other activities of everyday life. There is no agreement about the defining characteristics of ritual and there are many different and often competing definitions. Moreover, attempts to distinguish religious ritual from secular ritual, and from other formalised activities such as ceremony and play, have led to considerable confusion and circular arguments (Bell 1992, 69-70). Leach's comment in 1964 that definitions rarely provide clear and practicable distinctions is just as apt today (Leach 1964, 607). According to Bell (1992, 70-71), the result is two competing academic approaches to ritual, one of which sees ritual as a distinct and autonomous set of activities, the other as an aspect of all human activity. The artificiality of seeing ritual as a distinct form of practice has already been discussed. Moreover, this approach tends to contrast ritual with more mundane activities on the grounds that the former is symbolic while the latter is pragmatic. As a counter-argument, Brück notes, however, that rituals are usually considered practical and effective action by their practitioners (Brück 1999, 319-20). Distinctions which equate ritual with non-functional, irrational or emotional behaviour can be similarly countered. An alternative view of ritual was advocated, among others, by Leach who held that ritual is the expressive, symbolic or communicative aspect of all human action (1964, 608; 1968, 523). According to this view, all human activity has a ritualised aspect. The supposedly diagnostic characteristics of ritual are shared by secular action, and therefore the term ritual must be opened up to include a whole range of human activities, from eating a meal to watching a football match. While this view has been dominant in recent years, the main problem with this approach is its promiscuity. As Goody has argued, if

everything becomes subsumed within the category of ritual, the concept is stripped of its analytical value (Goody 1977, 26). Neither the isolating nor the all-embracing definitions of ritual are particularly helpful.

Should we then abandon the notion of ritual altogether, as Goody (1977, 27, 29, 34-35) and Brück (1999, 327, 336) have each argued? Bell is in favour of retaining it, arguing that since there is no consensus on the inadequacy of the term, it is perhaps best to hold on to 'our battered terminology' (Bell 1992, 6-7). The solution posed by Bell is to avoid universal definitions of ritual, and instead compare ritual to other types of social interaction. She argues that the significance of ritual behaviour lies in how such activities set themselves up as different from other activities; we must therefore examine the processes by which certain social actions are privileged in relation to others, that is, the strategies of 'ritualization' (Bell 1992, 90). Ritualization is defined as 'a way of acting that is designed and orchestrated to distinguish and privilege what is being done in comparison to other, usually more quotidian, activities' (Bell 1992, 74). The identification of the process of ritualization acknowledges that rituals are actively creative, and that the performance of rituals gives rise to the sacred (Bell 1992, 91), as Durkheim argued in 1912. Potential ritualizing strategies which have been identified by theorists of ritual include formality, fixity (of time, places and gestures), and repetition or redundancy (of movements, actions and of symbols) (Bell 1992, 92; Richards and Thomas 1984, 191; Renfrew 1985, 14). However, these strategies apply to ritualised activities in general, that is, to both religious and secular rituals, to ceremonies, and even to play. The question is, therefore, how religious ritual can be distinguished from these other ritualised activities, if at all.

As with the term 'ritual', there are numerous competing definitions of religion. In the late 19th century, Sir Edward Tylor gave a minimum definition of religion as 'the belief in Spiritual Beings' (Tambiah 1990, 47). On the other hand, Durkheim's definition of religion avoided any reference to divinities or the supernatural, on the valid basis that some religions, such as Buddhism and Jainism, are essentially

atheistic (Durkheim 1912, 21-44). Instead, he argued that the key features are a shared system of beliefs, collective organisation (his 'Church'), and a belief in sacred things. Malinowski argued that the essence of every religion was the twin beliefs of providence and immortality (Tambiah 1990, 69). Providence, again, implies a supernatural agent or presence with whom the believers seek to communicate, while immortality refers to the issue of continuance after death, and therefore forms part of his argument that religion is rooted in life. While many modern definitions of religion continue to emphasise the supernatural (as noted by Birnbaum 1964, 588), more generalised terms such as 'transcendent' or 'otherworldly' forces are now being recognised as more appropriate (for example, by Renfrew 1985, 12 and Tambiah 1990, 6). Definitions also emphasise the communicatory aspect of ritual (for example, Warren 1988, 13; Wedde 2000, 174). There seems to be a consensus then, that religion involves a system of *shared* beliefs which relate to *transcendent forces*, accompanied by actions (rituals) which involve *communication* with these perceived forces. The distinguishing feature of religious ritual is therefore its object. However, intent does not show up well in the archaeological record, and it is therefore extremely difficult for the archaeologist to distinguish religious ritual from other ritualised activities. Moreover, the distinctions between magic and religion remain unclear (Tambiah 1992), as do distinctions between religious beliefs and mythology.

So how can religious ritual be identified archaeologically? Both Renfrew (1985, 15; 1994, 52) and Brück (1999, 317) note the shortcomings of a prevailing archaeological approach whereby if a feature or artefact cannot be explained in 'practical', 'functional' terms it is interpreted as 'ritual'. This has given rise to criticism (and even jokes) about how ritual is a catch-all term for anything which defies a utilitarian explanation (Richards and Thomas 1984, 189; Bahn 1989, 62). It was precisely to counter this attitude that Renfrew drew up a list of common features of religious ritual as an aid to its archaeological identification (1985, 11-26; 1994, 51-53). Renfrew's starting point is an identification of the essence of religious ritual as 'the performance of expressive actions of worship and propitiation by the human celebrant towards the transcendent being' (Renfrew 1985, 18). He identifies several key features of

religious ritual such as the employment of 'attention focusing devices' to induce a sense of awe in the participant and help attract the attention of the forces being worshipped. These devices may include the use of particular sites of worship (sacred places or buildings), special architectural fixtures (e.g. altars, benches), special equipment (e.g. ritual vessels, offering tables), and the use of repeated cult symbols. Religious ritual normally entails the element of worship and so may involve special gestures of adoration as well as offerings (in the form of sacrifice, libation, verbal offerings [prayer] and/or offerings of food, drink and non-consumable items). It also involves the presence of the transcendent force, which can be represented, for example, in the use of cult statues or abstract forms and symbols. From these key features, Renfrew drew up an 18-point list of the common features which could demonstrate ritual space or activity (1985, 19-20).

While his checklist is an extremely helpful analytical tool, it has a number of shortcomings which must be addressed. The first is that the checklist does not always help to distinguish between religious ritual and other ritualised activities. In his defence, Renfrew was careful to warn against using his list in a mechanical checklist approach, pointing out that the number of 'ticks' is less important than the presence of the two essential features of *religious* ritual: evidence for expressive actions (indicating worship) and evidence for the presence of a transcendent force (Renfrew 1985, 17-18). However, the latter is often difficult to establish archaeologically and as Renfrew himself acknowledges, secular arenas such as a changing room in a football stadium fit many of the criteria he lists for a sanctuary (Renfrew 1985, 20-21). Because, in practice, there is often a danger of mistaking secular ritual for religious ritual, some scholars, following Bell (1992), prefer to speak generally about ritualised activities without attempting to distinguish between the two (for example, Adams 2004, 30). Edwards, for example, argues that we should 'question the usefulness of the boundaries that we erect between sacred, ritual, and secular practices in archaeological arenas' (Edwards 2005, 115). On the other hand, with careful analysis it *is* sometimes possible to distinguish religious ritual. According to van Effenterre (1980, 447), a convergence of a series of indices is usually necessary for such an

identification. Renfrew argues that while context is crucial, factors such as the scale and quality of the finds may also help to identify religious ritual (Renfrew 1985, 21). I would argue that the key methodological ingredients in determining whether an object was used in specifically religious ritual are an attention to context and association. Association becomes more important when the artefacts are found in cult deposits rather than in shrines. In such cases, it is not always clear where the ritual activity actually took place. Instead, the presence of recognised cult symbols among the assemblage helps in the correct identification of the finds as related to religious ritual.

A further problem with Renfrew's list is that it only applies to rituals performed in spatially defined contexts. Many rituals, however, are more socially embedded. Tambiah (1990, 71), for example, notes that

> In almost all societies there are on the one hand rites that are set apart and take place as special enactments removed from the doings of everyday life...But these same societies also conduct all kinds of ritual cycles or intermittent rites that are interlaced with practical activities like agriculture, or crafts, or fishing.

While rituals that are not spatially or temporally distinguished are difficult to identify archaeologically, their possible existence must, and will here, be recognised. Moreover, problems also arise when artefacts used in rituals also have other, secular, uses. The difficulties surrounding one such artefact, the rhyton, will be discussed further in Chapter 3, where the rhyton is the focus of a detailed case study. As part of this chapter, I will explore the possibility that the Minoans also practised socially embedded marine rituals, rituals which took place, for example, at harbours, shores and on boats.

A final problem concerns the use of inference in the identification of ritual space. Renfrew observes that the conventional way that archaeologists identify ritual involves a three-step process (Renfrew 1985, 24). Steps one and two involve the identification of a cult assemblage and the recognition within it of cult symbols carrying a religious meaning. The third step involves inference, as the cult symbols

previously recognised are used to identify contexts which alone could not be readily identified. I argued above that this approach is integral in identifying cult deposits. The obvious problem with this chain of inference is what Renfrew (1985, 24) calls its 'potentially self-fulfilling nature', whereby, a mistaken identification at the outset could lead to a whole chain of erroneous inferences. The solution to avoiding incorrect inferences is to ensure that the cult symbols or objects identified can be repeatedly linked to other identified cult symbols and objects, and architectural features. Again, I would argue that if we require a series of converging indices, based on context and association, then the chances that the identification is correct are considerably greater. A good example of the problem of the chain of inference is illustrated in Chapter 2 in relation to the triton shell, where I have observed that the presence of a triton shell has sometimes been the sole criterion for identifying a context as cultic, despite the fact that triton shells are also found in settlement contexts.

ii. Methodology

Given these pitfalls, is there any validity in discussing marine objects used in Minoan *religious* ritual? Should we, instead, restrict the present study to the use of marine objects in 'ritualised' activities? The articles by Vandenabeele and Boulotis on marine artefacts found in ritual contexts and deposits made no explicit distinction between religious ritual and more general 'ritualised' activities. In identifying marine objects with religious ritual, their methodology was implicit rather than explicit. In my opinion, this needed to be rectified. The first step was to make explicit the methodological problems involved in determining the religious use of these objects, as I have done above. The second step was to evaluate the evidence linking marine objects with specifically religious ritual. The results of my evaluation are presented in Appendix 1, where I have catalogued marine artefacts which can plausibly be linked to religious ritual, and where I have provided contextual and associative evidence to support the religious link. In establishing the likelihood that a given set of evidence

relates to cult activity I have followed the guidelines used by Gesell (1985, 2), who argues that distinctive architecture *and* cult objects are both necessary in order to positively identify a cult room. Where there is only architecture or objects, we can often only suggest the possibility of cult. The catalogue in Gesell's 1985 work which collates the evidence for Minoan town, palace and house shrines has proved an invaluable resource for my own catalogue of marine objects and iconography which can be linked with cult activity. I have provided full references to Gesell and other sources used in the appendix and have also noted which items are included in Vandenabeele's (1991) catalogue.

Before discussing the results of my evaluation further, it will be helpful to first outline some of the key features of Minoan religious ritual generally agreed upon by Aegean scholars, as these are the features from which inferences about ritual must be made.[2] Minoan religious ritual is better understood in the palatial periods than in earlier times. Evidence for cult activity in the Prepalatial period is hard to find, partly because later Minoan towns and palaces were built over earlier settlements (Gesell 1985, 7). While Gesell has argued for the existence of a bench sanctuary complex in Area 85 and Rooms 86-92 at the settlement of Myrtos (Gesell 1985, 114-16), the greatest evidence for cult activity comes from tombs, such as those in the Mesara, which seem to have been a focus of communal activity. The overall picture is of local variability in practice (Dickinson 1996, 261), which may fit with Goodison's picture of a loosely animistic religion based largely in the household (1989, 11). In the Protopalatial and Neopalatial periods, the evidence is more substantial; for the sake of brevity, the key ritual features of these periods will be discussed together here, although it should be remembered that religious concepts are likely to have developed considerably over this long time. In the palatial periods, ritual activity took place at town, palace, and domestic levels and in a variety of indoor and outdoor locations. Specialised cult places which have been identified include natural sites (sacred

[2] This is intended merely as a helpful overview; for a detailed discussion of these and other features see, for example, Gesell 1985; Rutkowski 1986; Marinatos 1993 and Peatfield 2000. The primary features of Minoan religion as defined by early scholars such as Evans and Nilsson are summarised by Peatfield (1995, 218).

mountains and caves), and built shrines, whether freestanding (as at Anemospilia) or incorporated into other buildings (such as palaces, villas and settlements). Gesell (1985, 2) identifies three basic types of sanctuary architecture: bench sanctuaries, characterised by fixed benches on which offerings were placed; 'lustral basins', distinctive sunken rooms with a columned parapet and angled stair; and pillar crypts, usually rectangular rooms with one central pillar, which may have supported a columnar shrine on the floor above, linked to the crypt by an adjacent stair. However, built-in benches can have many functions and there is no conclusive evidence that all lustral basins and pillar crypts were exclusively used for cult (Peatfield 1995, 224; Nilsson 1968, 236-48; Rutkowski 1986, 21, 37-45).[3] Therefore, these architectural types cannot be used for identification without further corroboration from other architectural features (such as altars, built or portable) and from associated cult objects and symbols. Other types of sanctuary which occur more rarely are the tripartite shrine, open-air sites and the sacred spring or well. Cult objects of three main classes can be identified: representations of the divinity (goddess figures and their cult symbols), votive offerings (figurines, weapons, miniature vessels, etc), and cult equipment (offering tables, rhyta, triton shells, etc) (Gesell 1985, 2-4). The most noteworthy Minoan cult symbols are the double axe and horns of consecration (with or without associated branch), while other important cult symbols include the bull, bird, snake, and sacral knot (Nilsson 1968, 165, 330-40; Marinatos 1993, 5, 155-59; Gesell 1985, 3).

In the Third Palace period and Postpalatial period there were a number of changes. The LM IB destructions led to a period of real decline on Crete, in which all the palaces bar that at Knossos went out of use and large villas seem to have disappeared as a class. Knossos seems to have continued as the sole palace until LM IIIA. In the absence of palaces or large villas, the popularity of the town-sanctuary increased

[3] Peatfield has observed that only half of the 28 recorded lustral basins can be linked strongly with ritual activity; as 14 lustral basins show no evidence of ritual use, this seems to suggest that the architectural form was not *intrinsically* sacred (Peatfield 1995, 224). Similarly, for pillar crypts, Nilsson discussed over 12 examples, examining their architecture and finds, but was unable to say whether they had a religious function or not (Nilsson 1968, 236-48). In his re-assessment of all the known pillar crypts, Rutkowski (1986, 21-45), found that there was insufficient evidence to suggest that *all* pillar crypts had a religious function.

while small domestic shrines continued to appear. Simple bench sanctuaries become the most common sanctuary type and lustral basins and pillar crypts either drop out of use or are altered (Marinatos 1993, 222). Gesell (1985, 54) notes that 'the cult rooms themselves have no distinctive appearance without their objects, for they are built of the same material as habitation rooms and in the case of the domestic shrine the same room must have served both purposes'. We must therefore, be extra vigilant in identifying Postpalatial shrines; to re-emphasise a point made earlier, in such cases identification must be made based on a *combination* of architectural features and cult objects or symbols. The cult objects are similar to earlier types but are generally made of simpler materials and there are no great treasure deposits. While some cult objects go out of use, there are also new developments. The bull's head rhyta are gone and the miniature libation tables and sacral knots are disappearing. The most striking new cult objects is the large goddess figure with upraised hands, while other distinctive objects include the snake tube and hut urn. While the standard Minoan cult symbols continue to appear, the majority are now attached to other cult objects (such as goddesses, snake tubes, or stands) or used as pottery decoration rather than as independent objects (Gesell 1985, 53). This overview of the key features of Minoan ritual sites highlights the main criteria necessary to help confirm the cult connections of a context or deposit. In my evaluation (Appendix 1), I considered the presence or absence of such features in order to assess which Minoan marine objects and representations can plausibly be linked with ritual activity.

Having considered these features, I have concluded that a small number of marine finds previously cited as ritual objects cannot in fact be securely linked with ritual activity of any kind. These finds have not been included in the appendix but will be discussed and discounted as they arise. The majority of marine finds under discussion, however, (and all of those listed in Appendix 1), came from contexts or deposits which can be securely linked with religious ritual, assuming our original identifications of religious topographical situation, architecture, cult symbols and objects are correct. For this reason, these marine finds are treated as objects used in religious ritual here. Henceforth in this chapter, the term 'ritual' is therefore taken to

refer to religious ritual, while remaining mindful that this depends on the premise that the recognised features of Minoan religion, its cult places, equipment and symbols, have been identified correctly.

Section B. The Evidence: Marine Objects and Iconography in Cult Contexts and Deposits

i. Overview

A brief chronological overview of the evidence of marine finds in ritual contexts is necessary before examining the categories of evidence in more detail. The reader is again referred to Appendix 1 where I have catalogued the marine finds along with details of their architectural context and associated cult objects; this is intended both to facilitate the reader and to provide transparency on the issue of their link with ritual activity. The marine finds are organised into three groups according to time period (Protopalatial, Neopalatial, and Third Palace and Postpalatial Periods) with sites outside Crete catalogued in Section B of the appendix. Full references are provided and an outline at the beginning of the appendix provides a quick reference to the sites and deposits described. This should be read in conjunction with Table 3, which lists the ritual contexts along with the types of marine finds found there in each period of use.

The earliest evidence for marine objects in shrines comes in the Protopalatial period. Before this time, the only available evidence consists of marine shells, model boats, and pebbles found in Prepalatial tombs.[4] As it is not clear whether the rituals enacted here related to ceremonies in honour of the dead or more general religious activity (Dickinson 1996, 260) the evidence is problematic; however, it does seem to indicate

[4] Soles reports the deposition of triton shells in five Prepalatial house tombs, one of which, Tomb II at Palaikastro which was dated to EMI IB-MM I, also contained a model boat among the offerings (Soles 1992, 231-32, 182). In another tomb at Palaikastro the deceased rested on a small layer of sea pebbles (Soles 1992, 188). Numerous shells of other types were also found in Prepalatial tombs at Gournia, Mochlos and Archanes (Soles 1992, 8, 50-51, 138, 143, 147-48).

a pre-existing interest in the marine world in ritual. Although a household shrine has been suggested by the excavator, Peter Warren, at the settlement of Myrtos (1972, 84-87), shells found at Myrtos cannot be linked with the rooms he identifies as a shrine.[5] One marine object, the triton shell, does begin to appear in cult contexts in the Prepalatial period. The association of tritons with cult contexts is discussed separately in Chapter 2; suffice it to note here that it provides the earliest evidence for a link between the marine world and Minoan ritual activity. In the Protopalatial period, other marine objects begin to appear in sanctuaries, mostly shells and pebbles, and a couple of examples of model fish. Most of the evidence comes from peak sanctuaries although shells were also found at Malia and Phaistos (Table 3).

In the Neopalatial period there is an intensification of evidence, with a wider variety of marine objects represented in a wider range of ritual contexts. Shells and pebbles continue to be found (particularly at peak sanctuaries), but there are now more imitations of marine fish and shells in a range of fine materials such as faience, stone, ivory and gold. Noteworthy are the beautiful faience models of flying fish, argonauts, seashells and rockwork in the Temple Repositories of the palace of Knossos, accompanied by painted natural shells. Model boats now appear among the evidence. In addition to marine objects (real or imitated), we now find marine iconography in ritual contexts. While pottery decorated with marine imagery forms the bulk of the iconographic evidence, there are also some examples of marine frescoes decorating cult rooms, at the West House at Akrotiri on the island of Thera, and, more tentatively, at Ayia Irini on Keos and at Phylakopi on Melos. The marine imagery sometimes decorates items of cult equipment including offering tables, altars, a bronze plaque and 'cult sets' of Marine Style rhyta. The finds come from 'natural' shrines - peak sanctuaries and caves - as well as palace, villa, and town shrines where they are found in lustral basins, bench sanctuaries and cult deposits.

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[5] Among the shells from Myrtos were 27 fragmentary and whole tritons of which one had traces of possible red paint and had a broken apex enabling it to be sounded, while a second also had a broken apex (Shackleton 1972, 324); neither was from the area of the shrine. 25 cowrie shells found at Myrtos, including a group of four found in a 'pot cupboard' in Room 80, had a different depositional pattern to the limpets and other shells thought to have been used as food (Shackleton 1972, 325). Cowries were not a major food source and although there is no evidence to link them to a cult context, these shells seem to have been intentionally placed in this particular context rather than representing food debris.

In the Third Palace and Postpalatial periods there is a dramatic downturn in the range and quantity of evidence found. Aside from the evidence of a single model boat, marine models are no longer attested. Most of the finds consist of pebbles or shells, although marine iconography is found on a small number of pottery vessels in cult contexts. Noteworthy are marine motifs painted on objects thought to have been used specifically for cult, such as the snake tube and hut urn. A marine fresco floor from a small shrine at Ayia Triadha and another which may have come from a cult context at Knossos provide continuity for the practice of painting marine scenes in shrines, albeit, now on their floors. The bulk of the marine evidence comes from bench sanctuaries, which are now the most common type of shrine, with isolated examples of marine finds at an open-air sanctuary at Ayia Triadha and at a sacred spring at Knossos.

ii. Real and Imitation Marine Objects in Shrines

Keeping in mind this overview of the evidence for marine oriented cult practice, let us now turn to examine the different types of evidence in more detail. In describing the marine artefacts found in Minoan cult contexts, we can make a general distinction between marine objects (real and imitated) and marine iconography. Beginning with real marine objects, our evidence consists mainly of shells and pebbles, with a few isolated examples of marine coral and fish bones.

(a). Marine Shells, Coral, and Fish Vertebrae

In determining how shells found in ritual contexts were actually used in rituals, we must consider at least five possible scenarios. The shells could represent: (1) shellfish consumed as part of a ritual meal after which the shells were discarded at the site; (2) shellfish consumed as part of a ritual meal after which the empty shells were left as offerings; (3) whole shellfish left as offerings; (4) empty shells left as offerings; or (5)

objects made from shell used as offerings or cult equipment (such as shell jewellery or objects decorated with shell inlay). A close analysis of shell deposits can help to distinguish between these uses. Scenarios 1-3 involve the collection of live shellfish whereas scenario 4 involves empty shells. The degree of wear and encrustation on a shell is a good indicator of whether a given specimen was collected alive or dead; the presence of well-worn or encrusted shells in a sanctuary is therefore suggestive of empty shells collected from the beach or sea and deposited as offerings. Shells which have been manipulated in some way, whether painted or worked (for example, to form beads or pyxides), are indicative of scenarios four and five. Practically speaking, however, it is often difficult to distinguish between categories 1-3 as all three scenarios involve shells which were collected when the fish was still alive. Associated finds and depositional patterns may help to indicate ritual dining. A consideration of the quantity of shells found, their condition and the types of species represented help to distinguish between edible species and those which, perhaps, had other economic uses and/or symbolism. In ideal conditions, then, the archaeologist can make some distinction between the types of ritual activities in which the shells were used.

Unfortunately, the reality is far from ideal. Marine remains such as shells, beach pebbles and fish bones were not always recorded in early excavations in the Aegean and it is likely that the existing evidence for such finds in Minoan cult contexts does not represent the full extent of the practice. Where shells are mentioned in excavation reports it is often in passing with no breakdown of the quantity, species types and conditions of wear, or of their exact position in relation to other finds. This severely limits what can be said about their role in ritual.

In the Protopalatial period on Crete, marine shells were deposited at the peak sanctuaries of Juktas, Traostalos, Vigla, Prinias, Ambelos, Kalamaki and Petsophas. Deposits of seashells are also attested in the following, early Neopalatial, period at the mountain shrine at Kato Syme. Hundreds of seashells were found at the peak sanctuary on Mount Juktas (Karetsou 1978, 258). While the shells have not been

published in detail, Reese (1987a, 201, 204) mentions that they included common species such as *Columbella rustica, Monodonta*, and the three species of murex which produce the famed purple dye. As most of the shells were collected as dead specimens (Karetsou 1978, 258), they clearly represent offerings rather than food debris. Seashells were also found at the peak sanctuaries of Traostalos (Touchais 1986, 745), Vigla (Faure 1967, 118) and Prinias (on display at the Ayios Nikolaos museum), and were among the offerings at the mountain shrine at Kato Syme, where perforated examples have been interpreted as ornaments (Lebessi and Reese 1986). Three peak sanctuaries also produced triton shells: Petsophas, Kalamaki and Ambelos (Peatfield 1989, 336-37, 362-63, 381-86), some or all of which may have been used as cult equipment, as discussed in Chapter 2.[6]

Other Protopalatial cult sites produced objects made from marine raw materials. Among the offerings at a house shrine at Quartier Mu, Malia, were fragmentary shell plaques which may have once decorated a box and two ex-voto limbs fashioned from coral - a hand and an upper arm fragment (Detournay *et al.* 1980, 143, 232, 107-109, nos. 150-51). Seventeen pieces of white shell inlay were found in the Protopalatial Vat Room Deposit of the palace of Knossos (Panagiotaki 1999, 37). Although Evans (PM IV, 93) suggested that they were made from *Tridacna*, a Red Sea and Indo-Pacific giant clam, Reese (1991, 183) argues that the pieces were more likely made from the Mediterranean spiny oyster, *Spondylus gaederopus*. Evans suggested that they may have been part of a draughtsboard (PM I, 170), but they could equally have decorated a box or object of cult furniture, perhaps in association with the faience and ostrich-egg inlays with which they were found (Panagiotaki 1999, 37).

In the Neopalatial period, the largest and most striking assemblage of shells in a Minoan cult context or deposit comes from the Temple Repositories at the palace of Knossos, where over 6000 seashells, over 500 of them painted, were deposited with a

[6] Seashells of at least twelve different types were also found at the Trapeza cave (Reese 1987b, 208), which, as Watrous (1996, 61-62) notes, was considered by both of its excavators to be a sacred cave. However, as the cave was used in the Neolithic, Early Minoan and Middle Minoan periods it is not clear whether the shells can be linked to cult activity.

cache of cult objects (Fig. 25). The shells have, thankfully, been fully published (Panagiotaki 1999, 128-31, 175), allowing for a more detailed consideration of their role in cult. Thirty-nine different shell types are represented, all of which can be found locally along the neighbouring coasts. They were accompanied by a single sea urchin specimen and seven fish vertebrae of which one specimen was large enough for identification and belongs to a species of shark (Panagiotaki 1999, 172, 175). The condition of the shells shows that many were collected as empty beach shells (Panagiotaki 1999, 149). The most common shells represented include the rough cockleshell and two other common bivalve species, *Mactra stultorum* and *Glycemeris*. More unusual or visually interesting shell types included the murex, Mediterranean cone shell and cowrie, each of which was represented by a single specimen. A single dolium (*Tonna galea L.*) was also represented; an exceptionally beautiful and delicate shell type, it was also represented in stone at the villa of Ayia Triadha, where the enormous model far exceeds the shell's actual size (Fig. 132).

A large proportion of the Temple Repository shells had received special treatment in the form of paint (Fig. 25). Nine different shell types were painted using red, green, or black paint,[7] applied on the dorsal surface of the shell in attractive linear arrangements which followed, and in a sense, enhanced, the natural striations of the shells. The rough cockleshell and a type of venus shell were the most popular shells for painting, perhaps because of their relatively broad surface area and regular patterning, which provided a natural template to work from. Panagiotaki (1999, 129) observed that the uniformity with which the various shell patterns are executed suggests that the shells were painted by a single hand and she notes that a single shell had paint on the inside surface of its valve, suggesting that it was used as a paint palette. It seems reasonable to conclude that the painting of the shells took place *in situ* at the shrine where the shells were originally used. Moreover, the act of transforming the shell with paint may have even been a part of the ritual process. That coloured pigments were used in rituals is clear from iconographic evidence from the

[7] The orange and brown hues which Evans (PM I, 519) additionally reported seem to have been natural colourations (Panagiotaki 1999, 129).

West House at Akrotiri, on the island of Thera. A female figure painted in a panel in the doorway between Rooms 4 and 5 of this probable shrine has been interpreted as a priestess on the basis of the incense burner she carries and because of her hairstyle and costume (Marinatos 1984, 46). What is unusual about this figure is that her lips and ear are painted vivid red (Fig. 68). The colour red seems to have been significant in Minoan cult and was often used to colour cult objects such as moveable offering tables and open hearths (Marinatos 1983, 13; Gesell 1985, 11, 16, 35). The fresco at Akrotiri suggests that red pigment was not only applied to ritual objects but also to parts of the body of those officiating in cult proceedings, and a broken bowl containing red pigment found in Room 4a of the West House may have been used in such rituals. Reconsidering the shell palette from the Temple Repositories, it is perhaps no coincidence that a pectin shell pyxis was found in shrine at the West House (Karali-Yannacopoulou 1990, 412); both shell palettes may have been used to hold pigment used in rituals. Similar shell palettes have been found in EC tombs, some of which were found along with large pieces of coloured pigment which may have been used in tomb cult.[8] The addition of paint to shells in the Temple Repositories may have added to their value, an issue which is explored further below.

Evans (PM I, 519-21) originally suggested that shells such as those from the Temple Repository were used to line the floor and altar ledges of shrines along with pebbles. While pebbles were indeed scattered on shrine floors and benches (see below), it seems unlikely that the shells found in the Temple Repositories and in Minoan shrines were originally 'strewn' on shrine floors, as many of the shell types represented could not withstand the weight of footsteps. Shells like the delicate dolium would certainly not have been used in this way. They may, however, have been placed on altars and benches, but we cannot be sure: as the Temple Repository finds were part of a ritual storage deposit rather than found *in situ* in a shrine it is difficult to reconstruct the rituals in which these objects were actively used. That the

[8] Examples of such shells found with coloured pigment can be seen on display in the National Archaeological Museum of Athens. They include a large scallop shell containing a lump of blue pigment and two large pieces of red pigment from grave 26 of the EC I-II cemetery of Akrotiraki, Siphnos, and a single large valve of a bivalve shell found with a marble bowl containing a lump of red pigment from grave 56 of the Panagia Cemetery, Paros.

painted shells were only painted on their upper surface suggests to me that they were intended to be displayed in a very particular way, which would be consistent with an arrangement on an altar or bench. A small number of the shells were worked, with manmade perforations suggesting that they were to be strung. These may have belonged to offerings of jewellery. Alternatively, they may have been suspended as shrine decoration. It is not clear whether the Temple Repository shells represent individual offerings, which could be added to by participants at the original shrine, or a set group of cult objects assembled to decorate the shrine itself. Whichever the case, their deliberate deposition within a sealed, stratified context along with high quality cult objects, including the faience 'snake goddess' figures, suggests that they were considered important and valuable ritual objects.

Shells were also found in shrines at the Minoan palaces at Malia and Tourkogeitonia, Archanes. At Malia, various seashells were found alongside three triton shells with broken tips in a palatial bench sanctuary (Room XVIII 1). While the types and condition of the shells are not described,[9] Chapouthier and Demargne (1962, 11) mention that some had strong natural colouration, which suggests to me that they were perhaps selected as offerings or shrine decoration on this basis. At the Minoan palace of Tourkogeitonia, Archanes, the excavators report 'a few shells' from Area 17, among finds which are thought to have fallen from a shrine on the floor above (Sakellarakis and Sapouna-Sakellaraki 1997, 109). Although the number, type and condition of the shells is not reported, their possible use as offerings or shrine decoration is supported by the strong marine character of the associated finds: an intact triton shell, pebbles, an ivory fish, Marine Style ceramics, and, from the adjacent Area 17a, a steatite fish amulet (Sakellarakis and Sapouna-Sakellaraki 1997, 107-10). The combination of finds suggest that there was a marine aspect to the cult practised here (Sakellarakis and Sapouna-Sakellaraki 1997, 109). Seashells have also been found in sacred caves; for example, Jones (1999, 58, 80) lists 'seashells' among the finds from the sacred cave at Skoteino, which was in use from MM I-LM III. In

[9] A small selection of the shells is illustrated in the published report (Chapouthier and Demargne 1962, Pl. XXXIX); among these murex, abalone and cockleshells are clearly visible.

the Neopalatial period, triton shells also continue to be found in cult contexts, along with large-scale imitation conch shells; this evidence will be discussed in Chapter 2.

In most of the above examples, the seashells are thought to have been used as offerings or shrine decoration. In contrast, seashells found in a LM I building used for cult activities at the Knossos Stratigraphical Museum Extension site have been identified as the remains of shellfish consumed as part of a very unusual ritual meal. The seashells, described as few in number, were found in a pithos along with a large number of edible snails and children's bones (Warren 1980, 84). These and other children's bones scattered in a nearby basement room had evidence of cut-marks. The bone scatter suggested that the children's skeletons had been disarticulated before deposition and the nature and position of the cut-marks suggested that human sacrifice and possibly ritual consumption took place at the site, prior to the deposition of the bones (Wall *et al.* 1996; Warren 1988, 8). On the basis of burnt earth inside the pithos and the presence of a vertebra with a cut-mark, Warren suggested that the shellfish and snails were cooked along with human remains in a ritual meal, perhaps representing a practice of consumption of human victims offered to a divinity (Warren 1980, 84-92; 1988, 8-9). The same site also produced a large unmodified *Tridacna* shell fragment measuring 15.2 x 10cm (Reese 1991, 170), a single cowrie shell deposited along with a brazier (Warren 1980, 92), and five LM IB Marine Style vessels, including two rhyta and two vessels on which marine motifs were combined with the double axe symbol (Mountjoy 1985, 233).

In the Postpalatial period, there is less evidence for the deposition of seashells in shrines. A large deposit of over 300 marine and land shells was found in a LM III shrine in Building 1 at Palaikastro (MacGillivray *et al.* 1987, 145, 148, Pls. 22 d, f). The shells include limpets, cockleshells, and trochus shells, as well as a single intact triton shell. As some of the shells were water-worn and were clearly dead when collected, they cannot represent food debris and may have been offerings. At a probable shrine in House X at Kommos, *glycymeris* shells found inside a conical cup and scattered on a table in association with pebbles and a triton shell (Shaw and Shaw

1993, 149-52) seem to represent offerings. At the LM IIIC 'Temple' at Karphi two cowrie shells were found along with a triton shell (Students of the BSA 1937-1938, 76, 133). As cowries are generally a non-food species, I suggest that they were deposited as offerings or shrine paraphernalia here. On the other hand, limpet and oyster shells found in the Postpalatial bench sanctuary of the Minoan villa at Kannia seem to represent debris from ritual dining, as they were found within a rectangular space enclosed by upright slabs which has been interpreted as a hearth or altar, in a layer mixed with ashes (Gesell 1985, 78).

Outside of Crete, shells have been reported in other cult contexts in the Aegean. A single cowrie shell was among the offerings deposited in the Room of the Idols at the cult centre at Mycenae (Renfrew 1985, 408). Murex shells (of an unspecified quantity) were among the finds at Ayios Georgios on the island of Kythera, which has been identified as the peak sanctuary of a Minoan settlement based at Kastri (Sakellarakis 1996, 81-83, 89). The deposition of the murex shells may relate to the presumed Minoan exploitation of the murex for purple dye on the island. Kythera is thought to have been a centre for purple dye production in Minoan times, as in later antiquity, when it became known as Porphyroussa (Aristotle fr.521 Rose). Large amounts of crushed murex shells of the three dye-producing species, *Murex trunculus, Murex brandaris* and *Thais haemastoma*, were found in Minoan and later levels at Kastri and Reese suggests that the industry began there in MM III (Coldstream and Huxley 1972, 36-37, 282, fig. 3e; Reese 1987a, 205). This date corresponds with the acme of cult devotions at the peak sanctuary, from MM III-LM I/IB (Sakellarakis 1996, 87). As huge quantities of murex are needed to produce tiny amounts of dye,[10] it is likely to have been a highly lucrative industry and may have been one factor contributing to the success of the Minoan settlement (Sakellarakis 1996, 89-90). If linked to the dye industry, the shells may have been left as offerings of thanks or alternatively as propitiatory offerings to ensure a continued supply of murex.

[10] It has been estimated that 12,000 *M. brandaris* are required to produce only 1.5mgr. of pure dye, 'enough to dye the trim of a single garment' (Reese 1987a, 204).

Five triton shells and over 300 shells of various types came from the West House at Akrotiri (Karali-Yannacopoulou 1990, 411, Table 2). Their exact find contexts are not described but some at least came from the upper floor shrine, identified in the area of Rooms 4 and 5 (Marinatos 1984).[11] A number of marine shells were also found at the sanctuary at Phylakopi on Melos. Among the shells found in the two rooms of the shrine were two large intact tritons with missing apexes (Fig. 111), a single Mediterranean cone shell (*Conus mediterraneus*), a cowrie shell (*Cypraea lurida*), complete and fragmentary murex (*Murex brandaris*), single valves of bivalve shells, and two pieces of worked Spondylus shell (*Spondylus gaederopus*) (Renfrew 1985, 326-28 and Table 8.8). The worked shell objects were surely offerings or shrine decoration. The fact that the remaining shells were each isolated finds, deposited at different times over the long period in which the shrine was in use (LM IIIA-C), is a strong argument for their use as offerings rather than food. Their occurrence in the shrine suggests a long, albeit intermittent, tradition of shell deposition at the sanctuary. With the exception of the unidentified bivalve shells, the unworked shells - the cone shell, cowrie and murex - all have particularly interesting and unusual shapes, which may have been one factor in their selection as offerings or shrine decoration.

This brings us to a wider consideration of the reason why shells were deposited in Aegean shrines. From the evidence available, it seems that a wide variety of shell types were deposited, ranging from the commonplace (such as cockleshells) to the more unusual (such as cowries, murex and cone shells). In order to understand why they were deposited it is worth considering the shells in relation to theories of value. Sherratt (1994, 62-63) distinguishes four primary dimensions of value along which materials and objects may be ranked. The first is 'convertible' value, the prime or intrinsic value of materials which can be physically converted into different forms or states, allowing them to be recycled and re-circulated indefinitely. While this value applies well to precious metals which can be repeatedly melted down and reworked, it

[11] The pectin shell pyxis, for example, was found in Room 5 of the shrine (Karali-Yannacopoulou 1990, 412).

does not apply to shell. Her second dimension is 'preciosity' value, materials which gain their status or value through their perception as rare or exotic. Some of the shells in Minoan shrines may fit this dimension, particularly the Red Sea or Indo-Pacific *Tridacna* shell fragment from the house at the Stratigraphical Museum site at Knossos. As this shell was acquired from a considerable distance, it may have been valued as exotic. Throughout the world, shell is the second most common material to have been used as money and a standard of value (Safer and Gill 1982, 49), and for many cultures, the further a shell had travelled the more valuable it was. Cowrie shells, for example, were used as currency in many cultures, from ancient China to 18th century Bengal, where their value was dependant on their rarity and the fact that they had travelled over long distances (Safer and Gill 1982, 50-51). The link between rarity and value is clear from the fate of the East Indian cowrie: valued for centuries in West Africa it became worthless when vast quantities of shells brought by European traders flooded the local markets (Safer and Gill 1982, 51-52). The practice of ascribing high preciosity value to shells based on distance and rarity is also well attested in Central and Meso-America. Kolb (1987), for example, has observed that shells painted and sculpted on buildings at Teotihuacan in Mexico represent species from both the Pacific coast and Gulf of Mexico, suggesting that the real shells were imported over great distances (of over 250 miles). Equally, in Andean prehistory, *Spondylus* shells and the *Strombus* conch shell had a high preciosity value: imported to Peru from coastal Ecuador in a vast network of long-distance exchange, they were ritually important items linked to oracles and gods, and were constantly paired at Peruvian ritual sites (Paulsen 1974). In the Aegean, aside from the 'exotic' *Tridacna*, other shells which may have had high preciosity value include less common types such as the dolium from the Temple Repositories, and those with rare and unusual shapes: cowries, Mediterranean cone shells and murex (Figs. 23-24, 105). Such shells may have been valued as curios, as indeed they are today. In addition to factors of rarity and distance, preciosity value can also be determined by the size and condition of a shell: for the Yoruk Indians of northern California, for example, only shell strings made of large shells were considered valuable enough for exchange (Safer and Gill

1982, 53-5). On this basis, particularly large or intact specimens of unusual or rare shell types in Aegean contexts may have had a high preciosity value too.

Sherratt's third dimension is 'added' value, the value added to materials by the craft or manufacturing process. Items made of coral or inlaid with shell in Aegean shrines may fit this dimension, along with worked or painted shells such as those from the Temple Repositories. However, as most of the shells found in Minoan shrines were common species and unworked, they may fit best with Sherratt's forth dimension of 'cultural' value: the degree to which an object or class of object acquires a recognised social or ideological significance. As I will argue in Chapter 2, the triton shell is one shell type which seems to have had a high cultural value in the Aegean. Many of the other shells deposited in Aegean shrines may have also had cultural value. In order to explore this issue further, we must turn to archaeological and ethnographic parallels for the use of shells in cult, and explore the range of ideological and symbolic associations ascribed to shells worldwide.

In Central and Meso-America, shells were often used in cult contexts or depicted in association with particular deities, often at locations situated a great distance from the sea. For the Nazca people, the brilliantly coloured *Spondylus pictorum* shell had a high symbolic value because of its association with the 'Anthropomorphic Mythical Being', who wears a necklace of *Spondylus* (Silverman and Proulx 2002, 66-67). At the Andean ceremonial centre of Chavín de Huantar in Peru, *Spondylus* and *Strombus* conch shells were linked with the central divinity, while a later version of this deity, the so-called 'Smiling God', retains the two shells as attributes: he is usually depicted holding a *Strombus* in his right hand and a *Spondylus* shell in his left (Paulsen 1974, 601). For the Maya, shells were associated with the birth of gods: the Mayan God N, for example, one of the principal lords of the Underworld, is often depicted emerging from or 'wearing' a conch shell (Schele and Miller 1992, 54; Fig. 26). At Teotihuacan dog-headed monsters are shown emerging from shells (Miller 1973, 144, fig. 296), while Tlaloc, the Aztec god of rain and fertility, is usually depicted framed by the cross-section of a *Spondylus* shell, as though emerging from it (Miller 1973, 51, fig.

30). Similar associations between particular deities and shells are also attested in other parts of the world. In India, for example, the sacred chank shell is associated with Vishnu, who, according to Hindu belief, vanquished a chank shell demon and retained his shell as an attribute (Hornell 1914, 119-20). It is not known whether the Minoans made similar associations between specific shell types and specific mythological beings or transcendent forces; however, the fact that a wide range of shell types are usually found in their shrines suggests that, perhaps, they did not.

Ethnographic and archaeological studies also point to a worldwide association of shells with fertility. The Australian aborigines associate the Black-lipped Pearl Oyster shell (*Pinctada margaritifera*) with the mythological beings of Dreamtime, and use them in rituals associated with rain (Safer and Gill 1982, 124-25). Similarly, the Pueblo Indians of the American Southwest use shells in rituals to induce rain on the basis of a perceived mythical unity between all sacred water, whether from the ocean, rain or sacred springs (Safer and Gill 1982, 129-30). In Mesoamerican iconography, shells were associated with water, rain, growth, and fertility. In the Temple of Agriculture at Teotihuacan, for example, the frescoed walls of the 'Hall of the Molluscs' are decorated with ten shells and watery green wave motifs (Kolb 1987, 29). The association of shells with Tlaloc, god of rain, was noted above. In the iconography of the Zapotec people of Pre-Columbian Oaxaca, olive shell rattles are one of the symbols of *Cocijo*, god of rain (Novella 1995, 42), and such shell rattles are still used today by traditional Mexican farmers in rituals to bring rain (Safer and Gill 1982, 155). In addition, historical accounts record that the Incas used *Spondylus* shells, either whole or ground-up, as offerings in springs to ensure abundant rainfall after planting crops (Rowe 1946, 249).

The use of shells in fertility rituals has also been attested archeologically. Like the Minoans, the desert-dwelling Nazca people deposited seashells and river pebbles on the summits of sacred mountains, such as Mount Tunga and Cerro Blanca, the latter a mountain of sand (Reinhard 1992, 294-95). These mountains are linked with water and the sea in Nazca mythology: Tunga, the lord of Mt. Tunga, for example, was

originally the God of the Sea (Reinhard 1998, 366). The Nasca also deposited seashells at mounds along the Nazca lines where they are often found in association with ritual vessels for liquids (Reinhard 1992, 295). It has been suggested that the straight lines and geoglyphs depicting water motifs (such as spirals, zigzags and fish) were used in rituals relating to a water cult (Reinhard 1992, 295-97; 1998, 370-78, 382). The seashells found at the lines and on sacred mountains have therefore been interpreted as propitiatory offerings for water and fertility in an arid region where the lack of water was a constant concern (Reinhard 1998, 365-67). A similar use of shells is attested in the Andes where there was also a strong association between mountains, water and fertility. Throughout the Andes, the sea was perceived as the source of all water and mountain deities were believed to be the controllers of water. As a result, seawater and shells played an important role in the worship to mountains for rain (Reinhard 1998, 365). The practice of depositing shells and seawater on sacred mountains in fertility rituals continues among Andean communities today. The villagers of Sabaya in Bolivia, for example, still dedicate seashells and other traditional Andean offerings on the summit of Mt. Pumiri (Reinhard 1998, 371). This frequent and worldwide association of shells, water, mountains and rain provides one possible reason why the Minoans deposited shells on their sacred mountains such as Juktas, Traostalos and Prinias.

In most of the above examples, the link between shells and fertility was made on the basis of the general connection of shells with water. As a result, the shells selected for use in these rituals were often simply the most readily available species. In this regard, returning to Aegean shells, we should recall the wide variety of shell types deposited in the Temple Repositories at Knossos. In this case, the wide range of shell types are more likely to represent a generic link to the sea/water (and perhaps fertility), rather than specific mythological, symbolic or economic associations. Moreover, a link between the Temple Repository shells and fertility rituals can also be argued on the basis of the associated finds, particularly the plaques showing animals suckling their young.

On the other hand, where *specific* shell types are chosen for ritual use, this is usually on the basis of their economic or symbolic importance. A shellfish type can be economically valued as a source of foodstuff or as a raw material. A good example in the Aegean is the murex shellfish, which was exploited in antiquity for the purple dye secreted from its gland. I suggested earlier that the economic value of the murex for purple dye production may have been one reason why murex shells were deposited in Minoan shrines, on Kythera, for example. In other instances, specific shell types may have been offered on the basis of their symbolism. Symbolic associations, when not based on mythology, are often based on the colour and shape of a shell. Safer and Gill (1982, 139) stress that colour is the main quality usually seized upon as symbolically relevant; they also highlight the importance of lustre and iridescence. Thus, for example, the Yoruba of West Africa use white shells such as the Money Cowrie (*Cypraea moneta*) exclusively in rituals associated with White Gods, which control human creation and the fertility of women (Safer and Gill 1982, 135-37). The cowrie is also associated by the Yoruba with coolness and purity because of its smooth and lustrous surface which is cold to the touch. Many of the shells found in Aegean cult contexts had natural or added colouration. The addition of colour to many of the Temple Repository shells may have enhanced their status as suitable objects for a shrine, particularly if the colours with which they are painted, (red, green, and black), had any symbolic significance. Durkheim (1912) argued that sacredness is not inherent in certain objects, but rather, that ordinary objects can become sacred by the act of being set apart. It therefore seems possible that through the act of painting, the Temple Repository shells were 'transformed' from ordinary, common shells into appropriate cult offerings.

The shape of a shell is also a potential reason for its use in cult. Shells with unusual or visually interesting shapes could be selected as offerings or shrine decoration simply because they appeal to one's artistic sensibility, or due to their value as curios. In this regard, the unusual shapes of shells such as the murex, cowrie, and Mediterranean cone shell were noted above (Figs. 23-24, 105). However, the shape of a shell can also lead to special symbolic associations, which may be relevant to its use in cult.

The cowrie shell provides a good example of this (Fig. 23). As many people perceive a resemblance between the cowrie and a half-open human eye, it is used as a talisman to ward off the Evil Eye in many parts of the world (Safer and Gill 1982, 140-41). The belief is that danger is averted if the first evil glance falls on an inanimate object, especially one resembling an eye (Murray 1939).[12] However, the cowrie shell also has another common association; because the ventral side of the cowrie shell is seen to resemble female genitalia, it is held as a symbol of fertility in many cultures of the world. In Western archaeological contexts, cowries are often found with female burials (Reese 1991, 189), suggesting that this association was also made by ancient cultures. Similar associations based on shape may have governed the deposition of cowries in Minoan ritual contexts (at Karphi, Phylakopi, and in the Temple Repositories), and perhaps offerings of the Mediterranean cone shell, which had a similar shape (Fig. 24). If an association between the cowrie and the female form was made, such shells may have even been deposited in shrines in gender-specific ways. The association of particular shell shapes with particular genders is well attested elsewhere. The Saha people of the Columbian Andes, for example, associate a turret shell (*Turritella gonostoma*) with boys and the *Cyphoma gibbosa* with girls on the basis that the shells resemble the male and female sex organs (Safer and Gill 1982, 140). Gender- and age-specific associations have also been noted in Aegean tombs, where Karali (1999, 26) observes that cowries are usually associated with females burials, dentalia shells with males, and cockles with children. It is possible that such considerations based on the shape of shells also influenced the deposition of particular shell types in Minoan ritual contexts.

In sum, archaeological and ethnographic parallels show that the practice of using shells in rituals is well attested worldwide, and the reasons for their use in cult are many and varied. The shells in Minoan cult contexts have been explained here largely as offerings and/or shrine decoration, with an occasional instance of the consumption of shellfish in ritual dining. The reasons why the shells were deemed suitable or

[12] The frequent use of cowries in divination ceremonies may also be due to its association with the eye, one object of such ceremonies being to induce 'second-sight' (Meek 1940, 63).

appropriate offerings have been explored through archaeological and ethnographic parallels. I have suggested that where a wide range of shell types are represented, as in the Temple Repositories for example, the shells may have been deposited for their broader associations (with water and fertility, for example), rather than because of species-specific associations. In general, the value of a shell type could be ascribed based on its practical economic value (as a source of food or raw material), its 'added' value (when worked or painted), or its 'preciosity' value (when rare or exotic). In other instances, 'cultural' value may have been all important, whereby particular shell types may have been selected for use in ritual because of particular symbolic or mythological associations, often triggered by the colour and shape of the shell. Unless shells found in Aegean shrines are consistently published in detail, it is difficult to do more than make suggestions, but the suggestions made here highlight the multi-varied significance of shells worldwide and the importance given to these items in both ancient and traditional cultures.

Finally, a word must be said about fish vertebrae and why they were deposited in the Temple Repositories. Seven vertebrae were found there, of which at least one was from a species of shark. As they were found in a secondary deposit rather than *in situ* in the shrine in which they are thought to have been offered, it is impossible to say whether only the vertebrae were originally deposited or actual whole or partial shark and fish remains. Such fish remains may represent offerings placed in the shrine by local fishermen, either to ensure or give thanks for a sizeable catch. Alternatively, offerings of shark meat or shark vertebrae may have been given in gratitude upon successfully killing such a large and potentially dangerous predator. We must also consider suggestions that the Minoans used fish and shark vertebrae as necklaces or amulets (Mosso 1910, 207-208; CS, 28). Fish and shark vertebrae which may have been used in this capacity have been found at Phaistos, Gournia and Malia (CS, 28; Mosso 1910, 206; Detournay *et al.* 1980, 140, nos. 205-206), while imitation fish vertebrae of gold and stone have been identified at Ayia Triadha (Mosso 1910, 205-208) and in tombs at Mochlos (Seager 1912, 22, figs. 6 and 36). Such pieces could be strung and worn as necklaces or amulets simply by inserting a piece of string through

the natural hole for the spinal cord. As Mosso (1910, 207-208) notes, it is easy to imagine how the custom arose of wearing the vertebrae of a shark or large fish as an amulet upon successfully killing one. Moreover, such amulets may have been thought to impart the power of the animal to its wearer. Indeed, if such necklaces were perceived as lucky charms or as prophylactics against attacks by sharks or other perceived predators, they would make quite appropriate offerings in shrines.

(b). Pebbles

The other natural material often found in Minoan cult contexts is water-worn pebbles, which are attested in shrines from the Prepalatial period onward. Large scatters of pebbles were found at the peak sanctuaries of Traostalos in eastern Crete (Chryssoulaki 2001, 60) and Ayios Georgios on Kythera (Watrous 1994, 733), and pebbles were also reported at the peak sanctuaries of Vigla (Faure 1967, 118), Prinias and Karphi (Nowicki 1994, 44). At the peak sanctuary of Atsipadhes, there is strong evidence that pebbles brought to the shrine were associated with cult activity. Round water-worn pebbles were found scattered through votive layers on the east edge of the upper terrace, suggesting that they were deposited in association with ritual activities. Beside the pebble layers was a hollow, free of pebbles or artefacts, which Peatfield (1992, 68) suggests may have held a cult object, such as a vessel for offerings or an idol. The pebbles therefore seem to be associated with the focal point of the ritual area and are clearly important. It may be significant that they were deposited in association with vessels linked with libation, such as jars and rhyta or cups with perforated bases (Peatfield 1992, 68), a factor which suggests that there was a watery dimension to the cult at this peak sanctuary. Surface survey has also revealed the presence of defined pebble scatters on the peak sanctuary of Spili Vorizi (C. Morris, pers. comm.) and on Keria (Peatfield 1992, 76). Such finds support Nowicki's suggestion that pebbles scatters were perhaps a common feature of peak sanctuaries and that they should be added to the list of criteria to help in the identification of such sites (Nowicki 1994, 35-39).

The use of pebbles in shrines is not restricted to peak sanctuaries however. Water-worn pebbles were placed on a stepped altar in the east room of the shrine at Anemospilia, the shrine which famously produced evidence of human sacrifice (Sakellarakis and Sakellarakis 2002, 146). Pebbles were also among the finds which fell from the upper floor shrine over Area 17 at the palace of Tourkogeitonia, Archanes (Sakellarakis and Sapouna-Sakellaraki 1997, 107-10). Scatters of pebbles are also attested in LM III shrines: at Palaikastro, for example, pebble scatters were found in two areas of the shrine in Building 1 as well as in Room 3 of Building 7, where they were associated with a deposit of inverted conical cups (MacGillivray *et al.* 1987, 148; Sackett 1996, 52). In Minoan shrines of the LM period, pebbles are often found associated with benches thought to have been used for offerings. The earliest example is from the domestic shrine in Room 12 of House AB, Pseira, which dates to the Neopalatial period. While Seager (1910, 14, 24-27) reported a ledge of beach pebbles in the shrine, Betancourt and Davaras (1995, 48-49) could find no trace of the pebbles when they reinvestigated some years later, which suggests that the pebbles were scattered on the surface of the bench.

The use of pebbles on, or in place of, a built bench is a feature which occurs more commonly in the Postpalatial period (Gesell 1985, 20), particularly in the Knossos region, where five examples are attested. A floor or possible bench laid with 'river pebbles' was found at a LM IIIA2 shrine near the Villa Ariadne, Knossos and a similar pebble floor was found at a possible house shrine at the Gypsades Hill at Knossos (Gesell 1985, 41; Hood, 1958, 22). The Shrine of the Double Axes at the palace of Knossos had both a dais of water-worn pebbles and a bench topped by water-worn pebbles (Gesell 1985, 42, 90-92). A floor or possible bench of 'pebble-like' water-worn sherds was reported in a shrine at the Southeast House, Knossos (PM I, 435), and pebbles were also reported on the ledge of the Postpalatial bench sanctuary at the Little Palace of Knossos, which had previously served as a lustral basin (Gesell 1985, 93).[13] Finally, a shrine outside of the Knossos area, at Kommos,

[13] A floor paved with 'seashore pebbles' in Room 16 of the 'Cult Villa' of Makrygialos, however, cannot be securely connected with cult use; although Davaras (1997, 123-24) suggested that the room

provides a clear example of water-worn pebbles used as offerings. There, six small water-worn pebbles had been placed in a cup displayed in the mouth of a snake tube (Gesell 1985, 42, 102). The cup also contained a layer of calcium carbonate ($CaCO_3$); as this is the main structural material of marine shells and exoskeletons, it seems reasonable to suggest that it may have come from powdered shells used in rituals. A parallel for the use of ground shells in rituals is attested among the Pueblo Indians of the American southwest, who offer a mixture of shell fragments and cornmeal as food for their gods (Safer and Gill 1982, 130).

In considering the function of such pebbles in shrines, it is important to note that the use of pebbles as a construction material in floors and rubble walls has been attested elsewhere in non-ritual contexts, for example, in the central court of Building T at Kommos (French 1994, 78). It could therefore be argued that pebble ledges, floors, and benches in shrines had a purely utilitarian function. However, the fact that pebbles were also 'scattered' on shrine benches and floors, often in association with seashells, and their concentration at key architectural features of shrines (benches possibly used for offerings and, at Atsipadhes, a hollow which seems to have served as a focal point of ritual activity), suggests to me that they were a deliberately chosen for use in cult. This seems to be confirmed by their deposition in a cup displayed on an offering stand at the Kommos shrine. Water-worn pebbles need not have a marine source; they can also come from riverbeds: a riverine source has been suggested for the Atsipadhes pebbles, for example (Peatfield 1992, 68). As pebbles are not exclusively associated with the sea, their significance in Minoan shrines surely relates to their general connection with water. They certainly seem to have had a ritual function. An archaeological parallel for the deposition of pebbles in shrines was mentioned above at Cerro Blanca, a mountain of sand sacred to the Nazca people. There, the pebbles were deposited as offerings to invoke rain, a practice which continues in the region today (Reinhard 1998, 368). Through their connection with water, the pebbles in Minoan shrines may have also been linked with a concern for

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may have served as a ritual dining room, there is no evidence either from architectural features or artefacts to support this hypothesis.

fertility. It may also be significant that in some burials in Prepalatial tombs the deceased was laid out on a bed of sea pebbles: this was the case, for example, at Palaikastro, Tomb VI (Soles 1992, 188).

(c). Models of Marine Creatures, Shells and Rockwork

In addition to real marine objects, marine models of clay, stone, faience, ivory, and gold were placed in shrines in the Proto- and Neopalatial periods. The earliest examples come from peak sanctuaries and consist mostly of clay fish. A clay fish figurine was found in MM I-IIB levels of the peak sanctuary at Vrysinas (Jones 1999, 79). At Kophinas, the Protopalatial shrine produced both a clay fish and a fish rhyton (Jones 1999, 79), while a second clay fish and a small clay boat found in later, MM III, levels point to the continuity of marine-related rituals at this site. Two model fish, one very naturalistically rendered (Fig. 27), were also deposited at the peak sanctuary of Traostalos (Davaras 1976, 97, fig. 55; Chryssoulaki 1999, 315, fig. 15). The exact dimensions of these five model fish from peak sanctuaries have not been reported and there is no mention in the reports of any indications that the fish were intended to represent specific species. Aside from model fish, a model seashell in steatite was among the offerings at the peak sanctuary on Mt. Juktas (Karetsou 1977, 420), where over 500 real seashells were also found. With the exception of triton shells, imitations of which begin to appear in shrines in MM II (Tables 9a-b), the Juktas shell is the only non-fish model found in a Protopalatial shrine so far.

In the Neopalatial period, small model fish continue to be found in shrines but in different materials. In the palace of Knossos, a beautiful small gold fish, complete with rendered scales and fins, was found in the East Treasury shrine deposit (PM III, 401). The fish can be easily identified as a sea bream and was perhaps an offering. Small bone fish from the same deposit were identified by Evans (PM III, 405-408) as gaming pieces, but may have also had a cult use. In addition, a small ivory fish was among the marine finds from the shrine above Area 17 at Tourkogeitonia, Archanes

(Sakellarakis and Sapouna-Sakellaraki 1997, 107-10), while a model shell from the same site seems to have served as an amulet and may have been offered or hung in the shrine.

As with seashells, the most spectacular marine models however, came from the Temple Repositories at Knossos where faience models of marine rockwork, argonauts, flying fish and cockleshells were found along with the seashells and fish vertebrae mentioned earlier (Figs. 28-31). Fifteen stylised cockleshells appeared in the original publication, although only twelve can be found in the Heraklion Museum (Panagiotaki 1999, 78). Each shell measures about 2.5cm in width. They have fewer and more pronounced vertical striations than actual cockleshells have and they are decorated with horizontal bands of brown or black paint (Panagiotaki 1999, 153-54, no. 154). The six argonaut shells found are of different sizes, ranging from 9.5cm in length to only 4cm (Panagiotaki 1999, 154, no. 156). They are modelled in the round and are highly naturalistic except for the addition of strange projections or 'ears' behind the aperture (Fig. 29). These ears are not found on real argonaut shells and I suggest that they were added to allow the model shells to stand unsupported. The larger pieces have a line of brown decoration along the top of the shell, in imitation of the natural dark-brown band on the outer edge of real argonaut shells (Fig. 10). The two flying fish published by Evans (PM I, 520, fig. 379) survive only in fragments and have been heavily restored, but they were clearly quite naturalistic and the body fragments curve to depict movement (Fig. 30). Additional head and tail fragments show that more fish were originally represented (Panagiotaki 1999, 154, nos. 164-65). As with other flying fish representations, they may represent the species *Exocetus volitans*, although their rounded wing tips and colouration (brown with black-veined wings) suggest that the artist may have conflated this species with a Gurnard (Gill 1985, 69; Figs. 18-19). With a restored length of 8.8-9.1cm, they are close to the larger argonaut shells in size. Four irregularly shaped faience pieces with depressions on their upper surface represent marine rockwork (Fig. 31: lower border). The five flat ribbed objects which Evans illustrated along with these marine pieces are not of

any recognisable marine species (Fig. 31: top); as Panagiotaki rightly notes, they could equally well be floral (Panagiotaki 1999, 81).

Although Evans (PM I, 520, fig. 379) reconstructed these pieces as part of a marine panel (Fig. 31), in reality it is impossible to tell whether they were originally placed in a panel or were freestanding. The flat backs of the cockleshells would certainly allow for their use in a panel or as inlays. The marine rockwork pieces were positioned by Evans as the border of the marine plaque. An interesting parallel is provided by the large limestone marine rockwork slab, also from the palace of Knossos, which Koehl has similarly reconstructed as a border around the dolphin fresco (Koehl 1986a, Pl. 25; Figs. 62-63). Panagiotaki (1999, 78) notes that elongated grooves on the underside of some of the Temple Repository rockwork pieces could have been designed to assist their positioning in a panelled composition or to help glue the object. However, as the argonauts were clearly three-dimensional and both these and the flying fish were of a larger scale than the shells, these pieces at least were probably designed to be freestanding (Panagiotaki 1999, 80-81).

Faience model shells were also found in the palace of Zakro, in the workshop of the central shrine complex. Nine of these small light-blue faience shells are shown in Platon's illustrations (Platon 1985, 219; Fig. 32). They are highly stylised with vertical ribs and slightly concave sides, which are not found on any shells in nature. Foster (1979, 84) suggests that the shells are stylised cockles, modified in order to fit a particular pattern. As the back of the shells are not worked they may have been attached to a plaque or other piece of cult furniture, perhaps in association with the ivory double axe inlays from the same location. Outside of Crete, a marine model was deposited in a cult context at Ayia Irini on the island of Keos (Caskey 1962, 280). There, a large part of a terracotta model dolphin was found in the 'Temple' building, which was located on or very close to the sea. The surviving model measures 13cm in length, but as the head and most of the tail are missing, the finished piece must have been closer to 20cm in length (Fig. 33). Although the tail has broken off, enough remains to tell that it had a horizontal axis. The majority of Aegean dolphin

representations show the tail upright, despite the fact that this is anatomically inaccurate (Morgan 1988, 61); the Kean dolphin is thus one of the few Aegean representations of a dolphin with a correct tail orientation.

Of the above marine models, some were surely individual dedications, perhaps left by fishermen in gratitude or in supplication for a successful fishing trip or season. The possible marine plaques at the Temple Repositories suggest a more formal deposition of marine objects however, and they may have decorated a shrine. In the Neopalatial period colossal model shells are also found in shrines. A huge obsidian Dolium shell (*Tonna galea*) was found in a cult context at the villa at Ayia Triadha (Warren 1969, 91, P 497; Fig. 132), while a large faience argonaut shell was found in a shrine at the palace of Zakro (Platon 1985, 142; Fig. 133). These are discussed in more detail in Chapter 2, in connection with a group of large-scale imitation triton shells, some of which are also from cult contexts (Tables 9a-b).[14]

(d). Model Boats

Model boats appear in Aegean shrines in the Neopalatial period when they are attested at probable house sanctuaries at Malia and Ayia Triadha (van Effenterre 1969, 102-103; Wedde 2000, 309, no. 302), at the peak sanctuary of Kophinas (Karetsou and Rethemiotakis 1990, 429), and at a probable town sanctuary known as the 'Temple' at Ayia Irini on the island of Keos (Caskey 1964, 328).[15] The only model boat from a Postpalatial cult context is that from the open-air sanctuary at the Piazzale dei Sacelli at Ayia Triadha. Outside of Crete, terracotta model boats have been also found in LH IIIA-B sanctuary at Aghios Konstantinos (Methana) on the Greek mainland and at contemporary levels of the sanctuary of Aphaia on Aegina (French 1971, 173-74; Wedde 2000, 311; 2003). The Aegean model boats are made

[14] I have grouped these items together on the basis that their scale and contexts suggest similar functions.

[15] At both Malia and Ayia Irini a second model boat was found nearby but cannot be securely connected with the shrine.

in a variety of materials, ranging from inexpensive clay models to the fine bronze and alabaster examples from Ayia Irini and the villa at Ayia Triadha. Although the dimensions of all the boats have not been published, they clearly vary considerably in scale, for example, the boat from the villa at Ayia Triadha is 14.5cm long while that from the open-air sanctuary measures 23cm in length. They also vary in the level of modelled detail; compare, for example, the small simple boat reported from Kophinas with the more elaborate clay example from the Piazzale dei Sacelli which was equipped with a mast pole and had a modelled deck with openings at each end to provide access to the hold below (Marinatos 1933, 174).

It is important to note that model boats are not exclusive to cult contexts; many have also been found in funerary contexts where some scholars have argued that they were provided for a 'voyage of the dead' (as discussed in Chapter 4). According to Wedde (2000, 195), approximately half of the extant examples come from ritual and funerary contexts, implying that as many more come from sites with no obvious cult connections. Closer examination of the shape of the model boats may help to explain their use in shrines. One possibility is that the boats in shrines represent cult-boats: boats conceptually associated with 'transcendent forces' or boats used in actual rituals. By analysing ship representations in Aegean art, Wedde has concluded that there are three types of cult-boat in Aegean art: fantastical craft (with anthropomorphic hulls, for example); modified canonical craft (canonical or quotidian types with modifications of a possibly cultic nature, such as the addition of altars or *ikria*); and normal/quotidian craft qualified by the representational context (Wedde 2000, 175). With the exception of the Piazzale dei Sacelli boat, the models from ritual contexts are fairly rudimentary and all seem to represent quotidian vessels (Wedde 2000, 198-99) - there is no indication that these model boats had fantastical features like the cult-boats illustrated on Mochlos ring or the Ayia Triadha sealing, for example (Figs. 79 and 81).[16] Nor is there any evidence that the model boats were equipped with altars or other features which might mark them out as models of quotidian craft also used in cult. There is therefore little to suggest that the model

[16] For a detailed discussion of the imagery on these pieces, see Section D below.

boats deposited in shrines were meant to represent cult-boats and they do not seem to represent a class of objects specifically made for ritual use. Instead, we should consider Gesell's idea that boats deposited in shrines were offerings for a safe voyage, a reasonable enough suggestion (Gesell 1985, 35).

(e). Anchors

The final category of marine objects thought to have been offered in shrines is stone anchors. Only a handful of stone anchors are known from Bronze Age Crete of which four examples have been tentatively identified as votive offerings. Poursat (1980a, 235-38) argued that two limestone anchors found in Room IV.14 in House B at Quartier Mu, Malia were votive offerings from a sanctuary. He observed that the anchors show no sign of ever having been used at sea and still have obvious tool-marks on their surface. As the room in which they were found did not appear to be a workshop, he identified the anchors as votive offerings, noting that anchors were offered in shrines in the Near East, at Byblos and Ugarit (Poursat 1980a, 235). The practice of depositing anchors in sanctuaries is, indeed, well attested in the Near East in the Bronze Age. At Ugarit, no less than seventeen anchors were found in the Temple of Baal, four of which were clustered by the entrance (Davaras 1980, 59-60). These and other anchors deposited in or near temples located far from the sea have been plausibly identified as votive offerings, especially since some were made of chalk, a highly unsuitable material for real anchors (Hult and Mc Caslin 1978, 124). The same practice is attested at Byblos, where multiple anchors have been found in a number of sacred contexts (Davaras 1980, 60-61) and at Kition in Cyprus, where it has been suggested that votive anchors and anchors placed in the foundations of the temple were linked with a cult of metallurgy, on the basis of the active role of Cypriot mariners in the overseas trade in copper (Karageorghis 1976, 69, 72, 78, 169). In the historical period, the practice is also attested in the Mediterranean basin, with anchors dedicated at the Greek sanctuaries at Delos and Delphi, at the Temple of Aphrodite on Aegina (Davaras 1980, 54-55), and at the Temple of Vesta in Rome (Gianfrotta

1977, 286, fig. 1). The practice of offering anchors in shrines is also mentioned in literature: the most famous example being the dedication of the anchor from the legendary ship the *Argo* after an oracle, as recorded by Apollonius of Rhodes (*Argon.* I. 955-60).

However, the practice is not well attested in the Bronze Age Aegean, and in making a connection with Ugarit and Byblos, Poursat seems to succumb to the archaeological pitfall of projecting a practice which is well attested in one context to another quite separate context, on little or no evidence. The only associated finds listed for the room at Malia in which the anchors were found are a bronze mirror and disc (Detournay *et al.* 1980, 237). There is, in fact, no indication from either the architecture or associated finds to support the idea that the room was used as a shrine and that the anchors were votives. On the other hand, with weights of 25 and 40kg, the Malia anchors were sufficiently heavy for actual use as weight anchors. An alternative explanation that they were simply being stored for future use must be considered instead.

Like the Malia anchors, a broken anchor found at the LM I villa at Makrygialos has been linked to cult on the basis that it showed no obvious signs of use. According to Davaras (1980, 53, 69-70) the limestone anchor had a 'well-chiselled, almost polished' surface and the inner surface of the hole did not show the signs of wear that one would expect had the piece been used at sea. Davaras (1980, 69) therefore suggested that the anchor was a votive offering, as it was not found in or near a workshop area. Although Davaras has argued that the Makrygialos villa is 'permeated with religious elements' and lists the anchors among its cult finds (Davaras 1997, 125, 127, no. 5), it was actually found in an unstratified context among stones outside the villa and thus cannot be securely linked with cult activity. His conclusion that marine finds (such as the anchor and the famous Makrygialos seal with a possible marine cult scene) suggest that cult at the villa was exclusively centred on 'the marine aspect of the Great Goddess' must be called into question (Davaras 1980, 71). As

with the anchors from Malia, there is simply insufficient evidence to identify the Makrygialos anchor with cult practice.

In contrast, a possible anchor of porphyry from the palace of Knossos can more plausibly be argued as cultic, despite the fact that it cannot be securely linked with a cult context. The object is extremely unusual: it is 0.425m tall, with a pyramidal shape and each side is decorated with an octopus in relief (Fig. 34). Evans (PM IV, 650-52) originally suggested that the piece was a royal standard for measuring bronze ingots. Since then scholars have been divided into two camps, those who follow Evans in this interpretation and those, such as Frost (1973, 401), Hood (1971, 128), and Davaras (1980, 61-67) who argue that it is in fact, an anchor. I am inclined to follow the latter interpretation, for a number of reasons. First, Davaras (1980, 61-67) has convincingly shown that Evans' original arguments do not stand; for example, Evans' suggestion that it was a standard weight for ingots is weakened by the fact that not a single ingot of the same weight has actually been found (Davaras 1980, 64-66). Moreover, while Evans argued that the weight of the anchor (exactly 29kg) almost corresponds to a Babylonian talent, it actually falls a few kilograms short so any correspondence is probably coincidental (Davaras 1980, 64-65). In contrast, the evidence that the piece was an anchor is more convincing. It is of a suitable shape and the large hole near the top corresponds in both position and shape to the cable hole of real anchors. Its use as an anchor is also suggested by its decoration: octopi are an appropriate choice for an anchor and their curling tentacles are shown winding around the sides of the piece as though the object had actually been immersed in the sea and the real creatures had attached themselves to it.

Assuming that the object is an anchor, what evidence is there to link it with cult? It was found in magazine 15 of the west wing of the palace and is thought to have fallen from the floor above (PM IV, 650). However, there was no indication that it fell from a shrine; thus, like the Malia and Makrygialos examples, the Knossos anchor cannot be securely linked with a cult context. Unlike the Malia and Makrygialos pieces, however, the Knossos anchor cannot have been destined for real use. While the

former examples were simple pieces of common limestone, the Knossos anchor is made from a fine and rare material and is carved with elaborate relief decoration. The precious material and skilled labour required to make this item suggest that it was a palatial product of both high 'preciosity' and 'added' value, to use Sherratt's terminology (1994, 62-63). While this does not necessarily mean it was a votive offering, the possibility that it was used in cult remains open. If the piece *was* a votive offering, destined perhaps for use in a shrine, the addition of marine imagery to the anchor may have served to reinforce the connections of this object with maritime cult. The material may have also been important in this regard: as porphyry had to be imported to Crete from sources such as the Greek Mainland, the stone may have had conceptual links to maritime trade. As a final cautionary note, it is important to re-emphasise that this possible ritual anchor is an isolated example; unlike in the Near East, there is no evidence for a widespread and well-established practice of anchor deposition in shrines in the Bronze Age Aegean.

iii. Marine Iconography in Shrines

It remains now to examine objects with marine iconography which have been found in Minoan cult contexts and deposits, and to consider whether such marine iconography was significant and related to the type of cult activities practised. The evidence to be discussed consists of marine imagery on pottery vessels, on cult equipment (such as offering tables), on frescoes used to decorate the walls and floors of shrines and on sealstones used as talismans.

(a). Marine Imagery on Pottery found in Minoan Cult Assemblages and the Possible Role of Seawater and Sacred Water in Minoan Rituals

In 1985, Mountjoy first examined the links between LM IB Marine Style pottery and Minoan ritual contexts. She observed that Marine Style vessels have been found in fourteen ritual contexts on Crete, defined on the basis of the associated architecture

and the assemblage of finds. Four of the ritual contexts are in the Knossos region, the remainder at the Minoan palaces at Zakro, Phaistos and Archanes, and at houses and villas at Pseira, Pyrgos, Nirou Chani, Tylissos, Palaikastro and Gournia (Mountjoy 1985).[17] To these examples we can add a fragmentary LM IB Marine Style octopus stirrup jar found at the peak sanctuary of Juktas which Mountjoy included in her corpus (1984, 170) but, strangely, not in her catalogue of Marine Style vessels in ritual contexts. By extending the search beyond vessels with specifically 'LM IB Marine Style' imagery, I discovered many further examples of vessels with marine imagery deposited in ritual contexts. LM IIIB octopus stirrup jars were found in bench sanctuaries in the Southeast House at Knossos and in the Shrine of the Double Axes (Gesell 1985, 97, 92) and a sherd of an octopus krater was found in the sacred cave at Skoteino (Kanta 1980, 68). In recent excavations at Galatas, a stirrup jar with floral and marine motifs was found in a deposit from a possible upper floor shrine (Blackman 2001, 127). A large LM IIIC tankard decorated with a single facing octopus was found in the sacred cave at Psychro (Watrous 1996, 41; Fig. 35). That the vessel was intended for non-quotidian use is suggested by its scale: with a height of 17cm it is enormous for a tankard and may have had a ritual use. Vessels with marine relief decoration have also been found in ritual contexts. Fragmentary faience vessels with argonauts and cockleshells moulded in relief on their rims were found at the Little Palace and in the Temple Repositories at Knossos respectively (Evans 1904-1905, 12; Panagiotaki 1999, 159, no. 200), while a fragment of a MM IB-II clay vessel with marine mouldings was found at the peak sanctuary of Ayios Georgios on Kythera (Sakellarakis 1996, 87, Pl. 20b).

In addition to these pieces found in ritual contexts or storage deposits, there are instances of vessels which, by virtue of their decoration or unusual nature, are thought to have been designed exclusively for ritual. One example is the LM II-IIIA jug with argonauts from a tomb at Katsamba (Fig. 36). With a height of 49.5cm and strange modelled decoration it is often referred to as a ritual vessel (for example, Betancourt

[17] As Mountjoy (1985) has described these vessels along with details of their cult contexts, they have not been included in Appendix 1, except in cases where the context also produced other marine objects or items decorated with marine imagery; they are included in Table 3a, however.

1985, 154; Marinatos and Hirmer 1960, Pl. 95) and may have been used in tomb cult or specially made as a grave offering.

With these vessels with marine imagery, we should also include two zoomorphic vases in the form of fish found in ritual contexts: a fish rhyton from the peak sanctuary of Kophinas and another possible example from the sanctuary at Phylakopi, Melos (Renfrew 1985, Pl. 48e).[18] Such rhyta are extremely rare in the Aegean, the only other example is a LH IIIB fish-head rhyton decorated with scale pattern from Tiryns (Fig. 37).[19] The Phylakopi piece is represented by small sherds decorated with the scale pattern and was identified as a fish rhyton on the basis of its shape and its similar decoration to the Tiryns piece (French 1985, 275). However, as I have observed elsewhere (Chapter 4), the scale pattern is rarely used to indicate fish scales in Aegean art and is more commonly used as an abstract pattern for the sea. The Phylakopi piece is too fragmentary for its identification as a fish rhyton to be secure, but if the identification is correct, both it and the fish rhyton from Kophinas may have been cult vessels.

In considering these marine vases, we must question whether the marine imagery is significant in relation to cult or is merely decorative. A number of scholars have suggested that the marine imagery was significant and that the vessels with such imagery were used in marine-oriented rituals. Bicknell, for example, states that:

> ...one would expect the decorative motifs of vessels chosen for ritual purposes to reflect the ambiance and purpose of the rites concerned. Late Minoan IB marine ware, it ought to follow, was employed in ceremonies somehow connected with marine creatures and their habitat (Bicknell 2000, 99).

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[18] The use of shell-shaped vases is discussed in the following chapter as part of the case study on triton shells.

[19] According to Koehl, three further examples of fish-shaped rhyta found at Ugarit may have been Mycenaean imports as they are similar in shape and decoration to the Tiryns piece (Koehl 2006, 37, 124-25: nos. 339-41, fig. 12 and Pl. 27). Koehl also lists a fish rhyton from Western Asia which seems to be 'loosely based on Mycenaean prototypes' (Koehl 2006, 66: no. WA3). An example from Cyprus can be distinguished from the Aegean examples, however, by the addition of strut-shaped legs (Koehl 2006, 67: no. C2).

However, a problem lies in the fact that LM IB Marine Style pottery is found in both ritual contexts and contexts with no obvious ritual connection. How can we argue that the decoration is significant in one context and not the other? It could be argued that any vessel, even those originally made for domestic use, can be reused for cult (Rutkowski 1986, 85), in which case vessels with marine imagery could have been selected for ritual use because their existing imagery was seen as appropriate to the type of cult being practised. The case for the ritual significance of marine motifs would be strengthened, however, if it could be shown that the Marine Style vessels found in ritual contexts were exclusively produced for ritual.

Mountjoy examined the shapes of the Marine Style vessels from ritual contexts but found that thirteen different types of vessel are represented, too many to suggest that they were all produced only for ritual use (Mountjoy 1985, 241). However, she notes that *some* of the shapes, at least, could have been produced for ritual. These vase types are the bucket vase from Nirou Chani and the many vessels with pierced bases: the four kinds of rhyta from various locations, the funnel from Zakro, and the libation jug or jar with the pierced base from the High Priest's House at Knossos, which Mountjoy argues was wrongly restored and should, in fact, have s-shaped handles (1985, 241; Fig. 43). All of these vessel types are known from iconographic evidence to have been used in ritual activities: a conical rhyton, bucket vase, and s-handled jug, for example, are all depicted before an altar in a cult scene on a seal from Naxos (Fig. 40). The ritual use of rhyta is examined in Chapter 3 where it is the subject of a detailed case study; suffice it to say that in addition to their inclusion in cult scenes on seals and rings, a rhyton is shown being carried in a procession by the 'rhyton bearer' figure on the fresco from Knossos (Fig. 38). The ritual use of the s-shaped handled jug is clear from its frequent iconographic association with the Minoan genius:[20] on the gold ring from Tiryns (Fig. 42), for example, a procession of genii carrying s-handled jugs approach a seated female figure, usually interpreted as a priestess, who holds a conical rhyton. There is some uncertainty, however, about whether the s-

[20] For a discussion of the iconographic association of genii and jug, see Baurain and Darque 1983, 20, 37-46.

handled libation vessel from Knossos was a jug, like those associated with Minoan cult practice in iconography, or in fact an amphora (Fig. 43).[21] Only a few examples of s-handled jars have been found to date, yet it may be significant that at least one further example, an intact vessel in veined marble, also came from a ritual context: the lustral basin of the central shrine complex at the palace of Zakro (Platon 1985, 10, 129).[22] Thus, regardless of whether the Knossos vase is a jug or an amphora, there seems little doubt that it was a ritual vessel and its pierced base suggests that it was specially made for libations.

To these vase types which may have been made especially for ritual use we can add the matching sets of Marine Style rhyta. A close study of Mountjoy's (1984) corpus reveals that three of the fourteen ritual contexts with LM IB Marine Style vessels had sets of matching rhyta. These appear at Pseira (two matching ovoid rhyta with dolphins: Fig. 14), Zakro (three identical conical rhyta with triton shells, 'stars' and double axe motifs), and Palaikastro (where four matching Marine Style sets were found among an assemblage of rhyta).[23] That some, if not all, of these Marine Style sets were used in ritual is suggested by their imagery. On the three rhyta from Zakro, for example, the marine imagery is combined with the double axe, a Minoan cult symbol (Fig. 44). As the double axe appears on many Marine Style vessels and is combined with marine motifs on vases of the Alternating Style, it is worth considering the role of this symbol on pottery further.

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[21] Evans referred to the vase as a 'two-handled ewer' and showed a spout in his reconstruction drawing (PM IV, 213, 215, fig. 165). On the other hand, the restored vase, as illustrated by Mountjoy (1985, 234, fig. 2), has not been supplied with a spout and is therefore an amphora. Mountjoy (1985, 234) has argued that the upper body restoration of the vase is wrong, however, as the handles should be s-shaped. She does not mention whether the lip should have a spout or not, but this is implied by her use of the term 'libation jug' to describe this vessel (Mountjoy 1985, 241). Most recently, Koehl has classed it as an s-handled amphora, like the marble example from the palace of Zakro (2006, 211, no. 1129).

[22] Two further examples of s-handles jars, found at Pyrgos, did not come from contexts or assemblages with any obvious cult connection although both had pierced bases like the Knossos and Zakro vessels (Cadogan 1978, 81, fig. 33; Koehl 2006, 211, nos. 1127-28).

[23] These matching sets of rhyta are also listed and described in Koehl 2006, Table 14, nos. 247 and 257 (Pseira); 553, 560 and 559 (Zakro); 242-45, 658, 664, 776 and 778 (Palaikastro). Interestingly, these ritual contexts at Pseira and Palaikastro each produced one half of another matching set of Marine Style rhyta. The two rhyta are decorated with vertical rows of argonauts set within irregular marine coral (Koehl 2006, Table 14, nos. 246 and 250).

There seems to be no consensus among scholars as to whether or not cult symbols such as the double axe retain their significance when depicted on pottery vessels. Gesell in one instance says that the presence of vases with representations of cult symbols can be used to support the identification of a sanctuary (1985, 35); however, in the same work she also says that there is no proof that pottery with cult symbols necessarily signified cult (Gesell 1985, 28). On this latter point, Rutkowski appears to be in agreement, arguing that generally speaking the presence of such symbols on vases 'does not prove that the vases were of sacred significance' (Rutkowski 1986, 44). However, anthropological work on the nature of symbols suggests that it is very rare for a symbol to have one meaning in one context and none at all in another. In fact, Turner (1967) has shown that symbols are usually polyvalent, that is, that they can have many co-existing meanings and in any given context a particular meaning can be emphasised or heightened. Thus, it follows that while a double axe on a pot does not necessarily make it a sacred pot, the motif surely evokes ritual associations which are strengthened if that pot is then used in ritual.

A detailed examination of Mountjoy's 1984 corpus reveals that eight LM IB Marine Style vessels from ritual contexts feature double axes alongside their marine motifs. A further six vessels with such imagery have been found in contexts with no obvious ritual connection. These vessels are listed and described in Table 4 (**R1-14**). From the table it is clear that in almost every case the double axe motif is combined with the triton and 'starfish' (a rayed disc with dots between the points; henceforth referred to as the 'star'). A small number of vessels show only the triton, star, or seaweed, but since these vessels are represented only by fragments and as their extant motifs are consistent with those found on the complete vessels, they too are likely to have had the same combination of triton, star and double axe originally. On a complete vessel of the Alternating Style from Kastri, Kythera (**R14**) the double axe was combined only with the star motif. On a fragment from Zakro (**R10**), the triton was combined with both the double axe and shield. Of the four primary marine motifs featured in the LM IB Marine Style, the octopus, argonaut, triton shell and star, only the triton and

star are combined with the double axe symbol, suggesting that the triton and star motifs had an exclusive association with the double axe.[24]

From Table 4 it is also clear that the vessel types on which the combined motifs of double axe, triton, and star appear most commonly are rhyta. Mountjoy has argued that the frequent association of these motifs with rhyta could be explained by two possibilities: either the motifs were chosen because they fit the shape of the vessel, or the association of particular motifs with a particular shape may have had a ritual significance (Mountjoy 1985, 242). The first suggestion, that the motifs were chosen simply because they fit the rhyton shape, still does not explain the initial decision to combine the cult symbol of the double axe with marine motifs. The second suggestion, that the motifs had a ritual significance, would explain why the motifs were combined and this suggestion gains favour when one considers the possibility that the triton and star were cult symbols in their own right. The ritual significance of the triton shell is explored as a detailed case study in Chapter 2, where I have argued that there is strong evidence that both real and imitation tritons were used as Minoan cult equipment. With this in mind, it is possible that tritons painted on Marine Style pottery from ritual contexts served as cult symbols.

The star motif on the other hand, is more enigmatic (Fig. 45; Müller 1997, 243-46). It cannot represent a starfish as the motif usually has up to sixteen points - far too many to represent the limbs of a starfish.[25] It could represent a stylised urchin, as suggested by Gill (1985, 80). On the other hand, it is possible that the motif represents a

[24] The combination of double axe, triton and star motifs on these fourteen vessels is interesting and we should consider the possibility that they were painted by the same artist. The three matching conical rhyta from Zakro were clearly painted by the same hand and Mountjoy has suggested that another example from Zakro, C13978, which also features the triton and star but not the double axe, belongs to the same stylistic group (Mountjoy 1977, 559-60). Further stylistic studies are needed to determine whether the remaining vessels can be linked to the same artist. If the vessels can be linked to the same hand or workshop, it may be significant that seven of the fourteen vessels, that is, exactly half, came from the Knossos area.

[25] An exception is the star motif on the vase from Kythera on which the usual 16 points are reduced to nine (Table 4: **R14**).

celestial star.[26] This is suggested by the appearance of the star as a nautical emblem on the prow of each of the ships of the miniature fresco from the West House, Thera. Morgan has proposed that the star was the insignia for the fleet and she suggests that on Marine Style pottery it served as a nautical emblem and may have evoked seafaring (Morgan 1984, 171-72). Taking this argument further, I suggest that the reason why the star motif came to symbolise seafaring was due to the use of stars in navigation. Its appearance on ritual vessels of the Marine Style suggests that the star motif was a sacred symbol connected with seafaring.[27] It was perhaps deliberately placed on ritual vessels to evoke their use in marine-oriented rituals.

From these considerations, I suggest that the double axe, triton and star were deliberately combined on ritual vessels such as rhyta because of the cult associations of these symbols. I am not suggesting that every vessel with a double axe symbol must be cultic. However, as we have seen, the double axe is exclusively associated with the triton shell and star, and all three motifs seem to have served as cult symbols. We should therefore conclude that when these motifs were combined on ritual vessels such as rhyta, especially those produced in cult sets, and when these vessels or sets are found in ritual assemblages, there is a meaningful relationship between the imagery and the cult use of the vessel. On such vessels, the imagery may have served as 'iconographic reinforcement', emphasising the intended use of the vessel in marine-oriented cult practice.[28]

A final point can be raised in support of the ritual significance of the marine imagery on vessels found in cult contexts or deposits. I have observed that many of the fourteen ritual contexts or assemblages identified by Mountjoy as having LM IB Marine Style pottery also contained other marine or seaborne objects. In addition to Marine Style pottery, the Pyrgos shrine also contained a red faience triton shell

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[26] While solar imagery has been examined in detail by Goodison (1989), stellar imagery has not received such detailed treatment. In her discussion on the different symbols which may represent the sun, Goodison seems to agree with Morgan (1984) that the motif on the Marine Style vessels is stellar, rather than solar (Goodison 1989, 72-80, especially 78-79).

[27] Note that Müller (1997, 243-46, 320) classes the star motif as a cult symbol in his discussion of the motifs on Marine Style pottery.

[28] The term 'iconographic reinforcement' comes from Morris 1995.

(Cadogan 1981, 169); the shrine at Nirou Chani contained offerings of pumice in conical cups (Hood 1997, 114) which probably arrived on Crete by sea in the wake of the Theran eruption; the Zakro shrine complex produced a large faience argonaut shell and faience cockleshells (Platon 1985, 142, 219); and the Archanes deposit from the sanctuary included many marine finds, such as shells, pebbles, an ivory fish, a stone shell amulet and a real triton shell (Sakellarakis and Sapouna-Sakellaraki 1997, 107-10). This evidence suggests that marine-oriented rituals were among the cult activities practised at these sites and that the Marine Style vessels were used directly in these rituals.

In conclusion, some of the Marine Style vessels may have been produced exclusively for ritual, particularly shapes such as rhyta and libation vases and the sets of matching vessels. On some of these examples, painted marine creatures such as the triton are combined with the double axe, a well-known Minoan cult symbol. The ritual use of some Marine Style rhyta is therefore clear not only from the contexts in which they are found and the associated cult finds, but from iconographic association. While marine imagery *per se* is not exclusive to ritual vessels, we should conclude, as Mountjoy (1985, 241) does, that when it is found on vessels deposited together with other cult equipment in a ritual context, these vessels may be regarded as cult equipment. The marine imagery painted on such vessels made exclusively for ritual was perhaps deliberately chosen as appropriate to the type of rituals in which the vessels were used. It follows that the two fish-shaped rhyta from Phylakopi and Kophinas may have also been specially made for use in marine-oriented rituals.

So how were vessels with marine imagery used in rituals? The nature of their find contexts makes it difficult to reconstruct the ritual activities in which these vessels were actually used, as most were found in ritual storage contexts rather than *in situ* in a shrine. Examples found in ritual contexts rather than ritual storage assemblages include the vessels offered at the peak sanctuary at Juktas and the Kamares and Psychro sacred caves. However, in such instances, we are presented only with the final deposition of these objects as offerings, an act which may have been the end

product of a longer ritual process. A consideration of the shape and size of the vessels helps to illuminate the ways in which the vessels might have been used in rituals. Some of the vessels were clearly intended for display. One example is the huge tankard from Psychro: at 17cm in height it is too large to have served the practical function of a tankard (Fig. 35). Its scale suggests that it was intended for display or for communal drinking in a ceremonial setting. If actively used before deposition, it may have been used in the drinking or libation ceremonies which Watrous (1996, 52) has shown were important throughout the Minoan use of the cave. The height of the Katsamba jug (Fig. 36), which is almost half a metre tall, suggests that it too was intended for display or for use in drinking ceremonies prior to its deposition. The sets of matching Marine Style rhyta may have also been used in rituals incorporating the element of display. As we saw earlier, a rhyton is shown being carried in a procession in a fresco from Knossos (Fig. 38). On this basis, Koehl (1981, 186) has suggested that matching sets of rhyta were perhaps carried in processions formed by two or three lines. As cult equipment, rhyta are generally thought to have been used for libations of liquid offerings (Gesell 1985, 64). The matching sets of rhyta therefore may have been displayed in processions immediately prior to their actual use in rituals involving liquids. Many of the Marine Style vessels from ritual assemblages are, in fact, types associated with liquids: rhyta, libation jugs and stirrup jars. In some instances, their use in rituals involving liquids is confirmed by their contextual association with architectural installations with provision for the manipulation of liquids: for example, the Marine Style piriform rhyton in the cult assemblage at the palace of Phaistos was associated with a lustral basin (Gesell 1985, 23), while the shrine at the House of the High Priest, Knossos, where the s-handled libation jug or jar was found, had a drain next to the altar (Hood 1997, 111).

If many of the vessels with marine imagery from shrines and ritual storage deposits were used in rituals involving liquids, the obvious question is what types of liquids were used in such rites? A number of scholars have suggested that cult vessels with marine imagery were used for libations of seawater (Boulotis 1987, 32; Baurain and Darque 1983, 46). Ethnographic studies provide examples of the use of seawater in

shrines along with possible reasons for its use. In the Andes, for example, seawater was traditionally used in rituals to ensure rain, a practice which continues in some areas today. At the Bolivian village of Sabaya, for example, villagers climb the slopes of Tata Sabaya, an important mountain, and offer seawater to help 'call the clouds' for rain (Reinhard 1998, 371). What strikes me as interesting is the length to which these villagers go to acquire the appropriate offering: as the nearest source of seawater, the Pacific Ocean, is over 200km away, seawater must be regarded as an especially powerful fertility offering. Reinhard (1998, 369) also records the use of seawater in present-day rituals for water at Nasca. In periods of drought, a man is sent to the coast at night to fill a jug with foamy seawater from a place where the waves crash against the rocks. Upon acquiring the seawater, he then sprinkles it on the summit of a mountain overlooking Nasca in the belief that rain will follow within two weeks of this ritual act. An interesting point about these rituals is the fact that saltwater and fresh water are equated; an association which would not seem logical to the modern Western European, but one which is perfectly logical in other cultures and may have been equally so to the Minoans.[29]

While these ethnographic examples relate to the use of seawater to ensure rain and fertility, historical accounts show that seawater has also been used in rituals because of its perceived special qualities. For the present study, examples from later Greek antiquity are instructive, where literary evidence suggests that seawater was used in rituals because of its cathartic qualities. In Euripides, for example, we find the line: 'The sea washes all human ills away' (Eur. *IT* 1193), while Aeschylus refers to 'the stainless sea' (Aesch. *Pers.* 578). The use of seawater in purification rituals is well attested in the Greek literary sources. In Euripides' play, *Iphigenia among the Taurians*, the practice of ritual purification in seawater is integral to the escape plan of Iphiginia and Orestes. Orestes is to be sacrificed by the Taurians, but he plans to escape by sea with the cult statue of Artemis, with help of his sister, a priestess of

[29] That the Minoans equated fresh-water and seawater is suggested by their iconography, where marine creatures are sometimes combined with freshwater species, particularly with water-birds. On LM III larnakes, for example, marine fish and argonauts are depicted together with ducks and other aquatic birds; for examples, see Chapter 4.

Artemis. The plot for escaping with the statue is to claim that Orestes, as his mother's slayer, is unclean and cannot be sacrificed until pure. Iphiginia will demand that both Orestes and the statue that he touched must be purified in the sea, thus allowing them to smuggle the statue onboard his ship and sail to freedom. Iphegenia to Orestes: 'I shall ask permission to purify you with seawater' (Eur. *IT* 1039), and, of the statue: 'I will say that I mean to wash that too - since you touched it' (Eur. *IT* 1041). From these passages, it is clear that the sea could purify both cult objects and people deemed morally or spiritually unclean. The practice of washing a cult statue in the sea is also attested in ancient Athens where, in an annual procession, the Palladian, an image of Athena, was carried to the sea and purified before being set up once more in its sacred position (Burkert 1985, 79). Purification in seawater was also a necessary prerequisite before participating in the Eleusinian Mysteries: three days before the procession to Eleusis, the candidates went down to the sea to bathe (Burkert 1985, 78). It seems that for the ancient Greeks, seawater was the most prized cathartic water because of its perceived purifying powers (Parker 1983, 226). It has even been suggested that in the Classical period seawater was preferred for washing the corpse before *prothesis* (Garland 1985, 24, 138).

There is some scientific basis to the Greek belief in the cathartic qualities of the sea, as seawater is known to accelerate the healing process for cuts and infections. I suggest that the Greek belief in the purifying power of seawater originated in such observations. The cathartic properties of seawater would have been equally if not more evident to an island people like the Minoans. Although difficult to prove in the absence of textual evidence, the Minoans may have used seawater in rituals, and perhaps specifically used vessels with marine imagery in such rites. If this were the case, the Minoans, like the later Greeks, may have believed in the purifying qualities of seawater, or like South Americans, associated it with fertility.

In addition to the possible use of seawater in Minoan rituals, it is important to note the general importance of liquids in Minoan cult activities, and the wider role of sacred water. Many of the Minoan sacred caves listed by Rutkowski have pools of

water which were important for cult (Rutkowski 1986, 68-71, 52-53). This is borne out by the deposition of offerings in or near the pools at sacred caves such that at Psychro. Watrous has suggested that the pools in the Psychro cave may have served as the source of water used in libations in the chamber above; he also suggests the that worshippers may have used the pool in cleansing or purification rites (Watrous 1996, 52). Evans made a similar suggestion for lustral basins, hence the name which he ascribed to these installations, which consist of a sunken room approached by steps (PM II, 322). While there is now some debate about the exact role of these structures,[30] Peatfield has shown that approximately half of the known lustral basins do seem to have been used for cult, while many have finds or architectural features which suggest that they were used in the manipulation of liquids (Peatfield 1995, 224-25). Regardless of whether they were used for lustration or for liquid offerings, lustral basins again point to the important role of liquids in Minoan cult. The importance of sacred water is also clear from the Minoan practice of leaving offerings at sacred springs and wells, attested, for example at Zakro, where offerings were found in the Spring Chamber and well (Platon 1985, 192-99), and at the Caravanserai spring chamber at Knossos, where a bench sanctuary was installed in the Postpalatial period (Gesell 1985, 100-101; Schofield 1996, 29).[31]

(b). Marine Imagery on Cult Equipment

If any doubts linger regarding the significance of the marine imagery on pottery vessels in ritual contexts and deposits, the case for the ritual significance of marine motifs is stronger when they are found on cult equipment such as offering tables, kymbai,[32] snake tubes and hut urns.[33] The earliest Minoan example is the ship incised on a stone receptacle from the sacred cave at Patsos, which has been dated to LM I

[30] For a good general discussion of the debate, see Gesell (1985, 22-26).
[31] Schofield (1996) has emphasised the extraordinarily elaborate and sophisticated provisions for water within the Caravanserai complex. She suggests that the spring water may have been believed to have therapeutic properties and that the spring may have also been considered sacred in the Neopalatial period, as Evans (PM II, 343) originally suggested (Schofield 1996, 32, 29).
[32] The issue of whether or not kymbai can be regarded as cult equipment is discussed below.
[33] For a full discussion of these finds and their contexts, the reader is again referred to Appendix 1.

(Warren 1966). This object, like other vessels of the same type, is thought to be a libation or offering table and Warren suggests that its ship decoration may refer to the use of the table in marine-oriented cult (Warren 1966, 195-96). The most striking examples of marine-decorated offering tables, however, are the two circular tripod offering tables with polychrome marine decoration from Akrotiri on the island of Thera. The first was found in Room 5 of the West House and is decorated with dolphins swimming and diving amid marine rockwork, weed, and sea-spray (Fig. 46). On the basis of the nature of both the frescoes and finds it has been convincingly argued that Rooms 4 and 5 on the upper floor of the West House served as a shrine (N. Marinatos 1983). The offering table was found sitting on the windowsill in the northwest corner of Room 5, the same room which contained the 'fishermen frescoes' and the miniature ship fresco (Figs. 4 and 66). The excavator, Spiridon Marinatos, noted that the offering table had been covered by a plain clay cooking pot placed in reversed position 'as if to cover and protect the last pious offerings to the Divinity' (S. Marinatos 1971, 18). Koehl suggests that a piriform rhyton with an internal funnel from the same room may have been used to pour liquid offerings onto the table (Koehl 1990, 358). An alternative suggestion is that actual marine offerings were placed upon it. Nanno Marinatos (1983, 2-4) notes that the location of the offering table corresponds to the point where the two fishermen in the frescoes would meet were they to continue walking with their catch (Fig. 64). She argues that the nudity of the fishermen and their blue heads (indicating that they are partially shaved) implies they are 'special persons associated with religion', and she suggests that they were offering bearers (N. Marinatos 1983, 2-4). Marinatos goes on to suggest that marine offerings were made in the room, specifically on the offering table towards which the two fishermen perpetually walk with their abundant catch of fish (N. Marinatos 1983, 38; 1984, 37-38). Her argument is compelling, and her phenomenological approach to the shrine and its contexts helps illuminate how the room was perhaps used and how this related to its iconographic programme. However, we should also consider the excavator's explanation of the location of the table. Although his initial remarks, noted above, suggest that S. Marinatos first thought the table was used in the shrine, in a later publication he suggested that the table had recently been painted and had

merely been left on the windowsill to dry, protected by the cooking pot (S. Marinatos 1974, 27). This suggestion was made on the basis of finds in Room 4a of the shrine, specifically, two jars filled with plaster, rubbing stones for grinding the plaster, and a bowl containing red pigment. All of this suggested to the excavator that the marine offering table was the last work of the unknown artist who worked in Room 4a before disaster struck. If his suggestion is correct, it means that the location in which the table was found may not be significant and, theoretically, the table may have even been intended for use elsewhere. However, while the materials found in Room 4a *could* have been used to decorate the table, without a scientific analysis of its plaster and pigment there is no way of telling. Moreover, an alternative suggestion can be proffered for the bowl containing red pigment: as I suggested earlier, it may have been used in 'colouring rituals' in which red pigment was applied to cult objects, offerings or to parts of the bodies of cult participants. This is suggested by the red tattooing of the lips and ear of the 'Priestess' figure in the fresco positioned on the doorway between the two rooms of the shrine (Fig. 68). Finally, regardless of whether the offering table had only just been made or not, there is no obvious reason why it would not have been intended for use in this shrine.

A second stuccoed tripod offering table with marine decoration was found in Delta 8 at Akrotiri (S. Marinatos 1971, 29-31; Fig. 47). A single pair of dolphins diving amid fronds of seaweed is positioned above each foot, with none of the intricate marine rockwork or bubbles of sea-spray found painted on the table from the West House. Associated finds in Room Delta 8, such as a libation vase and two conical vessels with strainers, suggest that it too belonged to a shrine. I suggest that the two Theran offering tables were intended for marine offerings and that their decoration was therefore significant. On both offering tables the marine imagery is painted only on the body and/or legs of the table, perhaps because the upper surface would have been obscured by offerings placed upon it. The outer rim on the upper surface of each table is painted with a solid wavy line, a motif which I have argued elsewhere signifies water (Chapter 4); it would thus provide an appropriate frame for marine offerings placed upon the table, perhaps symbolically re-immersing them in water.

The use of painted decoration on tripod offering tables is generally extremely rare and the remaining non-marine examples known to date are either decorated with simple wavy bands, as on examples from Kommos (Shaw and Shaw 2006, 763), or with floral imagery. Floral offering tables are known from the West House shrine on Thera (S. Marinatos 1974, Pl. 40b) and from a probable shrine in Building 7 at Palaikastro on Crete (MacGillivray *et al.* 1991, 137, fig. 15 and Pl. 14 c-d). The best known floral example, however, is surely the complete painted tripod offering table decorated with crocuses from Delta 17 at Thera (S. Marinatos 1976, 30, Pl. 51). Although extremely fine, it is decorated in white rather than in the rich polychrome colours of the marine examples and a boar's head rhyton found on the table confirms that it was a cult item. Marinatos has observed the possible cult significance of the crocus, a plant which is thought to have been valued in antiquity for its saffron dye and for its medicinal use as a painkiller (Marinatos 1984, 65). On the Crocus Gatherers fresco in Xeste 3, for example, women are shown picking crocuses and placing them in baskets before a possible deity, flanked by a monkey and a griffin (Marinatos 1984, 61-62). It is therefore conceivable that the offering tables decorated with floral motifs were intended for such floral offerings, just as I have argued that those with marine motifs were intended for marine offerings; that is, that the decoration on each painted offering table was specific to the type of offering it was intended to receive.

Before leaving Thera, we must also consider a local Theran type of vessel which may have been specifically made for cult, the kymbe. This unusual vessel type is essentially a low, oblong basin, which 'for the sake of convenience', Marinatos called kymbai (boats) (S. Marinatos 1974, 33). Four painted examples found at Akrotiri are described in the excavation reports, three of which are painted with dolphins. The first example came from Room 5 of the West House. One side of the vessel is painted with leaping dolphins in polychrome while the other has running goats (capridae) (S. Marinatos 1974, 33; Fig. 48). The second kymbe, from the House of the Ladies, also features polychrome dolphins and goats and its composition is so similar to that of the kymbe from the West House that it is thought to have been painted by the same artist (S. Marinatos 1974, 33; Fig. 49). As the exact find context of the piece is not

mentioned in the reports, it is not clear whether this piece can be linked with the shrine. The third marine kymbe, from Beta 2, is smaller and is decorated entirely with dolphins (S. Marinatos 1969, 14; Fig. 50); there is no mention of a link with cult finds in the report. A forth kymbe, painted with swallows in flight, was found in Alpha-East, Room A2, along with a deposit of cult objects such as a conical rhyton, offering table and lion's head rhyton (S. Marinatos 1969, 19-22, Pl. 17.2 and Col. Pl. C.8). Marinatos (1969, 38) suggested that the kymbe might be some sort of sacred vessel and this is supported by the find contexts of two of the four pieces. If kymbai were cult vessels, the marine decoration and associated fauna may be significant.

Returning to Crete, painted marine decoration also appears on two specific pieces of cult equipment from the Postpalatial period: the snake tube and the hut urn. The snake tube is a tall cylindrical object characterised by two opposing rows of vertical loop handles, which seems to have served as a stand to support offerings (Gesell 1985, 50-51). A snake tube decorated with two rows of stylised octopus tentacles in black paint was found in the LM IIIB Independent Sanctuary at Koumasa (Gesell 1985, 43, 102; Fig. 51). Upon first consideration, it is not clear whether the octopus decoration on the snake tube is significant, as octopus tentacles were a common motif on pottery at this time. However, a study of the iconography of the other known snake tubes strongly suggests that the imagery *was* significant. Although many of the snake tubes have cult symbols (such as snakes, horns of consecrations, and plastic bull's heads) added in relief, only five of the snake tubes catalogued by Gesell (1976) have painted decoration. Four of these were completely painted in red paint,[34] but with the exception of our octopus piece, no further examples have painted motifs. As the other snake tubes are exclusively decorated with cult symbols, or, when painted, a colour with ritual associations (red), it seems likely that the marine motif on the snake tube from Koumasa had a religious significance and related to the type of cult being practised. An unusual clay stand with relief decoration of argonauts on display in the Ayios Nikolaos Museum must also be considered here (Fig. 52). The upper section of

[34] Of the four red-painted snake tubes, one comes from Gazi, two from Katsamba, and one from Kephala Khondrou (Gesell 1976, 248, 252, 258).

the vessel is not extant, but the lower section is decorated with three huge argonaut shells, depicted on their sides. While the piece is described as a 'ritual fruit-stand' in the museum description, its shape resembles that of the Minoan snake tube. However, as its find context is unknown, the suggestion that it was an item of cult equipment cannot be confirmed. The second Postpalatial cult item with marine imagery is the hut urn: a terracotta object in the shape of a round hut with a door and sometimes a representation of a smoke-hole in the roof (Gesell 1985, 52). A hut urn decorated with octopus tentacles was found in the LM IIIC bench sanctuary at the Spring Chamber at the Caravanserai, Knossos (PM II, 128-29; Fig. 53). Gesell (1985, 46) notes that the hut urn had been placed *within* the water-basin of the sacred spring. This context suggests to me that the watery theme of the decoration was linked to the use of the hut urn in rituals related to the sacred spring.

The final piece of probable cult equipment decorated with marine imagery is the bronze plaque from the Psychro cave decorated with a cult scene, which includes a fish among its iconographic elements (Fig. 54). The scene shows a human figure dancing before a potted tree or branch, which is surrounded by sets of horns of consecration with central branches. To the left of the tree a bird perches on a branch, and between the bird and tree is a large fish. Above the scene, a rayed disc and crescent seem to represent the sun and moon, while two arrow shapes may represent further birds. The find context of the piece and the appearance of cult symbols on it suggest that the scene is one of ritual action. Warren has explored the role of dance rituals in Minoan cult and suggests that the function of the dance was to invoke the divinity (1988, 14). Such ritual dancing is thought to be depicted for example, on the clay models from Kamalari and Palaikastro, while a possible dancing platform has been identified at Knossos (Warren 1988, 14). The dancing figure on the Psychro tablet faces towards the tree and bird, suggesting that these elements are significant. Nilsson felt strongly that birds symbolised the epiphany of 'the goddess' (1968, 330-40), an interpretation which would help explain the presence of the bird here. The significance of the fish is less clear, however. Its position in mid-air in an otherwise terrestrial scene suggests that it is a symbol or emblem of some sort. The presence of

the tree and sacred branches set between horns of consecration could help to explain its significance. Nilsson (1968, 146, 263) noted that the sacred branch was closely associated with libation and he suggested that it was linked with fertility or a vegetation cycle. As evidence, he cited a scene on a gem from Vapheio, which shows two Minoan genii watering sacred branches set between horns of consecration (Fig. 41). On the Psychro tablet, the prominent position of the tree and branches between the horns of consecration suggest that the dance was perhaps part of a ritual involving fertility. The fish, and perhaps also the bird, may point to a concern for the continued renewal of marine and faunal resources. It is not clear whether the plaque was an offering or was actively used as a piece of cult equipment during the rituals which took place at the cave.

(c). Marine Frescoes in Shrines

Perhaps the most striking association of the marine world and Minoan cult comes from the use of marine frescoes in rooms which may have served as shrines. While Vandenabeele (1991) mentions only one example of a marine fresco in a cult context (the marine fresco floor of the shrine at Ayia Triadha), closer analysis shows that the marine frescoes in the West House at Thera can also be linked both by iconographic content and by context to cult activity, while the possible cult associations of marine frescoes at Knossos, Ayia Irini on Keos, and Phylakopi on Melos must also be examined.

The fresco floor at the independent bench sanctuary to the southeast of the Minoan town of Ayia Triadha is striking for its marine theme, its location in a shrine, and because it is, to date, the only figural polychrome painted floor composition found *in situ* on Crete (Hirsch 1977, 10). Although originally dated to LM I on stylistic grounds, the floor and the first phase of the shrine have since been re-dated to the LM III period (Hirsch 1980, 459, n.53). The shrine consisted of a single rectangular room with a bench along the back wall for offerings (Figs. 55-56). It was entered through a

set of double doors positioned opposite the bench. Large fragments of the marinescape floor survive, allowing for a partial reconstruction (Figs. 56-59). A single huge facing octopus, painted red, with large staring black eyes was set at an oblique angle to the left of the scene (Fig. 57). To the right, in the centre, were three disproportionately small dolphins in parallel positions with arching backs, facing left, with five smaller fish preserved to the right of these, all painted in a combination of blue, red, and white (Fig. 58). Additional fragments suggest that more dolphins or large fish were positioned around the edges so that the entire floor of the shrine was in fact, painted with a submarine scene (Hirsch 1977, 10). The ledge of the bench was also covered in painted plaster, in a pattern of red, blue and white swirls, which Hirsch (1977, 10-11) suggests may represent stylised waves, in keeping with the marine theme on the floor. Thus, the two frescoes may show different perspectives of the same theme, with the surface of the waves shown on the parapet and the underwater scene on the floor (Hirsch 1977, 11). If this is the case, the entire floor of the shrine and the bench were completely covered with marine frescoes, so that the effect upon entering the shrine was to transport the participant into an underwater world, or perhaps even an *otherworldly* watery world. Offerings placed on the bench may have been perceived as symbolically entering the sea too.

The finds from the shrine seem to consist solely of cult equipment (snake tubes, miniature vases, cups and a lamp) rather than offerings. However, given the strong marine theme of the iconography and considering the well-attested practice of dedicating marine offerings in Minoan shrines, one can only wonder whether marine items were among the offerings made and whether marine-oriented rituals were among the activities practised at this shrine. In this regard, it may be significant that the shrine was located fairly close to the sea and faced towards it, an issue to which I will return later.

In recent years, the famous dolphin fresco from the palace of Knossos has been re-identified as another example of a Minoan fresco floor with a figural theme (Koehl 1986a). Figural compositions are extremely rare on Minoan fresco floors and on both

Crete and the Mainland, the only figural scenes depicted on fresco floors are marine in nature, a fact which is surely significant. It is interesting, then, that Koehl (1986a) has suggested that the original location of the dolphin fresco from Knossos was not a wall in the Queen's Megaron, as reconstructed by Evans (Fig. 61), but the floor of an upper storey room, and perhaps one with cult connections. From a reconsideration of the evidence, he suggests that the dolphin fresco fell from a first-floor room of the Treasury block, and may have decorated the floor of a shrine, surrounded by a limestone border of marine rockwork (Figs. 62-63; Koehl 1986a, 411, 416). A MM III deposit which fell from a floor above the Treasury (described in Appendix 1), the finds from which included a small gold fish mentioned earlier, attests to cult activity in that area of the palace in that early period. Evans (PM III, 399-403) thought that the MM III deposit came from a repository or storage space for the cult equipment of a shrine located elsewhere. Koehl, however, has suggested that the Treasury was perhaps not a repository but the actual location of a small shrine for the inhabitants of the upper floors of the Queen's Megaron in the MM III period (Koehl 1986a, 416). The dolphin fresco, however, although originally dated to MM III-LM I, has since been re-dated to LM IIIA, based on both stylistic grounds and on a re-evaluation of its archaeological context (Koehl 1986a, 413).[35] If this date is correct, the fresco is therefore later in date than the cult deposit/possible shrine. There is no evidence that

[35] Koehl (1986a, 413) has observed that Evans' original assignation of a MM III or LM I date to the Dolphin Fresco was based solely on a stylistic comparison with the Flying Fish fresco from Phylakopi; he argues that, in fact, the closest stylistic parallels to the Knossos dolphins are the dolphins on the LM III fresco floor from Ayia Triadha, as both have wavy stripes on the body, black and white muzzles, light underbellies, and are outlined in black (Koehl 1986a, 413). While these stylistic similarities are clear, it should be noted that the Ayia Triadha dolphins are quite different from those at Knossos in other respects: their humped dorsal fins and fringed tail flukes suggest that the artist was less familiar with the living creature than the artist who painted the dolphin fresco from Knossos. Moreover, with the exception of the black and white muzzles, the stylistic similarities which, according to Koehl, link the Knossos and Ayia Triadha dolphins apply equally well to the polychrome dolphins painted on the offering tables from Thera, which date to the much earlier period of LM I. For this reason, I have some doubts about re-dating the fresco to LM IIIA on stylistic grounds. Koehl's second argument is more convincing, however. He notes that a re-evaluation of the find contexts of the dolphin fresco fragments conducted by Hawk Smith (1976, 73-74) concluded that the fresco was probably painted in LM IIIA as it was found scattered in piles mixed with LM II/LM IIIA pottery on a LM IIIB floor (Koehl 1986a, 413). In a more recent reappraisal, however, Hood (2005, 71-73) has reassigned the fresco to an early date of 'possibly LM IA or LM IB' on the grounds that the dolphin fresco fragments were found together with fragments of the Dancing Lady fresco, which has been dated to LM IB. Given this disagreement, it is perhaps not surprising that Immerwahr (1990b, 171) merely assigned a broad date of 'possibly LM IB or later' to the fresco.

the upper floor of the Treasury was also used as a shrine in the later period. In fact, Koehl argues for continuity of cult activity in the area based solely on the parallel presence of the marine fresco floor in the Ayia Triadha shrine in the LM III period; his argument for locating the dolphin fresco in a LM III shrine is therefore somewhat circular. If, however, the fresco is earlier in date, as was originally thought, it could indeed have come from an upper story shrine of the treasury. Suffice it to say that as there is still uncertainty about the exact position and date of the dolphin fresco floor, its possible cult context must remain a suggestion.

A stronger case for the location of marine frescoes in a cult context can be made for the frescoes of the West House at Thera, which are much earlier in date (LM I). The evidence for the cult use of Rooms 4-6 on the upper floor of the West House was examined above in relation to the marine-decorated offering table and kymbe from Room 5, where I discussed Marinatos' suggestion that the fishermen frescoes in the same room were adorants of the shrine, depicted carrying offerings of fish (Marinatos 1983, 2-4; Figs. 4 and 64). As there is a strong nautical element to many of the frescoes in Rooms 4 and 5, it is worth considering how the marine themes of the other frescoes relate to the proposed cult use of the rooms. Both Morgan (1988, 1981) and Marinatos (1984, 52-61) have convincingly argued that the ship procession fresco on the south wall depicts a religious maritime festival (Figs. 65-66). That the festival had a religious emphasis has been suggested because of the bunting on the ships, the fact that they carry elite passengers and are being watched by the populace, and on the basis that by virtue of their propulsion, the ships cannot have been travelling far (Morgan 1981; 1988, 144). Morgan (1981) has convincingly argued that the frescoes of the West House all relate to the same theme and reiterate various aspects of the miniature fresco. The *ikria* or ship's cabins which dominate the walls of Room 4 (Fig. 67) recall those located at the stern of the ships in the procession fresco, while the fishermen frescoes repeat the maritime theme. The religious element of the maritime festival seems to be emphasised by the figure of the priestess carrying the incense burner, painted in the panel between Rooms 4 and 5 (Fig. 68). Morgan notes that in later Greek boat-launching ceremonies, incense was often burned as part of the rituals

to ensure divine protection of the boat and crew. On this basis, she has suggested that the priestess was shown officiating in such a maritime ritual, which would have taken place either before or after the procession of the ships (Morgan 1988, 143-44). Morgan also suggests that the ritual may have taken place at the stern cabins of the Theran ships, on the basis that the Priestess figure is surrounded by, and faces towards, frescoes of stern cabins, and because a stern cabin seems to be a focus of ritual attention on a sealstone from Makrygialos (Morgan 1988, 144; Fig. 85).

The fresco on the north wall of Room 5 also combines both religious and nautical subject matter. A scene to the left of the frieze shows a meeting on a hill and a flock being led to pasture, scenes which Morgan (1981, 166) identifies as appropriate to a peak sanctuary. To the far right is a maritime scene which Morgan (1988, 150-54) has identified as belonging to the 'Shipwreck and Warrior' genre (Fig. 171), a genre thought to typify the dangers of the sea, as discussed in Chapter 3. The juxtaposition of this marine scene with that showing the peak sanctuary suggests that both maritime and pastoral concerns were being addressed at the peak sanctuary, again reiterating the religious nature of the maritime festival (Morgan 1981, 166).

Thus, the overall theme of the frescoes clearly suggests a religious festival concerned with maritime affairs. Both Morgan and Marinatos have observed that a number of motifs on the frescoes allude to spring: the butterflies on the bowsprits of the ships, the lilies on the cabin poles and the flower festoons on the masts, suggesting that the festival took place in the spring or early summer (Morgan 1988, 145; Marinatos 1984, 60). This would coincide with the start of the sailing season after the long winter months, the resumption of trade and overseas contacts, and the impending return of seasonal fish, such as the tunny; important maritime events which would certainly merit religious rituals and festivities. The frescoes are therefore thought to depict a real maritime religious festival which took place at Akrotiri, with some of the rituals perhaps taking place at the seashore, others perhaps within the upper floor rooms of the West House itself.

It should be noted that a similar theme of a maritime festival has been suggested for a fragmentary miniature fresco from Ayia Irini on Keos, also dated to LM I. Although the fresco survives only in fragments and the reconstruction of the original composition is somewhat problematic (Abramovitz 1980, 68), it seems to show a festival, mainly of men, set by the sea like that at Thera (Morgan 1990, 254). The marine setting is clear from large quantities of blue and fragments of ships. One ship fragment shows men seated below an awning, as on the Theran ships; another has dolphins painted on its hull, like the flagship in the Theran procession, while another still is decorated with the festoon and crocus pendant motif which appears as festive bunting on the Theran ships (Morgan 1990, 254-55; Fig. 65). Other fragments show human figures engaged in a procession, some of whom appear to be dancing (Morgan 1990, 255). Because of its close links to the Theran miniatures in theme and in details such as the emblems of the ship, the fresco seems to portray a related festival to that depicted in the West House, one with a strong nautical emphasis and probable religious overtone. However, as the building in which the fresco fragments were found (the Northeast Bastion, Rooms 1 and 2) is not fully understood, it is not clear whether the fresco came from a ritual context like the Theran miniatures.

A final marine fresco which may have links with cult is that of the flying fish at Phylakopi on Melos (Fig. 60). The fresco came from Room 6 of building G3, which was a pillar crypt, a type of room which has often been linked with cult activity, as observed earlier. Some pillar crypts, for example, were equipped with installations for the receipt of liquid offerings: basins and channels set into the ground next to the pillar, while others have been found to contain ritual offerings and paraphernalia, the Tomb of the Double Axe at Knossos being one such example (Gesell 1985, 26-29). However, as there is no evidence that all pillar crypts were exclusively used for ritual (Gesell 1985, 2), these architectural types cannot be used to identify shrines without further corroboration from other architectural features (such as altars, built or portable) and from associated cult objects and symbols. At Phylakopi, the only suggestion that the pillar crypt containing the flying fish fresco was used for cult activity comes from its juxtaposition with another fresco in the same room, which is

thought to show a scene of ritual action. The second fresco is painted on a larger scale than that of the Flying Fish and shows two women, one of whom bends towards the other with her arms outstretched while the other is seated before her and holds a cloth (Morgan 1990, 259, fig. 8). The scene has been interpreted as a robing ceremony and is thought to belong to an iconographic cycle of scenes in which a garment is presented to a priestess or perhaps an epiphany of a goddess (Morgan 1990, 261; Warren 1988, 20-23). It is not clear, however, how the flying fish frieze relates to this scene, if at all. While the two frescoes were found in the same room and the flying fish fresco may have decorated more than one wall, the original position of the two frescoes relative to one another is not at all clear (Immerwahr 1990b, 189; Bosanquet 1904b, 70-75). Some suggestion that the frescoes *were* linked in theme is given by fragments of a third fresco from the same room, which also had a marine theme, as suggested by the preserved fragments of rockwork and water-filled pools (Bosanquet 1904b, 72, fig. 60), but which was painted on a larger scale like the robing scene. It therefore seems to provide a link between the two frescoes, mediating between them in terms of scale and theme. Moreover, if the identification of the robing ceremony scene is correct, it would surely be unusual if a room depicting a cult scene was not put to a cult purpose, and even stranger if the associated iconography was of a completely unrelated and purely decorative theme. If this pillar crypt, like some others, was a focus of ritual activity, it is possible that the flying fish scene and the painting of the lilies from the next room depicted the natural realms over which the deity/deities being invoked held sway.

While the marine frescoes from Ayia Irini and Phylakopi can only be tentatively linked with cult, the cult connections of the frescoes in the West House at Akrotiri and the later shrine at Ayia Triadha are established beyond doubt. While the re-dating of the dolphin fresco floor from Knossos to LM III raises some doubt in my mind as to its cult connection, nevertheless, the tantalising possibility that it decorated the floor of a shrine, like the marine floor in the shrine at Ayia Triadha, must remain open. In all, the evidence suggests that the marine iconography in the shrines at Ayia Triadha and Thera, and possibly at Knossos, was not merely decorative but was

deliberately selected as contextually appropriate to the type of cult being practised at these shrines. This is certainly clear in the West House, where marine imagery was also used to decorate cult equipment: the offering table and kymbe.

Gombrich (1982, 157) has drawn attention to the mnemonic role of imagery, whereby a particular image can trigger memories of events, sights and even more intangible memories like taste and smell. Through their mnemonic properties, the frescoes would have served to heighten the awareness of both the participants and the forces being invoked; to use Renfew's terminology, the frescoes would have served as an 'attention focussing device' (1985, 18). Through the principle of 'iconographic reinforcement', the frescoes may have emphasised and reinforced the maritime nature of cult activities being practised at the house. A related function of the imagery was perhaps to perpetuate these rituals. This has been proposed, for example, for the fishermen frescoes in Room 5 of the West House, which Marinatos (1984, 38) suggests depict an offering taking place within the room, thus perpetuating it forever. Similarly, the ship procession fresco perpetuates the maritime festival, while the Priestess figure perhaps perpetuates the practice of incense burning as part of the rites to ensure success at sea. The broader issue of permanent enactment has been explored by Hägg, who has shown that many Minoan cult rooms and their connected areas were painted with 'perpetuated cult scenes', a good example being the procession fresco from the Grand Staircase at the palace of Knossos (Hägg 1985, 214, 210-11). Following Cameron (1970, 165), Hägg observes that such frescoes may have also served as directional aids, pointing the participants in the direction in which they were to proceed, or to the place where the most important part of the ritual would take place (Hägg 1985, 214). Thus, frescoes like those of the fishermen in the West House may have ensured a permanent enactment of the ritual of offering-giving, whilst also guiding participants towards the offering table in the corner of the room.

(d). Marine Sealstones as Talismans

The final class of objects with marine imagery to be discussed is sealstones. A small number of seals and sealings with marine imagery have been found in ritual contexts;[36] however, while these may have been offerings or used in the shrine administration, it is difficult to determine whether the imagery was significant, as their deposition may mark a secondary use. A more promising line of enquiry concerns the possibility that some sealstones with marine imagery were used as protective amulets or talismans. Boulotis (1987, 30) has observed that one would naturally expect Aegean sailors to possess talismans and he suggests that the main function of *marine* seals of the MM III-LM I 'talismanic' and earlier 'three-sided prism' types was to protect ships and seafarers. It is necessary to investigate this claim further and to assess the basis for attributing a talismanic significance to these two seal types.

It is often argued that sealstones had two main functions (CS, 1; Betts 1973, 330). On the one hand, they had a practical, sphragistic use: they could be used to seal items and to guarantee that a document or product was authentic. On the other hand, it is argued that seals had a special relationship to their owner and had magico-religious significance: the seal was an item of personal adornment, a symbol of status, and perhaps also served as an amulet or talisman, protecting the wearer from danger.[37] Betts notes that in most cases the two main uses of seals, sphragistic and amuletic, were not apparently distinct, but as some seal types do not appear to have been used

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[36] Marine seals and sealings found in shrines include an octopus sealstone from the peak sanctuary at Juktas (Karetsou 1976, Pl. 230η), a rock crystal seal depicting the ritual use of a triton shell from the Idaean Cave (Table 5: **TS9**; Fig. 102f), and marine sealings depicting crabs, a dolphin, fish and shells from the Temple Repositories (Panagiotaki 1999, 104-106).

[37] Kenna (CS, 1, n.1 and 3) makes the following distinction between amulets and talismans: 'an amulet in antiquity was held to be a sympathetic preservative against sickness and misfortune, or an aid to fertility and strength'. He uses the term to refer to 'an object whose shape or substance was thought to impart beneficial effect to the owner'. In contrast, he states that 'a talisman...has sometimes been regarded as a more effective kind of amulet', and the potency of a talisman is less inherent in its material or shape but seems to be 'the result of a more conscious and deliberate attempt to impart magical power to an object by the formal addition of some symbol or sign'. While the two terms are used indiscriminately here, Kenna's distinction should be noted.

for practical sealing purposes, their function may have been almost entirely magical (Betts 1973, 330-31).

One such type is the so-called 'talismanic style' sealstone, which was popular in the Neopalatial period. The striking disparity between the number of known talismanic sealstones, over 900, and the number of surviving sealings, barely two dozen (Krzyszkowska 2005a, 133), suggests that talismanic seals for the most part had a non-sphragistic use. This is further suggested by the observation that many do not give a good impression because of the angles with which the engravings are made; they are therefore not good seals and perhaps were not intended to be used as such (CS, 45 n.2). Instead, Evans argued that the function of these gems was to provide magical protection or divine assistance (PM IV, 446). Kenna expanded on this idea, arguing that their magical protective properties were imparted to them not only by their shape and by the materials with which they were made, but also by their motifs and the consistent style with which they are engraved (CS, 1, 29; Kenna 1969, 26-27). The most frequent shape on which the style occurs is the amygdaloid, with some taking the older three-sided prism form. While talismanic style seals are found in a range of hard semi-precious stones, by far the most common material with which they are made is red carnelian, with green jasper a distant second (Betts 1973, 331). It is possible that these colours were selected because they had a special significance. This has been suggested by Hughes-Brock (1995, 115-16), who highlights parallels for the symbolic importance of red and green sealstones in the Mediterranean area in later antiquity, where she suggests that such colours were associated with life, vegetation and rebirth. In the Near East, textual evidence shows that stones of different colours were often thought to have different properties (Krzyszkowska 2005a, 136-37). The perceived amuletic properties of various stones in antiquity have been explored by Budge, who notes, for example, that carnelian, a 'blood stone', was often thought to have a beneficial effect on the bloodstream and the skin, and was also traditionally used in the Mediterranean as a defence against the evil eye (Budge 1930, 306-25). It is difficult to say whether the Minoans also perceived such magical properties of

gemstones and deliberately selected particular stones for use as talismans on the basis of their colour and material, but the possibility must be considered.

The magical properties of talismanic seals are also thought to have been imparted by the motifs depicted on them and by the summary style of their execution. Evans was the first to connect these seal types with amuletic use on the basis of the limited repertoire of motifs and the repetitive combination of a number of specialised forms (PM I, 672-73; PM IV 446-50). While many of the motifs are derived from the world of nature (marine, animal, bird, insect, scorpion, and plant motifs), almost all of the inanimate objects depicted, with the exception of the prominent sailing ships, have clear connections with Minoan ritual. These motifs include the double axe, horns of consecration (sometimes with a branch), ritual vessels (s-handled jugs, ewers and tankards) and bucrania. Papatsaroucha has argued for the ritual connections of this group of motifs arguing that, cumulatively, they represent the cult equipment of a sacred place (Papatsaroucha 2001). Importantly, Krzyszkowska has observed that on other more naturalistic seal types such motifs are usually depicted only as part of larger scenes, often depicting rituals, whereas they are often the principal motifs on the talismanic style (Krzyszkowska 2005a, 134). The prominence of such ritual motifs on the talismanic seals strongly suggests that these seals had a magico-religious function.

Although the exact proportion of marine scenes on talismanic seals has not been determined, marine motifs feature strongly on this seal class, and some marine motifs (such as the flying fish, sepia and crab) are almost exclusively found on these seal types.[38] The marine motifs on talismanic seals consist primarily of the cuttlefish

[38] On sealstones, the flying fish is known only on seals of the 'talismanic' class, where the motif is represented by numerous examples; in other media, examples are few, consisting only of the fresco from Phylakopi on Melos, the model flying fish in the Temple Repositories at Knossos, inlays on a dagger from Vapheio (Papadopoulos 1998, 14, no. 59, Pl. 9: 59), and small glass paste plaques from a tomb at Spata (Czernohaus 1988, 71, cat. no. 193). The sepia motif is *only* found on sealstones and only on sealstones of the 'talismanic' style. The crab is also well represented among the surviving talismanic seals but is rarely found on seals of other types. It appears on 12 identical sealings from the Temple Repositories (CMS II.8 154-56) and on two non-talismanic sealstones dated to MM IB-II and MM III (CMS VII 30b and 45c). The crab motif also appears on MM II-III ceramic relief work, as discussed in Chapter 3. As a pottery motif it is very rare and is known on a single vase: a stirrup jar

(sepia),[39] flying fish, fish (often in tête-bêche compositions), crabs, and occasional octopi; examples of each motif can be seen in Figs. 69-77. Apart from sea creatures, sailing ships are also prominent (Fig. 78). The small repertoire of motifs on talismanic seals makes for considerable repetition, another factor which suggests that these seals were not produced for sphragistic use, as such a function requires seals to be unique (Kenna 1969, 26). The style involves the rapid and undisguised use of rotary tools, a wheel cutter for straight lines and the tubular drill for circles and semicircles, with little other elaboration. The resulting motifs are fragmented and often ambiguous, to such an extent that, as Kenna (1969, 30) notes, the motifs seem to change before the eye. Thus, for example, the sepia and s-handled jug are very similar motifs and it is sometimes difficult to distinguish between them (Figs. 69-70). On one three-sided talismanic prism, for example, two sides appear to show marine creatures (crustaceans and an octopus or cuttlefish), while the third side shows a motif which has elements of both the s-handled jug and sepia (CMS IX 90; Fig. 70a). On other talismanic seals, such as that shown in Fig. 71, the sepia seems to be conflated with a pillar or Evans' 'rustic shrine' (PM I, 674); the body of the sepia becomes a pillar-like block with a pointed, hatched top, but the tentacles remain. Equally, on talismanic seals representations of flying fish and birds are often virtually indistinguishable (Fig. 75), [40] as are those of fish and vegetative 'bundles' (Figs. 72-73).[41]

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from Kalymnos, Rhodes, where it features as one of an array of creatures positioned among the tentacles of an octopus (Vermeule and Karageorghis 1982, Pl. XII.23).

[39] Morgan (1989, 152-56) provides an insightful discussion on how this type of motif came to be identified as a cuttlefish, despite the fact that it bears little naturalistic resemblance. The identification is based on a number of recurring elements; while these elements are not all present on each of the representations, as a cumulative group they allow for the identification of the motif as a cuttlefish. The elements include the oval for the body, circles for eyes, projections at the top which are thought to represent tentacles, and two long s-shaped curves on each side of the oval body which are thought to represent the long retractable tentacles which the sepia uses to catch its prey (Fig. 12). The animal is therefore depicted upright as if in jet propulsion, with its retractable tentacles extended and trailing (Morgan 1989, 153). In addition, lines shown on either side of the oval body on many depictions surely represent the creature's lateral fin (Gill 1985, 77).

[40] Gill (1985, 71, n. 27) lists talismanic seals on which it is difficult to determine whether the motif was meant to be a bird or a flying fish.

[41] Despite this ambiguity, they are often given specific identifications in the CMS volumes. Compare, for example, the motifs in Fig. 72 identified as 'fish' with the largely similar motifs in Fig. 73 which have been identified as 'bundles'. Another example can be seen with the sepia and jug motifs: for example, the two seals in Fig. 70 are obviously very similar, yet they were described by the same authors as a jug with s-shaped handles with a branch at its mouth (a) and a 'degenerated squid'

Those who argue for the talismanic use of these seals suggest that the ambiguity was deliberate and points to the magico-religious significance of the motifs. Morgan, however, has shown that there may be a practical reason for the ambiguity. She argues that as the same component elements are used to make up different talismanic motifs, the ambiguity is a product of the shared vocabulary of component elements (Morgan 1985, 10-14). As a result, the cuttlefish and jug, two seemingly very different images, become almost indistinguishable on the talismanic sealstones because they are made up of similar component units in different combinations (Morgan 1985, 11-12, fig. 2a). Morgan suggests that the mechanism is one of economy, a means of making an infinite number of representations from a finite number of units (Morgan 1985, 14). This does not mean, however, that the ambiguity was not deliberate. While recognising the practical reasons for ambiguity, Morgan notes that ambiguity can also be a result of misinterpretation by the modern viewer, or it could be intentionally caused by the seal engraver (Morgan 1989). In the latter case, the engraver may intend a double or multiple reading as an economic way of conveying a complex idea, in which case the resulting image should reverberate with meaning to the intended viewer. Alternatively, his intention could be to produce deliberately confusing imagery which can be read only by a select 'initiated' few (Morgan 1989, 146). As the engraver's intention cannot be verified, Morgan concludes that we must remain open to the possibility of such deliberate ambiguity on Talismanic seals (Morgan 1989, 146).

If it is the case that deliberately ambiguous motifs had magico-religious significance, then the motifs which consistently overlap may have had a symbolic connection. A case in point is the sepia/jug motif. The ritual connections of the s-handled jug were discussed above, where I also observed that a possible example decorated in the Marine Style was found in a ritual context at Knossos (Mountjoy 1985, 233-34). Since this vase type was used for liquids, it may have been perceived as having a special connection with the marine world through an association with water. In

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between suspended branches (b), with no indication of how the distinction was made. A better approach would be to avoid dogmatism in interpreting such enigmatic motifs, noting instead that such seals appear to conflate various elements.

addition, when marine motifs are shown *together* with ritual vessels or symbols on the same talismanic seal, this combination may be significant. Talismanic seals on which ritual objects or symbols are juxtaposed with marine motifs include examples depicting a fish motif together with an s-handled jug (CMS I, 261; VIII, 153; IX 8D), a seal on which a fish is combined with a bucranium (CMS XIII 16), and another on which an s-handled ewer is depicted between two antithetical fish (CMS V 577).

While both Onassoglou (1985) and Krzyszkowska (2005a, 134-36) claim that the use of the term 'talismanic' should be taken only as a name for the style, and state that the function of the seals is not necessarily talismanic, the cumulative evidence suggests to me that these seals may have indeed served as talismans. The lack of evidence for their sphragistic use, their unsuitability for use as practical seals, the prominence of ritual motifs, the probable deliberate ambiguity between motifs, and the juxtaposition of ritual symbols with sailing ships and marine motifs all suggest that these seals had a magico-religious, rather than sphragistic, function. I agree with Boulotis (1987, 30) that the marine motifs which featured prominently on this seal type may relate to the use of these seals as amulets for mariners, fishermen and others actively engaging with the sea.[42]

Another group of seals which may have had a talismanic function are the early zoomorphic seals from the Prepalatial period, such as the four examples in the shape of shells listed by Kenna (CS, 28). An amuletic function has been suggested for this type based on the lack of evidence for their sphragistic use (Krzyszkowska 2005a, 76). An amuletic use has also been postulated for the early three-sided prism seal of the Protopalatial period, examples of which have mostly come from north and east Crete (Krzyszkowska 2005a, 93). Over 100 examples were found at a MM IIB seal-engraver's workshop discovered at Malia, although the production of seals of this type may have begun somewhat earlier.[43] The seals were made of soft stones, such as

[42] By extension, it follows that the other (non-marine) representational motifs found on this seal type would have also had symbolic meanings or associations which determined their use as amulets or talismans.

[43] For a discussion of the chronology of three-sided prism seals, see Krzyszkowska 2005a, 92-95.

steatite. They had a triangular section and were usually engraved on all three sides. Like the later talismanic seals, they bore a limited range of motifs, which were often shown in a stylised way. Marine subjects on such seals consist mainly of fish and ships, with a few possible crabs (CMS VII 30b, 45c); other motifs include animals (often quadrupeds), birds, schematic humans, and spiraliform motifs. Although some examples of sealings have been found (Krzyszkowska 2005a, 93), it has been suggested that these seal types were used as amulets on the basis of the shape of the seals, the type of motifs used, and the schematic manner in which they are executed (CS, 29; Betts 1973, 331). If the different sides of prism seals had a related and cumulative meaning then the repeated combination of marine creatures or ships with distorted human forms (CMS II.II 219, 267, V Suppl. IA 42), birdlike creatures (CMS II.II 243), s-handled jugs (CMS XII, 187) and bucrania (CMS VII 7b) may be significant. If the function of this seal type *was* primarily amuletic, then it is perhaps no coincidence that some examples of the later talismanic style seals retain this older three-sided prism shape.

In conclusion, there is some evidence that three-sided prisms and talismanic seals, and perhaps also the early zoomorphic seals, were worn as amulets, and it seems reasonable to suggest that seals of these types with ships and marine motifs were used by Aegean mariners and fishermen in this capacity. It is worth noting Betts' observation that almost all of the ships depicted in Minoan glyptic art occur on the three-sided prism or talismanic seals, and his suggestion that the main function of such ship representations on seals was amuletic (Betts 1973, 334). If such marine seals were used as amulets, it is worth considering how they were worn and to what purpose. Aegean sealstones are usually provided with string-holes suggesting that they could be worn around the neck as pendants (Krzyszkowska 2005a, 21). A lentoid seal depicted on the wrist of the 'rhyton-bearer' figure in the procession fresco at Knossos suggests that by the Late Minoan period some seal shapes were also worn on the wrist like modern wristwatches (Younger 1977, 153-58; Fig. 39). Another such example can be seen on a Minoan wall-painting from Tell el-Dab'a/Avaris in Egypt where a sealstone is shown on the wrist of a bull-leaper (Bietak 1995, Pl. 1.1). Marine

seals used as talismans may have been worn as daily protection against the dangers of the sea or they may have been used in sympathetic magic, whereby a seal depicting a marine creature or ship was worn to ensure a good catch of fish or a successful voyage. Finally, it should be observed that the practice of wearing amulets is extremely common in both traditional and ancient societies. It is well attested among the ancient Egyptians in the period contemporary with the Aegean Bronze Age, for example.

iv. A Contextual Discussion of the Marine Objects and Imagery in Aegean Shrines

Before leaving marine objects and imagery from ritual contexts, it should be noted that many of the marine item types discussed in this chapter have been found in both ritual and other contexts: funerary contexts and contexts with no obvious ritual connections. It is therefore important to give some idea of the other contexts in which these marine item types are found, and where possible, the relative proportion of these finds in each context type.

Taking the marine objects in the same order in which they are discussed in this chapter, I shall begin with seashells. As real and imitation seashells are found in a wide range of contexts in the Aegean, it is impossible to gauge the proportion found in ritual contexts. While examples of imitation shells and shell inlays are known from ritual contexts, many similar items have also been found in funerary and settlement contexts. Imitation seashells were popular in Minoan ceramic relief work, for example. This use is examined in Chapter 3, where many examples from non-ritual contexts are cited. Similarly, large-scale model shells have been found in ritual, funerary and 'other' contexts. Examples are discussed in Chapter 2 and listed in Tables 9a-b. Turning to *real* seashells, however, some important distinctions can be observed between their use in different contexts. Many of the shells found in domestic/settlement contexts show signs that the animal was collected alive, suggesting that many of the shells represent food debris. In contrast, shells found at

'ritual' sites were often collected as dead specimens (as discussed earlier). Furthermore, to the best of my knowledge, the only examples of painted seashells come from ritual contexts or deposits.

Regarding marine models a distinction can be made between models designed to be freestanding and those intended as attachments for vessels or furniture. As discussed earlier, both types of marine models have been found in ritual contexts in the Aegean. In some cases, both types occur in the same deposit: an example is at the Temple Repositories at Knossos, where the flat backs of the cockleshells suggest that they were designed to be affixed to something, whereas the model argonauts and flying fish seem to have been freestanding. In addition to their use in ritual contexts, marine models designed as attachments for vases, pyxides and other items of furniture have been found in funerary contexts and contexts with no obvious ritual connection. Clay and faience vases with marine attachments modelled in relief have been found in settlement and palatial contexts at Pseira, Knossos, Phaistos and Malia, for example (as described in Chapter 3 and Table 13). Numerous examples of marine plaques and inlays in materials such as ivory, gold, faience and glass paste have been found in graves and settlement sites on Crete and the Mycenaean Mainland and many are displayed in the archaeological museums of Athens and Crete. I have collated examples of these plaques in Tables 12 and 17-20. While some of these pieces illustrating argonauts, seashells, dolphins and octopi, may have been worn as jewellery or used to decorate garments (or funeral shrouds, in the case of those found in tombs), others are thought to have decorated objects such as pyxides and other items of furniture. A good example is the fine rectangular ivory box decorated with argonauts from a tholos tomb at the Athenian agora, which is discussed further in Chapter 3 (Table 12: **Iv.1**; Fig. 186).

In contrast, freestanding marine models are less often found in contexts with no obvious ritual connections. The flying fish models from the Temple Repositories are

the only known examples of flying fish carved in the round.[44] Equally, the five freestanding model fish offered at the peak sanctuaries of Vrysinas, Kophinas and Traostalos are the only known examples of clay model fish from prehistoric Crete. The model dolphin from the 'Temple' at Ayia Irini is also unique: it is the only known freestanding model dolphin and the only Aegean dolphin representation in which the tail is given its proper axis. Similarly, fish-shaped rhyta are only known from ritual contexts on Crete and the Aegean islands. Examples have been found at the peak sanctuary of Kophinas and the sanctuary at Phylakopi on Melos. On the Mycenaean Mainland, however, a comparable fish rhyton from the Mycenaean palace of Tiryns (Fig. 37) does not appear to be linked with a ritual context. Finally, as mentioned earlier, Wedde (2000, 195) has estimated that approximately half of the known model boats from the Aegean come from ritual and funerary contexts, implying that as many more come from contexts with no obvious ritual connection.

Turning to marine iconography, it is extremely difficult to estimate the proportion of LM IB Marine Style vases found in ritual contexts, particularly as the last corpus of this pottery style was completed over twenty years ago (Mountjoy 1984) and many pieces have been found since. Nonetheless, it should be observed that LM IB Marine Style pottery has been found in contexts from all over Crete, as well as on the Mycenaean mainland, the Aegean islands and at a small number of sites in the Near East (Mountjoy 1984). A comparatively small proportion of these contexts have been identified as having ritual connections.[45] However, this figure does not undermine the significance of the Marine Style vessels found in ritual contexts; rather it suggests that vessels of the Marine Style had a range of uses, including use in rituals in which their imagery may have been regarded as significant.

Wall and floor paintings decorated with marine scenes have also been found in both ritual and 'non-ritual' contexts. Marine frescoes have been found in shrines at Ayia

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[44] The small glass paste plaques depicting flying fish from a LH IIIB tomb at Spata, Attica (Czernohaus 1988, 71, cat. no. 193) are merely two-dimensional.

[45] Mountjoy (1985) has identified 14 such ritual contexts; even including the additional examples which I have identified, the number of ritual sites with Marine Style pottery remains relatively small.

Triadha on Crete and at the West House on Thera; they have also been found in possible ritual contexts at the palace of Knossos, at Ayia Irini on Keos and at Phylakopi on Melos. In contrast, the early sponge-print frescoes from the old palace at Knossos, dated to MM IIA, and the argonaut fresco from the later palace, have no obvious ritual connections (PM III, 361-64; PM IV, 890). Equally, a second marine fresco from Ayia Irini, Keos, the LM IB/LH II fresco from House J depicting a school of dolphins, has not been connected with cult (Coleman 1973, 293-96, Pl.56b). On the Mycenaean Mainland the majority of marine fresco floors and wall paintings from the palaces do not appear to have been linked with ritual activity. An exception is the octopus floor panel in the Throne Room of the palace at Pylos, which was positioned opposite the throne, close to a channel in the floor which may have been used for libations (Figs. 91-92).

Sealstones pose another problem. Those found in ritual contexts are few in number compared to the wider corpus of known seals. Some may represent offerings; others may have been used within the shrine administration. However, I have suggested that some entire classes of sealstones, particularly those with little evidence for sphragistic use, may have served as amulets and talismans. As such pieces may have been used in more 'socially embedded' rituals - rituals embedded within the broader corpus of daily actions and which, therefore, were not defined spatially - their find contexts will not reveal this use. Marine motifs feature particularly strongly on the two classes of seals for which a talismanic or amuletic use has been suggested, the early Three-Sided Prism seals and the Talismanic Group. However, the same talismanic use would also apply to the other motifs found on sealstones of these groups. In addition, we should consider the possibility that other classes of sealstone which *were* used sphragistically may have had talismanic or amuletic significance *in addition to* their more practical use as seals and markers of identity.

In summary, many of the marine item types found in ritual contexts and deposits are also found in contexts with no obvious ritual connections. These marine item types which were not exclusively associated with ritual practice include seashells, marine

frescoes, shell inlays, marine plaques and jewellery, marine sealstones, model boats and LM IB Marine Style pottery. However, other marine items discussed in this chapter are known *only* from ritual contexts and seem to have had an *exclusive association* with ritual. These include items of cult equipment decorated with marine motifs, such as the painted offering tables from shrines at Akrotiri, Thera, the stone offering table with an incised ship motif from the cave at Patsos, the bronze plaque from Psychro, the clay hut urn and snake tube decorated with octopus tentacles from the Caravanserai, Knossos and from Koumasa, and the fish rhyta from Crete and Phylakopi. These items were clearly made exclusively for ritual use and their marine iconography should be regarded as significant. Marine items exclusive to ritual contexts also include painted seashells, the five clay model fish from various Minoan peak sanctuaries, the model dolphin from the temple at Ayia Irini, the argonaut and flying fish models from the Temple Repositories, Knossos, and the fish-shaped rhyta from Phylakopi and Kophinas. Many or all of these freestanding marine models, ceramic vessels and worked shells may have been produced specifically for use in marine-oriented ritual activities, just as the items of cult equipment bearing marine scenes may have been produced solely for use in ritual.

v. Less Archeologically Visible Marine-Oriented Rituals

> In almost all societies there are on the one hand rites that are set apart and take place as special enactments removed from the doings of everyday life...But these same societies also conduct all kinds of ritual cycles or intermittent rites that are interlaced with practical activities like agriculture, or crafts, or *fishing*. (Tambiah 1990, 71; my italics)

The everyday use of talismanic amulets by mariners and sailors, as postulated earlier, brings us on to the wider issue of 'socially embedded ritual action'. In the methodology section at the beginning of this chapter, I discussed the problem of identifying more socially embedded rituals, rituals practised in places which are not set aside exclusively for cult use and which, therefore, do not show up well in the archaeological record. In a quote given earlier in that section and repeated above,

fishing was one of the arenas identified by Tambiah (1990, 71) as often permeated with ritual cycles and intermittent rites. The rituals associated with fishing and seafaring worldwide are many and often the line between religion and magic in this regard is blurred. The Solomon Islanders of the Marovo Lagoon in the Western Pacific, for example, traditionally use magico-religious means to attempt to control the sea for fishing: when the waves are too strong to launch a canoe they summon the village elders to the shore to carry out a wave-calming act which involves throwing a knotted length of beach plant into the waves (Hviding 1996, 173). For the present study, the significant aspect of this ritual is the fact that it takes place at the seashore, and unless depicted in the islander's iconography, would leave little or no archaeological trace. In the Aegean context, such embedded rituals may show up in the iconography; indeed, the miniature fresco in the West House at Thera provides a good example (Figs. 65-66). If the interpretation of the ship procession scene as a maritime festival is correct, it seems that part of the festival took place in the harbour (as noted by Marinatos 1983, 17). The possibility that in the ancient Aegean some marine-oriented rituals may have taken place *in situ* at harbours or by the seashore, leaving little or no archaeological trace, is tantalising. Such socially embedded rituals may have been common, yet, because of the difficulty of their identification in the archaeological record, they have hitherto been ignored when considering marine-oriented rituals in the ancient Aegean. The issue of embedded marine rituals deserves further investigation. Here I will explore how ethnographic research and later Greek historical accounts can illuminate the types of embedded marine rituals which may have been practised by the Minoans, and reconsider the Minoan evidence in the light of these suggestions.

(a). Ritual Taboos and Proscriptions

Sailors and seafarers are traditionally very superstitious and studies of both traditional and modern fishing communities show that the activities of fishing and seafaring are often governed by the extensive use of taboos and proscriptive rituals. On most

tropical islands in the Pacific, for example, apprentice fishermen have to learn numerous onerous fishing taboos and protocols before being allowed to fish (Johannes 1981, 88-89). Often particular words cannot be spoken and certain behaviour is strictly forbidden. In the islands of Palau in Micronesia, for example, sexual intercourse is expressly prohibited prior to a fishing expedition (Johannes 1981, 14). For the Trobriand islands, Malinowski highlighted the elaborate system of taboos pertaining to the canoes of islanders setting off on Kula exchange voyages: for example, eating and drinking were prohibited on a new canoe except after sunset, women were not allowed to enter the canoe before it sailed, and certain types of objects could not be carried in it (Malinowski 2002, 229-30). Prohibitions against the killing of particular seabirds are also common among sailors worldwide; the prospective perils of killing an albatross were of course immortalised by Coleridge in *The Rhyme of the Ancient Mariner*. Among Icelandic fishing communities, there is a taboo on making any associations with land while at sea and any dirt from the land brought on board the ship is thought to result in poor catches (Pálsson 1994, 123). The reason is due to a fundamental opposition made between the realms of land and sea, and the taboo ensures that the boat is kept 'pure' (Pálsson 1994, 123). A recent folklore study on superstition among modern Irish fishermen conducted by Bairbre Ni Fhloinn (UCD) revealed that traditional superstitious rituals, such as taboos on the speaking of particular words, animal names, or colours, are still practised by many seafarers in Ireland today, and surprisingly, they were found to be most prevalent among younger more successful fishermen, that is, among those with most to lose (Pickrell 2005). These modern examples show how firmly entrenched traditional seafaring proscriptive rituals tend to be.

The reason for such ritual taboos and proscriptions is surely related to the nature of fishing and seafaring. Fishing is an extremely unpredictable activity: while extensive skill and practical knowledge is involved, the size and quality of the catch can also depend upon many factors outside the control of even the most skilled fisherman. The act of seafaring is also inherently dangerous, as the mariner entrusts his life and livelihood to the capricious whim of wind and wave. Many of the rituals and taboos

associated with fishing and seafaring worldwide must have arisen as a direct response to this element of uncertainty and these natural and unpredictable hazards. In the absence of textual sources it is impossible to tell if Minoan seafaring was governed by such ritual taboos and proscriptions, but given the inherent dangers and unpredictability of seafaring it is likely that the traditional maritime recourse to superstition and magico-religious protection was just as prevalent, if not more so, in antiquity as today.

(b). Rituals of Embarkation, Debarkation and 'Blessing of the Waters'

For the ancient Aegean, an examination of later Greek seafaring rituals may also be instructive as to the types of marine-oriented rituals which may have been practised but which do not show up archaeologically. From the Greek literary sources it is clear that in the historical period sailors prayed and gave offerings upon both embarking and disembarking, and these activities took place on board ships as well as on the shore. Thucydides, for example, records that in 415 BC before the Athenian fleet embarked for Sicily the entire fleet took part in prayers and libations, accompanied by the crowd of spectators on the shore. Mixing vessels of wine were set up on board the ships and libations were offered before the ships set sail (Thucy. 6.32). In the Odyssey, the departure of Telemachus is also marked by the offering of prayers and sacrifice to Athena (Homer *Od.* 15.222-23). The ritual of blessing boats and the sea before a voyage finds continuity today in both Catholic and Greek Orthodox rituals. The festival of the Epiphany with its 'blessing of the waters' ceremony is practised annually on January 6th throughout the world in the Greek Orthodox faith and all churches close to water take part. The rituals involve the blessing of ships and small boats as well as a ceremony in which boys dive into the chilly waters to retrieve a cross which has been blessed by a priest and thrown into the sea. The Roman Catholic 'blessing of the waters' ritual usually takes place later in the year; in Galway Bay, in the west of Ireland, for example, the festival takes place in mid-August so that it is timed with both the feast of the Assumption of Our Lady and the opening of the

herring season. After the blessing is over, the boats, which are decorated for the occasion with streamers and bunting, take a short trip around the bay. The parallels between this ceremony and that depicted on the Theran ship fresco are immediately obvious (Figs. 65-66), and I suggested earlier that the maritime festival which is thought to be portrayed on the Theran fresco may have been a celebration in honour of the opening of the fishing season or the return of seasonal fish, similar to that practised in Galway. In the ancient Mediterranean, another possible parallel is provided by the Greek and Roman festivals in honour of Isis *Pelagia*, Isis 'of the Sea', during which Isis' ship was launched to mark the opening of the sailing season and the resumption of fishing and trade (Witt 1971, 165-84). The celebration, which reportedly took place on March 5th, is vividly described by Apuleius (*Golden Ass* XI), and involved a great procession during which priests offered libations and uttered prayers before the richly decorated ship. Interestingly, the priests also poured a libation of milk into the sea itself before the ship set sail (Witt 1971, 177), in an act recalling the later 'Blessing of the Waters' ceremonies and also the wave-calming rituals of the Solomon Islanders, which were described earlier.

From the evidence of the Theran fresco and a consideration of maritime rituals practised in both the ancient and modern Aegean area, it seems reasonable to assume that in the prehistoric Aegean libations and offerings would have been made *on location* on both boat and shore on occasions such as the departure of ships, their successful return, and at key events marking the reopening of the sailing season and the return of economically important seasonal shoals, like the tunny fish. Re-considering the Minoan evidence in the light of such archaeologically 'invisible' rituals, it seems possible that some of the marine objects and cult equipment found in Minoan shrines or cult storerooms located close to the sea may have been periodically removed for use in rituals taking place by the shore, at harbours, and onboard sea-going vessels.[46]

[46] The issue of the location of shrines containing evidence of marine-related cult activity will be explored further below.

Section C. The Social Relevance of Marine-Oriented Rituals

Thus far, I have examined the evidence for marine-oriented ritual action, analysing the types of marine artefacts and iconography found in cult contexts and deposits, exploring the reasons for their selection and use, and considering how they were actively used in Minoan rituals. I have also looked at the role of more socially embedded marine rituals which were not set apart from everyday life, examining the potential role of taboos and proscriptive rituals while at sea, the wearing of amulets and talismans, and the possibility that marine rituals also took place out-doors, on board ships and at harbours and shore-sides. However, in order to understand the social role of marine-oriented rituals it is essential to explore their social relevance and their possible significance to the participants. We must now consider who were making these offerings and what were their concerns, and whether there is any observable correlation between patterns in the evidence for marine ritual practice and wider patterns in Minoan marine interaction, considering, in particular, the development of trade and overseas contact and the possible effects of the Theran eruption on the marine environment.

i. Participation and Specific Concerns

From my examination of the evidence for marine-oriented ritual practice, a number of general trends became clear (Tables 3a-b). With the exception of triton shells, which can be linked with cult activity from as early as the Prepalatial period (see Chapter 2), marine objects are not found in Aegean shrines until the Protopalatial period, when items such as shells, pebble scatters, and occasional clay model fish are deposited. Most of these Protopalatial finds come from peak sanctuaries, with only two instances of marine finds associated with the early palaces (at Phaistos and Knossos) and one instance at a house-shrine at Malia.[47] Generally speaking, however, there is not much

[47] This depositional pattern seems to relate directly to the scale of the evidence available. Most of the evidence for Protopalatial cult comes from peak sanctuaries while evidence for Protopalatial shrines at

evidence for shrines in this early period and not much marine evidence for the known shrines. The limited range of marine offerings and the relative ease with which they could be acquired suggest that they were deposited by ordinary sailors, merchants, and fishermen who gave whatever they could afford. I have postulated that such marine offerings were perhaps given in gratitude for or in the hope of securing continued success in their livelihood: good catches, favourable winds for seafaring, safe voyages and perhaps, for merchants, protection from pirates. I also raised the possibility that marine items such as shells were also deposited as fertility offerings, because of perceived links between the sea, water and fertility, or because of symbolic associations based on mythology or based on the shape or colour of specific shell types. If such associations were made, the types of people leaving such offerings could include a broader range of people than merely those engaged in frequent contact with the sea.

In contrast with the Protopalatial period, in the Neopalatial period marine artefacts and iconography now appear in palatial shrines and deposits at Zakro, Malia and Archanes, and at Knossos, where the marine world is well represented in the Temple Repositories (Table 3a). Marine offerings have not been found in the shrines or cult deposits at the palace of Phaistos however, although it is possible that finds such as shells were simply not recorded in the early excavations. In this period, marine artefacts are also found in shrines and cult deposits at elite villas, at Ayia Triadha and Nirou Chani, for example, as well as in buildings and houses at Pseira and Malia. The evidence therefore seems to suggest that the early focus of marine-oriented cult was on peak sanctuaries, with marine rituals only brought into Minoan palaces and houses in the Neopalatial period when they perhaps became more formalised. In the Neopalatial period, there is also a dramatic increase in the range and quality of marine artefacts offered and elaborate marine iconography now appears on cult equipment and on frescoes in shrines. Imitation shells and models of marine creatures and boats are now found, some made in fine materials such as faience, stone, ivory and gold.

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palaces and settlements is somewhat limited, as it is largely obscured by Neopalatial buildings built over earlier remains.

These developments seem to point to an extensive elite participation in, if not control of, marine rituals in the Neopalatial period. However, such elite-controlled rituals may have remained open to some degree to participants from all of society. Panagiotaki, for example, notes that the Miniature Temple fresco from the palace of Knossos, which is thought to show ritual activities taking place within the west wing of the palace, seems to show a division of social ranking among the participants (Panagiotaki 1999, 150-51). Equally, the thousands of shells in the Temple Repositories at Knossos may point to a continued practice of wide participation in marine-oriented rituals, whereby participants of various social ranks brought what ever they could afford (Panagiotaki 1999, 151).

ii. Marine Ritual Practice and its Possible Links to Patterns in the Development of External Trade and Overseas Contacts

Patterns in the evidence seem to point to a broadening of participation in marine rituals by the Neopalatial period, along with greater formalisation, and perhaps elite domination of marine-oriented ritual practice. This trend seems to correlate directly with broader social and economic developments. There is clear evidence in this period of an intense Minoan elite interest in expressing control over ritual, attested, for example, by the stronger links established between the palaces and peak sanctuaries at this time (Morris 2004, 41-42; Peatfield 1987). The amplification of elite interest in ritual is also clear from the increasing quantities of religious paraphernalia in the LM I palaces and from the observation that the amount of palace space devoted to cult activity seems to have increased in the Neopalatial period (Moody 1987, 238). The increased elite interest in marine-oriented ritual also seems to correspond with an intensification of Minoan marine interaction. The Neopalatial period saw an increase in Minoan long-distance trade and overseas contact and a growth in Minoan influence throughout the Aegean. The intensification of overseas contact in this period is thought to have been intimately linked with the palaces and the rise of palatial workshops. While the exact degree of involvement of the early

palaces in external trade and contact is far from clear, scholars agree that by the Neopalatial period, long-distance trade came under centralised, palatial control (Knapp 1991, 49). In this period, Minoan foreign contacts were far-reaching, and encompassed the Cycladic islands, the Mycenaean mainland, the Near East and Egypt (Cline 1994). Contact took place on many levels, including direct trade of metals, raw materials and finished goods, the forging of political alliances through diplomatic gift exchange, and the symbolic transfer of iconography, skills, ideas, and knowledge. Intense Minoan influence in the Cyclades in this period has also given rise to the unresolved debate about the existence of a Minoan Thalassocracy, or rule by the sea[48] (Hägg and Marinatos 1984).

That the effects of the intensification of overseas interaction were felt favourably by the Minoan elite is attested by the wealth of the palaces and villas in this period, and by the use of exotic raw materials and iconographic motifs in Minoan elite art. Elite access to and control of the products of overseas contact must have been integral to their maintenance of power. In addition to the value of access to exotic imports, Helms (1988) has shown that access to knowledge of geographical distance and of far-away peoples and places is among the realms of esoteric knowledge used by elites in the legitimation of their status, power and authority. These factors provide good reasons for the apparent increase in elite participation in marine-oriented rituals in the Neopalatial period. On the one hand, as one source of elite power lay in access to and control of overseas trade and contact, it makes sense that Minoan elites should seek divine protection of their interests. On the other hand, the increased elite participation in and perhaps dominance of marine ritual in the Neopalatial period goes hand in hand with their dominance of overseas trade and external contact; it may have been one mechanism by which the Minoan elite maintained and consolidated their social position and preserved their access to the products of this interaction - luxury goods and exotica, and esoteric knowledge of far-flung places and foreign ideas.

[48] The idea of a Thalassocracy comes from Thucydides (I, 3-8). Such a theme was familiar to the Athenians of the 5th century BC and was accepted readily by many contemporary and later writers; the same theme recurs in elusive references to King Minos, suggesting that it was a well-known Greek tradition.

iii. Marine Ritual Practice and the Effects of the Theran Eruption: Tsunami and Marine Environmental Catastrophes

We must also consider the possibility that the apparent intensification of marine ritual practice in the Neopalatial period was a response to a marine catastrophe brought about by the effects of the Theran eruption in LM IA. Recent scientific findings suggest that the eruption triggered tsunami which may have reached the north and north-eastern coasts of Minoan Crete within minutes of its formation.[49] We should note from the outset that volcanoes of the 'explosive' type, that is, purely tephra-producing, like that at Thera, *usually* produce tsunami (Thorarinsson 1978, 264, Table 1). The Krakatoa eruption in 1883, for example, which was also wholly 'explosive', produced tsunami with wave heights exceeding 40m, with a run-up distance of 11 miles inland over the low slopes of coastal beaches (McCoy and Heiken 2000b, 1231). McCoy and Heiken have argued that two stages of the Theran eruption are likely to have produced tsunami: the caldera collapse and the entry of pyroclastic surges/flows and debris into the sea, while the latter stage was likely to have produced tsunami directed towards the south and southeast, that is, towards Minoan Crete (McCoy and Heiken 2000b, 1238, 1249).

That tsunami *were* generated by the eruption is strongly suggested by the discovery of distinctive sedimentary deposits, known as homogenites, in deep-sea sediments of the Mediterranean Sea (McCoy and Heiken 2000b, 1228, 1241-43). Additional evidence is provided by archaeological finds of rounded Theran pumice, often mixed with seashells, on islands close to Thera such as Paros, Anaphi and Limnos, and on the island of Crete and as far away as Cyprus and Israel (Francaviglia 1990; Mc Coy and Heiken 2000b, 1246). On Crete, stratified deposits of Theran pumice have been found at Pseira (Betancourt *et al.* 1990), Mochlos (Soles and Davaras 1990), and Knossos (Warren and Puchelt 1990), while pumice identified as Theran has also been found at many other sites along the north and east coasts, including Amnisos, Poros, Zakro,

[49] Marinatos (1939) was the first to suggest that the Theran eruption caused tsunami which devastated Minoan Crete. While the current consensus among the scientific community is that tsunami were indeed generated, there is still no agreement among Aegean scholars on the issue.

Nirou Chani and Malia (Francaviglia 1990, 130; Driessen and MacDonald 1997, 91). Some of these pumice deposits were found far inland and at considerable heights above sea level suggesting that they were carried inland by seismic waves, rather than carried to shore by prevailing winds. On Crete, for example, Francaviglia has observed that Theran pumice found on the hill above the villa at Amnisos at heights of 10-15m above sea level seems to provide real evidence for tsunami effects (Francaviglia 1990, 131-33). At Chania, a remarkable pumice stratum 15-20cm thick was found to have water-worn LM IA sherds mixed in with the pumice (Warren and Puchelt 1990, 72). Moreover, startling new evidence has recently been found at Palaikastro, where geoarchaeological deposits suggestive of tsunami deposition have now been identified (Bruins *et al.* 2008). These deposits, located along the coast, contain chaotic mixtures of ash, rounded pebbles, pumice and building debris, along with marine microfauna, individual shells and LM IA pottery sherds. A significant aspect of the deposits is that much of the material is imbricated, a term used in sedimentology when material overlaps like roof-tiles. As imbrication is generally caused by strong water currents, it provides strong evidence that these deposits at Palaikastro were left in the wake of the Theran tsunami (Bruins *et al.* 2008, 198).

In 1978, Yokoyama estimated the height of the Theran tsunami using figures calculated from two pumice deposits at Anaphi and Tel Aviv (Yokoyama 1978). Taking estimations of the sea depth and the distance between these sites and Thera, he calculated estimated wave heights of between 50-86m, and suggested that the tsunami could have arrived at the north coast of Crete, over 100km to the south, within 25 minutes of the eruption, at a reduced height of about 11m (Yokoyama 1978, 283). McCoy and Heiken (2000b, 1250) have since argued that Yokoyama's figure for maximum wave height may be too high (on the basis that tsunami deposits were found near Pori on Thera at heights of only 7-8m). However, their revised figures of estimated wave amplitudes of c.7-12m along the coast of Crete (McCoy and Heiken 2000b, 1250) are not far from those originally posed by Yokoyama. Moreover, the Amnisos deposits, which came from heights of 10-15m, suggest that the actual wave

height at Crete may have been higher than either estimate, and that an estimated minimum range of 7-15m is perhaps better.

A tsunami on such a scale would have caused considerable devastation on Crete, as evidenced by the destruction and extensive loss of life caused by the 2004 Indian Ocean tsunami, when waves reaching up to 30m in height devastated coastal communities across South and Southeast Asia. The survivors of that tsunami are only beginning to get back on their feet two years on, with the help of extensive international aid (Mydans 2006). In considering the possible impact a tsunami would have had on Minoan ships and fishing vessels, the way in which tsunamis form is relevant. In the open sea, the actual height of the tsunami is often less than one metre and the energy of the tsunami passes through the entire water of the seabed. In contrast, as the tsunami approaches land the sea shallows and it can no longer travel so quickly, so that the wave becomes steeper and taller, often increasing to heights of 30m or more and becoming more powerful as the energy is compressed. Often, vessels already out to sea do not notice the tsunami, experiencing it as a mere ripple. Thus, Minoan vessels already out to sea when the tsunami struck may have escaped relatively unscathed. For vessels positioned close to the shore, however, the effects can be quite devastating as the sheer weight of the incoming water can literally pulverise objects in its path. A tsunami reaching Crete in LM IA with waves of at least 7-15m could have resulted in widespread devastation of seagoing vessels moored at Minoan harbours or positioned close to the shore when the tsunami struck. Indeed, historical accounts of the lesser eruption of Mt. Columbo on Thera in 1650 AD record that it too was followed by a large destructive tsunami, which damaged ships off the north coast of Crete. Although much smaller than that postulated for Minoan Crete, the tsunami reportedly destroyed a number of fishing boats moored in Heraklion, Crete, when waves of over four metres overtopped the city harbour walls (Dominey-Howes *et al.* 2000, 86).

It is worth noting too that before the tsunami wave hits, the sea recedes from the coast, sometimes in excess of hundreds of metres, with the result that ships become

stranded and sea creatures become exposed. This can cause considerable loss of life, as people unaware of the danger remain to gather fish and shellfish from the exposed seabed. In the aftermath of tsunami, sea creatures, including rare and unusual types brought from deeper waters, are also found washed ashore; the Indonesian tsunami, for example, resulted in the deposition of an array of sea creatures from various depths, including unusual species such as the prickly shark and the benthic Stargazer and Viperfish (Marroni 2006, 9, 11). One can only wonder if the Minoan interest in sea creatures which became more evident in the LM IB period, and particularly their increased fascination with the argonaut, a rare and unusual creature, was in any way inspired by the collective memory of such a display caused by a tsunami in the previous LM IA period.

Before leaving the tsunami hypothesis, it is important to stress that the study of tsunami is still very much in its infancy; at the present time, we can only work with the information available. However, the current information strongly suggests that a tsunami *did* follow the Theran eruption and future research in this field may further substantiate this argument.

Aside from short-term tsunami damage, pumice and distal ash deposited by the Theran eruption may have had a detrimental effect on the Aegean marine environment, the impact of which would have been felt for many years after. Bicknell, for example, has argued that the use of LM IB Marine Style ware in Minoan rituals was a religious response to extensive marine environmental disturbance in the aftermath of the eruption (Bicknell 2000, 99). He notes that eruptions at Krakatoa, Barcena in Mexico and in Alaska resulted in the deposition of vast quantities of water-borne pumice which not only presented a major obstruction and hazard to sea vessels[50] but also had a detrimental effect on marine life, depleting stocks of some species while deterring others from entering affected waters (Bicknell 2000, 99). Similarly, McCoy and Heiken argue that pumice deposited during the first phase of

[50] After the Krakatoa eruption, for example, the harbour of Lampong in Sumatra was so blocked up by pumice that communication by sea was severed for several months (Marinatos 1939, 431).

the Theran eruption may have formed 'enormous rafts' that drifted on sea currents throughout the Aegean (McCoy and Heiken 2000a, 58-59; 2000b, 1236). As evidence for floating Theran pumice clogging up the Aegean Sea, Bicknell turns to the iconography on the famous Marine Style rhyton with dolphins from Pseira (Fig. 14). Observing that the tricurved arch pattern which is used to indicate the sea is in-filled with a pattern of dots, he suggests that this unusual addition was not caused by some *horror vaccui* of the artist, but was a deliberate artistic device intended to allude to a sea cluttered with floating pumice (Bicknell 2000, 101). While I am not convinced by his suggestion, the presence of large Theran pumice pieces 15-20cm in diameter in a stratum at Chania on Crete (Warren and Puchelt 1990, 72) lends weight to the hypothesis that large pieces of floating pumice may have caused considerable obstruction to boats and marine life in the aftermath of the eruption.

In addition to seaborne pumice, layers of distal ash (tephra) from the eruption would have had a detrimental effect on both marine and agricultural resources. At Mochlos, distal Theran ash was found in layers reaching 10cm in depth in places (Soles and Davaras 1990, 91) suggesting that an ash layer at least 10cm thick would have also fallen into the sea north of Crete. Layers of Theran ash approximately 8cm deep were also found at Palaikastro (Driessen and MacDonald 1997, 234), while even thicker layers, 10-20cm in depth, have been found at Seraglio in Kos (Marketou 1990, 103). Bicknell (2000, 102) has pointed out the detrimental effects of tephra on marine resources, with deoxygenation of the water potentially leading to runaway phytoplankton blooms and 'red tides', which can cause mass marine mortality. He notes that some species, such as dolphins, are particularly sensitive to such marine pollutants. In 1990, for example, industrial pollution in the water between North Africa and Spain led to the deaths of over 6000 dolphins within three months, although no other species was overtly affected (Bicknell 2000, 102). Pollutants such as distal ash affecting just one element of the marine food chain could have sparked a chain reaction leading to a serious depletion of Aegean marine resources.

The very real possibility that the Theran eruption in LM IA caused a tsunami as well as more long-term marine environmental catastrophes, both of which affected the northern and eastern coasts of Crete, provides another potential reason for the intensification of Minoan marine-oriented ritual in the Neopalatial period. It is possible that the focus of some marine-oriented rituals was to avert further such natural disasters and to bring about an end to the existing marine environmental conditions. This suggestion seems to be corroborated by the practice, observed earlier, of dedicating pumice in shrines at that time, as identified at Nirou Chani (Hood 1997, 114), at the palace of Zakro (Platon 1985, 196-97), at Palaikastro Building 7 and Block B (Sackett 1996, 51; Driessen 1991, 362), and at the cave of Arkalochori (Driessen and MacDonald 1997, 97).

iv. Why Particular Shrines were selected as the Location of Marine Cult Activity

Before leaving the area of cult practice, it is worth considering the reasons why particular sites were selected as the location of marine ritual activity. Here a phenomenological approach to the evidence may prove instructive, as factors such as the proximity of a cult place to the sea and its intervisibility with the sea (whether it commands a view of the sea and whether it is visible from it) may be significant.

I observed earlier that most of the evidence for marine ritual practice from the Protopalatial period came from peak sanctuaries, with marine finds of seashells, model fish, fish vessels and scatters of water-worn pebbles found at the peak sanctuaries of Juktas, Kophinas, Vrysinas, Traostalos, Vigla, Prinias, Atsipadhes, Spili Vorizi, Karphi, Kalamaki, Ambelos, Petsophas and Keria on Crete and at the Minoan peak sanctuary of Ayios Georgios on Kythera (Table 3). Marine finds were also found in later levels at the mountain shrine of Kato Syme. Upon first consideration, the practice of depositing real marine objects on mountain peaks seems strange given that many of these peak sanctuaries are located at some distance from the sea; the Juktas peak, for example, is approximately 13km from the sea. However,

as many of these peak sanctuaries command a view of and/or are clearly visible from the sea, I suggest that the issue of the intervisibility of sea and peak may have been a determining factor in the use of such mountain sanctuaries in marine rituals. In a recent GIS survey of the relationship between the sea and peak sanctuaries, Soetens *et al.* (2002, 166) concluded that the cumulative viewshed of the sea from such sanctuaries was considerable, and they suggested that some Minoan peak sanctuaries may have served as strategic lookout posts. Sakellarakis also made this suggestion for the peak sanctuary at Ayios Georgios on Kythera, which commanded an extensive view of the harbour and of all the sea passages from east to west (Sakellarakis 1991, 91).[51] This function provides one possible reason for the deposition of marine objects in peak sanctuaries.

Another reason is the potentially important role of these sites as landmarks and navigational aids for fishermen and mariners. This role was hinted at by Evans, who observed that 'the peak of Juktas, rising immediately behind the site of Knossos, certainly affords a most conspicuous goal for mariners' (PM II, 239). Soetens *et al.* (2001) tested the visibility of peak sanctuaries from the sea and found that many would have been clearly visible from the sea to approaching seafarers. Taking viewsheds from islands around Crete and also from 50km out to sea, they found that at least 16 of the 23 identified peak sanctuaries of Crete are potentially visible from as far away as the southern Cycladic islands (Soetens *et al.* 2001, 6). Importantly, most of those with marine offerings are clearly visible from the sea from different points along the Cretan coastline.[52] What is noteworthy is the fact that the peaks which

[51] In his analysis of peak sanctuaries, Peatfield (1989) also observed viewsheds from different directions. From his results, it is clear that many of the recognised peak sanctuaries had a view of the sea, including most of the peaks which yielded marine finds: Juktas, Kophinas, Prinias, Traostalos, Vigla, Karphi, Vrysinas, Petsophas and Kalamaki.

[52] While Soetens *et al.* (2001) do not specify which peak sanctuaries are visible from the sea, Soetens informs me that the prominent peaks of Juktas, Vrysinas, Kophinas, Traostalos and Prinias are visible as clear impressive landmarks from the north coast, Rethymnon coastal plain, central south coast, east coast and north-eastern coastal plain, respectively (Soetens pers. comm. 6-10-07). Traostalos, for example, is known to all Cretan sailors today as a kind of leveled cake, based on its distinctive shape. Vigla is also prominent from the sea, especially from the Kato Zakro bay. Other peaks which yielded marine finds such as Petsophas and Kalamaki are also clearly visible although they are not the most impressive landmarks visible from the coast. Atsipadhes, Spili Vorizi and Keria, each of which produced pebbles, are located further inland, however, and are not easily visible from the sea.

yielded the most striking marine finds such as model fish or boats (Kophinas, Vrysinas and Traostalos) are some of the most conspicuous from the sea. Soetens *et al.* concluded that the high visibility of many peak sanctuaries from the sea and the fact that some peak sanctuaries have thick ash layers suggestive of bonfires suggests that these sanctuaries served as landmarks for seafarers and possibly as beacons for incoming ships (Soetens *et al.* 2001, 6; 2002, 166).[53] I suggest that the probable roles of some peak sanctuaries as maritime lookout posts and their likely role in navigation helps explain why marine-oriented rituals took place there. As these prominent peaks would have served as navigational aids as well as providing a welcome first glimpse of home to returning fishermen and seafarers, it is not difficult to imagine how some became associated with seafaring rituals.

A number of the later shrines containing marine objects or imagery also commanded a view of the sea and some are located close to the sea and are orientated towards it. For example, the sea is clearly visible from the entrance to the Ayia Triadha shrine with the marine fresco floor. On Keos, the temple at Ayia Irini is located so close to the sea that part of the site is now submerged; the entrance is thought to have faced towards the sea, and one had to follow a sloping passageway which led down towards the seashore in order to enter it (Caskey 1962, 279; 1971, 383, fig. 9). The strategic importance of the harbour at Ayia Irini, which would have provided shelter for vessels moving out along the main navigation route from the Greek mainland into the northern Aegean (Caskey 1962, 266), provides a possible reason why marine objects were dedicated in the temple and for its location and orientation towards the sea. Equally, marine rituals practised at the palace of Zakro may have related to the important role played by the palatial harbour town in commerce with the Near East and Egypt. Building BQ1 at Pseira, which contained a hoard of rhyta including a matching LM IB Marine Style set, was located by the sea at the foot of the Grand Staircase, which led from the harbour to the town centre (the *plateia*). In the earlier discussion of socially 'embedded' rituals, I suggested that some of the marine objects

[53] Evidence suggestive of bonfires has been found at the peak sanctuaries of Juktas, Kophinas, Petsophas, Traostalos and Vrysinas (Peatfield 1989, 358, 372, 384, 410, 420). It may be significant that all of these prominent peaks have also yielded marine finds.

and cult equipment found in shrines located close to the sea may have been periodically brought outdoors for use in rituals taking place on boats and at the seashore. At Pseira, for example, the rhyta may have been used at the harbour or carried in processions along the Grand Staircase, as suggested by Betancourt and Davaras (1995, 12; 1999, 137).

These considerations suggest that the proximity of a shrine to the sea and the intervisibility of sea and shrine were potentially important factors in determining appropriate locations for marine-oriented rituals. As a final point, it is important to note that few of the sites containing evidence of marine ritual practice seem to have been *exclusively* a focus of marine cult. That is not to say that we should minimise the role of the marine in Minoan religious ritual, as Vandenabeele (1991, 250) proposes, but rather, that we should recognise that marine concerns, while strongly represented in Minoan ritual practice, were one of a number of important everyday issues to be addressed in Minoan religious rituals. At a few Minoan sites, however, the marine world figured particularly strongly. At the Temple Repositories at Knossos, for example, Panagiotaki (1999, 130) has observed that the number of marine objects found far exceeds all the other objects put together. Equally, in Area 17 of the palace of Archanes, the large proportion of marine finds suggests that ritual activity was especially associated with the sea (Sakellarakis and Sapouna-Sakellaraki 1997, 109).

Section D. Beliefs

In the final section of this chapter, we must now leave cult practice aside and turn to the more nebulous area of beliefs. In the methodology section, I noted that current definitions of religious ritual emphasise the *communicatory* aspect of ritual. Given the longevity of the practice of depositing marine offerings in shrines, we may justly ask the question: with whom were the Minoans attempting to communicate? What is the evidence for a Minoan marine deity/deities or for a Minoan deity with a marine aspect?

Before attempting to answer this question, we must first consider the methodological issue of whether the presence of marine offerings in Minoan shrines tells us anything about the type of deity/deities being worshipped there? Voyatzis (1988, 138-41), writing about early Greek cult, notes that scholars disagree on the issue of whether it is possible to determine the nature of a deity by the types of offerings dedicated to them. While some scholars hold that votive offerings may reflect the identity or particular aspects of the receiving deity, others argue that the dedications are more likely to reflect the interests of the dedicator. Certainly, in early Greek cult, there seem to be no clear associations between a particular offering and a particular deity; Poseidon as Lord of the Sea does not appear to be associated with marine offerings, for example. However, as few publications of sanctuaries provide a full publication of the offerings it is possible that some such connections have hitherto gone unnoticed. With this in mind, it is therefore difficult to say whether the marine objects dedicated in Minoan shrines simply represent the interests of the people offering them, local fishermen, sailors and sea-traders, for example, or the specific domain of the divine recipient.

In order to determine whether or not there was a Minoan marine deity/deities or indeed a Minoan deity with a marine aspect, we must begin by considering the wider issue of Minoan 'divinity'. Sir Arthur Evans argued for a Minoan belief in a single Great 'Mother' Goddess, accompanied by a male consort who was associated with the agricultural cycle (PM I, 3, 128). He spoke correspondingly of a 'marine aspect' to the Great Goddess (PM I, 517-22, 635; PM IV 109-10), considering that one of her many realms was the sea and all its creatures. In contrast, Nilsson argued for several distinct Minoan goddesses, as well as significant male gods, on the grounds that peoples in the stage of civilisation reached by the Minoans 'always have a plurality of gods and goddesses' (1968, 389-93). Nilsson therefore spoke of a specific 'goddess of seafaring', as opposed to a single great goddess with a marine aspect (1968, 389, 398). The issue of Minoan monotheism vs. polytheism has yet to be resolved and scholarly opinion is divided into two camps: those who follow Evans and have developed his ideas, and those, like Nilsson, who have reacted to them (Goodison and

Morris 1998, 113). Thus, the question of whether we should speak of a single Minoan goddess with a marine aspect or a specifically marine deity remains open. On the one hand, a possible argument against the existence of an *exclusively* marine deity is the fact that none of the sites or deposits containing evidence of marine ritual practice seems to have been exclusively a focus of marine cult; this would seem to fit with the notion of a single deity with many aspects. On the other hand, it is possible that multiple deities were worshipped together at the same location. The problem is well illustrated by the Temple Repository finds, where marine artefacts, along with other items from the realms of nature including floral and faunal faience relief plaques, were found alongside the 'Snake Goddess' figures. If the latter are to be taken as a figure of a divinity and her adorants, as suggested by Evans (PM I, 498, 501-507), the associated finds could represent her different realms, of land and sea. However, Goodison and Morris have noted that the gestures of the two 'adorant' figures do not correspond to those widely accepted as Minoan worship gestures from a votary to a deity (1998, 125). The three female figures could therefore represent different deities, each with different domains, being worshipped side-by-side; alternatively, they may not represent votaries or divinities at all. Clearly, as the question of one or many deities remains unresolved, it cannot help us here. Instead, in order to consider marine beliefs further, we must turn to the evidence provided by Minoan iconography, which, as I shall demonstrate, does, at the very least, establish a link between the marine world and a female figure, possibly of divine status.

i. Transportation of 'the Goddess' by Boat

A number of representations of female figures on boats have been identified as showing a Minoan marine goddess. These iconographic scenes, engraved on Minoan rings and sealstones, have often been termed 'transportation of the goddess' or 'arrival of the divinity from the sea' scenes (Marinatos 1989, 142; 1993, 162-64). Such scenes usually depict a single anthropomorphic figure travelling on a boat,

which may or may not have fantastical features, often accompanied by a 'sacred tree' and construction.

The first such scene to discuss is that on the gold ring from Mochlos (Fig. 79), as the identification of the figure on this scene as a goddess seems to me the most convincing. The image depicts a female figure seated on a fantastical boat, which is either arriving or departing from the shore. Behind the figure is a two-tiered construction from which a fig tree emerges. The construction is usually interpreted as either an enclosure for a sacred tree or as a tree-shrine (Sourvinou-Inwood 1989, 99); whether the construction is meant to be on the shore behind the boat or is being transported on the boat is unclear, however. To the right of the vessel part of a structure on the shore is visible. The scene has been interpreted as the arrival or departure of a goddess by boat. Evans, for example, argued that it depicted the Minoan goddess, 'as Mistress of the Sea', arriving at one of her sanctuaries in a sacred bark (PM II, 249-50). Sourvinou-Inwood has argued that it shows the arrival or departure by sea of a goddess at a sanctuary where she is going to participate, or has just participated in the performance of rituals, perhaps associated with the vegetation cycle (1973, 157).

A combination of features supports the identification of the female figure as a goddess. The first is the fantastical craft in which she travels. The lower extremity of the boat ends in a spray, while the raised extremity at the other end terminates in an animal head which has been variously interpreted as the head of a canine (Seager 1912, 90), dragon (Palaiologou 1995, 198), or sea-monster (Seager 1912, 90; Sourvinou-Inwood 1973, 152). Equine features have also been pointed out, such as the shape of the head, the mane and the forelegs, and some scholars have related it to a hippocampus (PM IV, 952; Persson 1942, 83; Platon 1984, 67). In his typology of ship representations, Wedde (2000, 175, 180) catalogued boats of this type as fantastical and unsuited to practical use and he identified the Mochlos boat as a cult-boat. Sourvinou-Inwood has argued that the boat may have been inspired by an Egyptian prototype such as the serpent-headed bark of Soker and that its use adds to

the 'other-worldly' character of the scene, perhaps serving to distance the image from the world of everyday reality (Sourvinou-Inwood 1989, 100). In addition to the boat, the association of the female figure with the tree also provides another link with divinity. The role of the tree in Minoan ritual, highlighted by both Evans (1901) and Nilsson (1968, 262-64, 399), has, in more recent years, been re-examined by Marinatos (1989), who observed that human figures are often shown in gestures of worship before sacred trees. That the figure on the Mochlos ring does not interact with the tree and sits with her back towards it has been taken as a sign of her divinity (Marinatos 1989, 132; Sourvinou-Inwood 1989, 100). As her gesture, with one arm by her side, the other bent at the elbow with the hand raised, has been found both on figures suggested by context to be adorants and on others identified as divinities, it cannot confirm the identification here (Wedde 2000, 181, n.49). However, the combination of elements: fantastical craft (cult-boat) and what Wedde (2000, 187) calls the 'woman-and-gesture/tree/construction' triad, strongly suggests that the female on the Mochlos boat represents a goddess who is travelling by sea.

A combination of some of the features found on the Mochlos ring, the fantastic boat, and/or elements of the woman-and-gesture/tree/construction triad, recur on other scenes in glyptic art which may also show a divinity being transported over the sea. The 'Ring of Minos' combines the elements of fantastic craft and female figure and construction seen on the Mochlos ring, but in a more detailed scene (Fig. 80). The ring shows a female figure steering a fantastic vessel (with hull morphology very similar to that on the Mochlos boat), against a tricurved arch sea. Above and to either side, on the shore, there are further scenes. To the right, a richly dressed woman sits on a two-tiered construction topped by horns of consecration, while above her, a tiny female figure which may be epiphanic hovers in the air. To the left of the boat, a naked female figure grasps the branch of a tree, which is growing out of a built enclosure, while in the central scene above the boat a male adorant grasps the branch of another tree, in this instance, growing out of what appears to be a small shrine. While the female figure on the boat makes no gestures which would assist in her identification as a divinity, a combination of elements suggests that she may in fact be

divine. The fantastical craft and the tiered construction onboard, combined with the surrounding elements of the tree-grasping adorants and the possible epiphanic figure, all point towards an interpretation of the female in the boat as a divinity. A cautionary note must be added however, given the chequered history of this ring (recounted by Krzyszkowska 2005a, 336; Warren 1987, 485-87 and Platon 1984, 67-69). The ring was originally rejected by some scholars as a forgery; Nilsson, for example, observed that it seemed to combine a number of elements taken from other known signet rings: the boat, for example, arguably derived from that on the Mochlos ring scene (Nilsson 1968, 42-43). If this is the case, the scene has no value for this discussion. Warren (1987), however, re-examined the iconographic elements thought to be problematic and concluded that the ring was in fact genuine, a conclusion also reached by Platon (1984, 67-69). Having been missing for some time, the ring has recently resurfaced and its authenticity has now been endorsed by the Heraklion Museum, which gave it pride of place in an exhibition which opened in 2002. Although the museum authorities have authenticated the ring on stylistic and technical grounds (Dimopoulou and Rethemiotakis 2004, 25-28), some doubt regarding its authenticity still remains among the scholarly community; it must therefore, be used with caution. If genuine, however, it seems to show a goddess arriving by sea, as on the Mochlos ring. The significance of such scenes may have been to denote symbolically the goddesses' rule over the sea and all its creatures, as suggested by Evans (PM IV, 956). Platon (1984), however, has suggested that it also had a political dimension, denoting the protection of 'the Goddess' of the Minoan Thalassocracy.

A figure travelling in a fantastic vessel also features on a series of 45 clay sealings from Ayia Triadha (Fig. 81), which are thought to derive from a gold signet ring (Wedde 2000, 183 n.70). The boat appears to have an avian head at one extremity while the other end terminates in a spray; the resulting image suggests that the boat is shaped like a bird lying on its back (Wedde 2000, 183). In this case, however, the figure appears to be male and his possible status as divine is suggested only by the vessel itself. The question of whether the scene shows a divinity travelling by boat must therefore remain open. A comparable seal, from Anemospilia (Fig. 82), also

shows a male figure travelling in a boat, poling vigorously. While the boat is not fantastical *per se*, Wedde (2000, 191) notes that the stern terminates in an unidentified object which seems to show some animalian or avian features, and that it should therefore be linked with the Mochlos, Ring of Minos and Ayia Triadha scenes. If the male figures on these two seals are to be identified as divinities, then perhaps both male and female divinities were thought to arrive via the sea.

A number of other scenes may also fit the same theme. A sealing from Chania depicting a nude female figure leaning on a long pole and facing an s-shaped curved object seems to represent a woman on a boat, the s-shaped object being the curved prow or stern (Fig. 83). Boulotis (1987, 24) identified her as a possible marine goddess. The same suggestion has been made for the female figure on a sealing from Knossos, who is depicted reclining against a pattern of dotted scales (Fig. 84). As the dotted scale pattern is often used to represent the sea (as discussed in Chapter 4), the figure is thought to represent a goddess reclining on or being magically transported by the waves (PM IV, 956; Boulotis 1987, 24; Marinatos 1989, 142; 1993, 164). A scene on a seal from Makrygialos (Fig. 85) again combines the theme identified on the Mochlos ring and Ring of Minos of a gesturing female on a boat with a tree (here, a palm) and construction (*ikrion*?), but here the boat appears to be a quotidian craft, rather than fantastical. However, the gesture of the female figure, with her right arm raised to her face and possibly touching the forehead, is commonly accepted as a gesture of adoration, suggesting that the Makrygialos figure should be interpreted as an adorant rather than a divinity (Marinatos 1989, 132; Sourvinou-Inwood 1989, 100). Morgan has suggested that the figure is a priestess and as her gesture of reverence is directed towards the construction or stern cabin of the boat, she seems to be engaged in a nautical ritual (Morgan 1988, 144), the aim of which was perhaps to ensure the safety of the vessel before its embarkation. Davaras (2004) has observed that a very similar scene to that on the Makrygialos seal is painted on a cup from Mochlos, which also shows a boat bearing a palm tree and construction, and seems to be related in theme. A final seal which may show divinities travelling in a ritual boat comes from Stathatos (Fig. 86). The scene shows two female figures poling a boat.

While the boat seems quotidian at first glance, Wedde (2000, 186) has argued that it has been ritually heightened by the addition of the *ikrion* and the stern appendage. He also suggests that the fact that the occupants are shown poling the craft may be significant, as this method of propulsion is badly adapted to Aegean waterways, and while not restricted to ritual activities, seems unnecessary here given that the boat is equipped with oars (Wedde 2000, 186). While these factors could argue in favour of the ritual nature of the scene, it remains unclear whether the figures therefore represent two goddesses or rather votaries or priestesses.

In conclusion, a number of scenes in glyptic art showing anthropomorphic figures on boats seem to represent a deity/deities arriving by sea. The Mochlos and Ring of Minos scenes provide the clearest examples, on both of which the transportation of a goddess by a fantastical boat has been postulated, with a sacred tree playing an important role. Male figures associated with fantastical craft on the Ayia Triadha and Anemospilia scenes may or may not also represent divinities arriving by sea. In the scene from Knossos, it was suggested that a possible goddess was being transported across the sea without the aid of a boat. It should be noted, however, that although these scenes seem to associate a deity/deities with the sea, it does not automatically follow that the deity/deities in question were marine in nature, as is often assumed. Egyptian gods also travel by boat, and as Marinatos notes, these scenes may in fact point to a belief in the sea as a symbolic space or liminal zone between the everyday world and divine realm (Marinatos 1989, 142; 1993, 164). Moreover, as some of the figures on boats have been identified as adorants, (the Makrygialos figure, for example, and possibly the Stathatos pair), we must also consider the possibility that some of these scenes are in fact scenes of ritual action. Sourvinou-Inwood (1989, 100), for example, has suggested that a real rite involving the transportation of an altar and sacred tree may have existed in Minoan Crete. Marinatos (1993, 164) has suggested that the arrival of the tree by boat may have symbolised the arrival of the divinity. Wedde (2000, 188) also pointed out that some of the scenes may show rites involving the personification of the deity/deities by priestesses or adorants, and warned that even the fantastical craft depicted, could, in theory, have been actually

constructed for such rites. The scenes, while highlighting an important association between the sea and Minoan divinity, therefore, provide little conclusive evidence about Minoan marine deities/the marine aspect of the deity. To explore this further, we must turn to scenes showing a female form flanked by fish and sea creatures, a type of scene thought to illustrate the role of a/the Minoan goddess as 'Mistress of the Sea'.

ii. 'Mistress of the Sea' Scenes and Linear B Evidence for Poseidon and Posidaeia

A genre of scenes in Minoan art showing a female figure flanked by animals or fabulous creatures such as griffins are thought to show a/the Minoan goddess of nature as 'Mistress of the Animals', or when framed by octopi, fish or dolphins, as 'Mistress of the Sea'. The motif of a female figure flanked by marine creatures can be seen on at least three sealstones, two of which come from the Mycenaean Mainland (Pylos and Nemea), another from an unknown provenance (Fig. 87a-c). All three are engraved with a heraldic composition in which a female figure is flanked by fish or dolphins. Another unprovenanced seal (CMS VIII 128) may provide a fourth example of the genre, although the fish flanking the female figure are too worn to be certain. In some instances, a dolphin can clearly be recognised, as on the Nemea seal (Fig. 87c), for example, where the familiar iconographic knop in the tail, a common feature in Aegean dolphin representations, is clearly visible. Another example of this formula can be seen on a gold diadem from Zakro (Platon 1985, 11), which is seldom illustrated.[54] The central roundel of the diadem is decorated with a female figure holding two wild goats upside down, one in each hand; flanking this scene on either side is a huge octopus along with spiral motifs perhaps representing waves.

[54] Platon (1985, 21-22) notes that the diadem was acquired by Dr. Giamalakis in return for treating a patient, a local villager who claimed to have found this and two other valuable gold items while cultivating a field. It is thought to be authentic and is currently held in the Heraklion Museum as part of the Giamalakis Collection.

The heraldic scheme of female figure flanked by animals/marine life has often been compared with the later Greek representations of Artemis as 'Mistress of the Animals' or *Potnia Theron* (see, for example, Boulotis 1987, 32; Platon 1985, 22-23); accordingly, the female figure in such scenes is usually thought to be divine. There has been considerable debate about references to 'Potnia' in Linear B inscriptions from the Greek Mainland and Knossos, and about how the use of the term in the prehistoric Aegean related to its later usage in connection with Greek goddesses (Laffineur and Hägg 2001). While that debate is outside the scope of this thesis, there is good reason to suggest that the female 'Potnia Theron' figures depicted in these Minoan glyptic scenes are divine. The heraldic scheme in these scenes suggests that the female figure held a position of authority and dominance, and Marinatos (1993, 154) notes that the heraldic device was often used in the orient in connection with scenes of *religious* dominance. Furthermore, the fact that fantastic creatures are sometimes included among the animals flanking the female figure strongly suggests a religious overtone. The scenes in which a female figure is flanked by marine creatures could therefore show a/the goddess as guardian and 'mistress' of the sea and all its creatures.

The formalised heraldic composition clearly distinguishes these scenes from fishing scenes, such as those discussed earlier (Table 1: **FS1-9**), which usually feature a male figure holding a single fish. An exception to this is the scene on a seal in Athens (Fig. 6e; **FS7**) in which a male figure holds *two* large fish, one in each hand. Here, however, the antithetic arrangement of the fish can be distinguished from that on the seals with the female figures, as the man clearly holds the fish by the tail, rather than being flanked by them in a heraldic mode. The scene should probably be interpreted as a fisherman returning with a catch of large fish, possibly tunny, rather than a male marine divinity. In contrast, it is more difficult to tell if a female figure shown holding a *single* large fish on a seal in the Ashmolean Museum (**FS6**) represents a fisherwoman or a variation of the 'goddess' and marine creatures scenes; Kenna, for example, interpreted her as a goddess holding a tunny fish (CS no. 282). There is, however, no clear indication of her divine status, no heraldic composition, for

example, and the fact that she holds the fish by the tail in the same manner in which males identified as 'fishermen' do, suggests to me that this could, in fact, be a representation of a fisherwoman.

Other glyptic scenes which seem to show marine creatures in connection with possible female divinities include that on a seal from Palaikastro (Fig. 88), where two dolphins are shown flanking a figure which seems to be half-woman half-bird. Marinatos (1993, 155) has suggested that this is a representation of a 'bird-goddess', the dolphins perhaps indicating that her realms including both the sky and sea. A seal from Knossos has an enigmatic scene which may or may not show a dolphin along with a female figure of possibly divine status (Fig. 89). The seal depicts a female figure in a flounced skirt, but where her left arm should be, a dolphin-like shape is positioned instead. Marinatos (1993, 156) has argued that the seal shows a goddess holding a dolphin to her bosom. The identification of the dolphin is far from clear, however, suggested only by a possible eye, curved back and tail; it is possible that the 'dolphin' is in fact, merely the sleeve of her dress, albeit with one sleeve larger than the other. On the other hand, if it is a dolphin the scene may show a goddess acting as protectress of the sea and its inhabitants.

Whether all of these female figures depicted in connection with marine creatures are representations of 'goddesses' or not is difficult to determine. At the very least, we must concede that there is strong iconographic evidence for a link between a female figure, possibly of divine status, and the marine world. Before leaving the subject of beliefs, we must also consider what light the Linear B evidence can shed on the subject of marine divinities. The name 'Poseidon' appears in tablets from Pylos and Knossos, with a female version, Posidaeia, also attested at Pylos (Hägg 1997, 165, Table 1). In the later Greek period, Poseidon as god of the sea had both positive and negative aspects: on the one hand, he was master and helper of fishermen; on the other, he was potentially dangerous as the creator of devastating storms, and had to be appeased with offerings and libations (Burkert 1985, 137). Boulotis notes that while it is not known whether these aspects of the god Poseidon had been developed by the

Mycenaean period, the evidence suggests that he was closely linked to the sea. While the most widely accepted etymology of the name Poseidon translates as 'husband of the earth', other views on its derivation suggest translations of 'Lord of the Waters' or 'Lord of the Sea Lanes' (Boulotis 1987, 26). If these etymological derivations are correct, it is reasonable to suggest that his female counterpart at Pylos was connected with the sea also. Interestingly, Boulotis (1987, 26) has also observed that Poseidon is the god most frequently mentioned at Pylos. We may justly wonder if the importance of this sea-god at Pylos could help explain the use of marine frescoes on floors in prominent areas of that palace, particularly the octopus panel which was positioned on the floor opposite the throne in the megaron (Figs. 91-92).

iii. The Priesthood

Finally, I wish to draw attention to evidence for the priesthood connected to the marine aspect of cult. On one Minoan seal, a possible priest figure is juxtaposed with a dolphin (Fig. 90). The figure is male and is shown walking to the left, with the large dolphin depicted vertically to his right, in a nose-dive position. He has been interpreted as a priest on the basis of his insignia and dress. Evans observed that sacerdotal figures in Minoan art can usually be identified by their characteristic long robes with diagonal bands and tassels (PM IV, 397-419). Such priest figures can be seen, for example, on the Camp Stool fresco from Knossos. The robes of the man on the Minoan seal, while lacking tassels, fit with this sacerdotal type. Marinatos (1993, 128-29) argues that Minoan priest figures can also be identified on the basis of their hairstyle, cropped at the front and longer at the back, and the fact that they are usually shown holding insignia of their authority, such as a curved axe, stone mace or lance. The figure on our seal bears an axe or mace and this feature along with his hairstyle and robes strongly suggest that he is a priest. The unnatural juxtaposition of priest and dolphin suggests that the dolphin motif was emblematic. Observing the genre of seals in which dolphins are shown as aggressive predators, discussed earlier (Table 2; Fig. 17a-j), Marinatos (1993, 131-32) suggests that the dolphin here should be understood

as a sacred symbol, designating the priest as powerful. An alternative suggestion is that the dolphin should be read as a symbol of the marine cult rites in which the priest officiated.

I have already mentioned the possible role of priestesses in marine rituals when discussing the 'Priestess' figure painted in the West House at Thera and the sealstone from Makrygialos showing a female figure in a boat. Both scenes have been interpreted by Morgan (1988, 144) as depicting a priestess engaged in marine-oriented ritual action. In addition to these scenes, a possible reference to a priestess officiating in marine cult activity is provided by the title 'Priestess of the Winds' which appears in two of the Linear B tablets from Knossos (Ventris and Chadwick 1973, 305-308, FP 1 and FP 13). Given the importance of good winds for sailing, it seems likely that the responsibilities of the priestess bearing this title would include officiating in rites to ensure favourable winds for seafarers.

Conclusion

In this chapter, I have critically reassessed the evidence for the role of the marine world in Minoan cult practice and belief, also taking into consideration evidence from the wider Aegean area. My findings suggest that Vandenabeele's conclusion that the marine world is little present in Minoan shrines must be refuted (Vandenabeele 1991, 250). A consistent and thorough analysis of the evidence and a close attention to context and association reveals that the evidence for Minoan marine rituals is much greater than hitherto recognised. As I have demonstrated, and as early scholars on Minoan religion such as Evans frequently observed, the marine world was in fact strongly represented in Minoan religious ritual. In the methodology section at the start of this chapter, I mentioned Bell's suggestion that in order to understand ritual we must restore it to the context of social action in general (Bell 1992, 90). To this aim, it is important to note that marine rituals generally seem to have been practised alongside other, non-marine rituals as part of a nexus of ritual activities addressing

important everyday concerns. Keeping Bell's statement in mind, I considered the role of socially embedded ritual action, emphasising the possibility that many Minoan marine rituals may have been integrated with the everyday activities of fishing and seafaring. I also examined the social role of marine rituals, observing that broader patterns in the evidence for marine ritual practice seem to relate directly to both increased interaction with the sea in the form of trade and overseas contacts, and also to firsthand experiences of the destructive power of the sea, in the form of tsunami and marine environmental catastrophe. Examining iconographic evidence for the beliefs underlying marine-oriented ritual action, I observed that in Minoan and Mycenaean art there is a clear link between the marine world and a female figure of possibly divine status, which may point to a belief in a sea goddess or, as some scholars would argue for the Minoans, a goddess with a marine aspect. Linear B references to Poseidon suggest that this god, and his female counterpart at Pylos, may have also been connected with the sea in the Mycenaean period in Crete. The following two chapters continue to explore the ritual importance of the sea, taking as separate case studies the triton shell and marine stone vases with relief imagery, examining the social role of these objects and assessing the case for their use in Minoan rituals.

Chapter 2

The Captivating Conch:

A Consideration of the Role of the Triton Shell in the Aegean Bronze Age

Shells of many types have been found in Minoan ritual contexts and deposits, but one shell type more than any other seems to have had a special link to Minoan religious ritual: the triton shell. The religious associations of the triton shell were observed early on by Sir Arthur Evans, with the discovery of real triton shells in apparent 'ritual' deposits at the palaces of Knossos and Phaistos (PM I, 219, 221, 580-81). Since then, many further examples have been found in contexts or deposits identified as 'ritual' in nature,[1] and scholars now generally agree that the triton shell had a special religious use in Minoan Crete. However, the use of triton shells was not exclusive to ritual contexts; real triton shells have, in fact, been found in a range of contexts in the Aegean, suggesting that they had a wider social function and significance. That the inhabitants of Minoan Crete attached a high value to the triton shell is attested not only by their use of the real shells as artefacts but also by their practice of making small- and large-scale imitations of the shells in materials ranging from simple clay to fine stone, faience, and amethyst. In this chapter, I will explore the social and religious role of triton shells in the Aegean Bronze Age, assessing the case for their use as cult objects and examining their wider social use and significance.

Before beginning, it is worth considering previous research on the subject of Aegean triton shells. Although a number of works on Aegean triton shells exist, none of these studies have examined the full range of evidence concerning the role of the triton shell or considered its wider social and religious function. Åström and Reese (1990) have examined the presence of triton shells in cult contexts and tombs in the Aegean, Cyprus, and the Near East. Their work provided the first rigorous study of the presence of this shell type in cult contexts, collating evidence of the use of tritons as

[1] A catalogue of triton shells found in ritual sites and deposits is provided in Appendix 2, where details of each site and of the shells is provided, and where the attributions of these sites and deposits as 'ritual' is assessed.

cult equipment in the Bronze Age Aegean and evidence of their contemporary use in cult contexts in the eastern Mediterranean. Perhaps the most valuable aspect of this work is that details of the condition of the shells are provided (where available), particularly in terms of whether a given shell was worked or unworked. However, despite his specialised analysis of the shells, Reese makes only preliminary inferences about shell use in ritual and funerary contexts and the actual role of the triton shell in cult activity needs to be explored further. Moreover, as the article focuses solely on triton shells in ritual and funerary contexts, there is little consideration of the role of triton shells in other social contexts. While the catalogue provided in this article is extremely useful, the attributions of the sites listed as 'ritual' need to be reassessed, as some are based solely on tentative suggestions made by the excavators of the sites. As nearly twenty years have passed since the publication of the article, it is also time for the catalogue to be updated in the light of subsequent finds. Another Aegean shell expert, Lillian Karali, has discussed triton shells as part of her larger study on shells in the Aegean Bronze Age (Karali 1999, 22-24). She also provides a brief catalogue of triton shells from the Aegean area with details of modifications, where available. However, unlike Reese, she does not separate the finds in terms of contexts, nor does she discuss their possible functions in any detail.

Regarding the *use* of triton shells, Younger's 1998 work on music in the Aegean Bronze Age includes a brief discussion of possible triton shell trumpets from the Aegean. For conch trumpets generally, Montague (1981) and Clark (1996) both provide useful technical information on how shell trumpets work, as well as how to make them. For imitation triton shells, two works are relevant. The first is Baurain and Darque's (1983) study of the stone triton shell with relief carving from Malia. In addition to providing a detailed analysis of the Malia shell, the second section of the work provides a catalogue of large-scale imitation shells from the Aegean. However, there is little interpretation of the shell models and despite the lengthy discussion of the Malia shell, the reader is left with little understanding of how such pieces were actually used or of the cultural significance of the triton shell itself. The more recent work by Lloyd (1994) has somewhat redressed the balance. While the author has

again taken a single imitation shell as the focus of study, she has tried to situate the shell within the wider corpus of imitation triton shells and provides a thoughtful consideration of how imitation shells may have been used. Like Baurain and Darque, however, she does not explore the wider significance of the triton shell or the use of real triton shells to any great degree.

From this brief review of previous research, it is clear that the subject of triton shells is one that has captured the interest of a number of Aegean Bronze Age scholars. In particular, two imitation triton shells have been singled out as the subject of whole articles. Despite this interest, there has yet to be a holistic study of triton shells which considers the role of real and imitation tritons in both ritual *and* other contexts. Beyond the most summary of interpretations, the function of these shells and the social and religious role they played remains little understood. My approach is to consider the social and religious role of the triton shell by examining the full range of contexts in which real and imitation tritons are found. While I will argue for the use of the triton shell as a ritual object, I will also draw attention to its wider social use, examining the use of tritons in contexts with no evident ritual connection as well as triton representations in art. In order to assess how triton shells were used, I will consider whether the real shells from Aegean contexts were used unmodified or were worked to form vessels, trumpets or other objects. In contrast to previous studies, I will draw upon the wealth of evidence on conch shell use provided by ethnographic studies and by archaeological finds from other parts of the world, to help illustrate the possible ways in which the Aegean triton shells were used.

Before beginning, it is necessary to outline the structure of the chapter and the methodology employed. The chapter is divided into five sections: Section A provides an introduction to the triton and its shell and considers methodological issues concerning shell analysis, Section B provides an overview of conch shell use in the Aegean, while Sections C-E focus on representations of conch shells in art and on the use of real triton shells and large-scale imitations. I will consider the possible function of real and imitation tritons in relation to three types of context: ritual, funerary, and

'other' (contexts with no easily observable link to ritual). In Chapter 1, I discussed the difficulty of identifying 'ritual' in the archaeological record and considered the methods used by archaeologists to do so. In particular, I observed that interpretation is the result of a chain of inference, which has its basis in the previous recognition of particular architectural or topographic features and artefacts as having a ritual use. In order to minimise the risks inherent in such a chain of inference, specifically, misinterpretation due to a wrong initial interpretation, I have tried to be as transparent as possible in my identification of 'ritual' sites or contexts. Following from the methodology established in Chapter 1, I have catalogued the occurrence of triton shells in contexts and deposits identified by scholars as 'ritual' in nature, outlining the reasons why each site or deposit has been linked to ritual and describing the architectural features and associated finds which have led to this interpretation. This catalogue is presented in Appendix 2, which should be read in conjunction with this chapter. In reassessing 'ritual' contexts in relation to triton shells, I have divided the Minoan sites (of Appendix 2: Section A) into two groups, according to the likelihood that their interpretation as 'ritual' is correct: real triton shells in 'probable' ritual contexts and deposits on Crete are listed first, followed by tritons in 'possible' ritual contexts. Tritons in ritual contexts in the wider Aegean area are catalogued in Section B of the Appendix, while Section C describes triton shells in contexts where there is no evidence of ritual use. Real tritons shells from the third type of context, funerary contexts, are listed in Table 6. Large-scale shell models are catalogued in Table 9 and will be discussed after considering the role of real triton shells.

Section A. The Triton and Its Shell

i. Physiognomy, Habitat and Methods of Procurement

The best place to begin our discussion is with a description of our main protagonist, the triton, and its habitat and shell. When triton shells are mentioned in excavation reports, they are often referred to merely as 'conch' shells, the term 'conch' being a

generic term used to describe any large whorled univalve gastropod shell.[2] As gastropods are a subspecies of the phylum *Mollusca*, tritons are essentially large marine snails with roughly conical spiralled shells (Fig. 94). Fig. 93 shows a diagram of the structure of a triton shell. As various parts of the shell will often be referred to in the course of this chapter, the diagram should be consulted whenever necessary. The shell is fairly solid and robust and is made of a conical tube spirally wound around a central axis, the columella. The closed pointed head is the apex and the coiled whorls form the spire. The largest, outer whorl is known as the body whorl as it is where the body of the mollusc lies. The opening of the shell is known as the aperture, framed by two flaring 'lips', the inner surface of which are ridged. The spout-like tube which extends from the top of the body whorl is the siphonal canal, sometimes referred to in the literature as the 'appendix'. When the mollusc is alive, the outer surface of the shell is covered with a hairy protective surface, the periostracum, which wears off the shell when the mollusc dies.

At least two species of triton are commonly found in the Mediterranean: the *Charonia sequenzae* (also known as *Charonia tritonis variegata*) and the *Charonia nodifera* (sometimes called *Charonia Lampas*). The shell of the former (shown in Figs. 94-95) can reach up to 38cm in length (Oliver 1980, 144). The exterior of the shell has an almost smooth surface, punctuated only by shallow parallel ribs separated by narrow channels which wind around each whorl. The outer surface of the *C. sequenzae* shell is patterned with a series of moon-shaped crescents.[3] The other Aegean triton, the *Charonia nodifera*, or Knobbed Triton (shown in Figs. 96-97), is less common and can reach a length of up to 30cm (Oliver 1980, 144). As its name suggests, its surface is marked with a series of raised knobs or nodules. Karali (1999, 22) has observed that the robust surface of the *C. nodifera* makes it most suitable for fashioning into trumpets and other objects, but, as we shall see, both species were worked in the Aegean Bronze Age.

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[2] Limpets (*Patella*), for example, are also Gastropods but as their univalved shell does not consist of coiled spirals they can not be described as 'conches'.

[3] These natural markings of this shell, both the parallel ribs and moon-crescents, are perfectly imitated in stone on an imitation triton shell from Malia (Table 9a: **Sh.6**; Fig. 137).

Charonia tritons are quite solitary species and live in sandy and rocky habitats. Some reports state that *Charonia* live in deep water (Reese 1995a, 11; Karali 1999, 22), but they are actually found in both deep and shallow water (Oliver 1980, 144); I have personally seen tritons of the *C. sequenzae* species at depths of merely 3-6m and not far from the shore while diving off the south coast of Cyprus. The issue of habitat and depth range is important when considering ancient access to these shells. While the empty shells of dead tritons could be collected when washed up into shallow water or onto beaches, such examples are usually badly worn and often scarred with holes. Examples of beach- and water-worn shells have been found in the ancient Aegean, but the finest specimens would have been collected while the animal was still alive. Shells from low depths could have been collected by hand by divers, with little or no skill required, but examples collected from depths above 10m would have required skilled divers equipped with a net and a knife with which to detach the foot of the mollusc, if rooted to a rocky surface. While there is no surviving representation of the practice of shell collection from the Aegean Bronze Age,[4] a painted representation of a shell diver wearing a net around his neck can be seen in Tetitla, at Teotihuacan, in Western Mexico (Figs. 98-99), illustrating this traditional method of collection. According to Miller, the local Tulum Maya still dive for shells in this way today, preferring to wear the net around their neck rather than their waist as this keeps the diver's head weighted down, making it easier for them to find the conch shells on the sea bottom (Miller 1977, 100-101). It is very likely that triton shells were collected from deep water by the prehistoric Aegeans in the same way.

ii. Shell Preservation and Analysis

Information on how triton shells were used in a given context can be gleaned from an analysis of the shells themselves: from evidence of whether they were collected alive or dead and whether they had been worked or were unworked originally. The

[4] A later Greek illustration of a diver can be seen on the painted ceiling of a tomb from Poseidonia, dated to c. 480 BC (Pedley 1998, 235, fig. 7.40), but there is no indication that he is diving to collect marine shells or sponges.

presence of marine encrustations and water- or beach-wear on shells is a sign that the shell was collected when the creature was long dead. When the mollusc is alive, the shell is protected by the periostracum; shells collected 'fresh' can thus be identified in the archaeological record by their lack of surface wear or encrustations. From the published analyses of shell assemblages, it is clear that both live tritons and empty shells were collected in the Bronze Age Aegean. Triton shells from Minoan Kommos, for example, included worn and water-worn specimens which were clearly collected empty from the beach or shallows (Reese 1995c, Table 5.24). Equally, at least two of the whole triton shells from EM II Myrtos had bryozoan encrustations on the *inside* surface of the shell, proving that they were collected when the animal was already dead (Shackleton 1972, 324). On the other hand, there are also many examples in the archaeological reports of shells which were collected 'fresh'.

Triton molluscs are edible but as they are solitary species the issue of whether they would ever have been a significant food source is debatable, as large numbers would have been more difficult to procure than was the case for species which occur in groups, such as patella (limpets), for example. When eaten, they would have been used as a dietary supplement rather than a staple. In addition to food use, the triton molluscs collected alive could be used for bait. The mollusc could be extracted in a way that would enable the shell to be reused. According to Novella (1995, 4), there are two main ways to extract the mollusc from its shell. The first involves boring a small hole into the spire below the body whorl. Holes made by this process are difficult to distinguish from holes made by marine predators, and to the best of my knowledge, such holes have not been recognised on shells from Aegean archaeological assemblages. The second method of extraction simply involves boiling the shellfish in hot water and allowing it to cool slowly. As this method does not damage the shell, it is the most efficient way to extract (and cook) the mollusc leaving an undamaged shell which can then be reused. This was perhaps the method favoured by the Minoans, who clearly valued the shells. Occasionally, triton shells found in archaeological contexts bear signs of burning, suggesting that they were cooked

directly on the fire,[5] but this method of cooking does not seem to have been common in the Aegean, as it damages the shell.

The various ways in which the empty triton shells were used will be fully examined in the course of this chapter, however, a brief summary is necessary here in order to highlight methodological problems pertaining to use. When fine examples of triton shells were acquired in antiquity, they were surely highly prized as they often are today. While an empty shell could be retained as a fine object in itself, perhaps even as an item of exotica, it could also be used unmodified as a scoop, container or lamp. If the shell was to be worked, however, the first step was to remove the periostracum. Novella (1995, 4) describes the modern removal method used by fishermen, whereby the shell is boiled with hot water and caustic soda, then rinsed in fresh water, after which the softened periostracum is scraped away with a brush. Upon removing this, the shell could be worked in a number of ways. Two basic forms of modification seem to have been used in the Aegean. The first involved the removal of the apex of the shell, which could allow the shell to be sounded as a trumpet. The second involved the removal of the columella, which enabled the triton to function as a vessel. In determining the use of an ancient triton shell, it is essential to distinguish between deliberate modifications to the shell and changes caused by natural processes and breakages. For instance, as the removal of the apex of a triton shell can be the result of either a natural or a cultural process, tritons discovered with no apex cannot be interpreted as trumpets without further analysis. A good example is provided by the case of a large *C. nodifera* shell found in Tomb B at Kastri on Kythera (Table 6a: **T6**). Although the shell was found to have an open apex and could be sounded, analysis suggests that the apex had not in fact been worked and that the shell was probably never used as a trumpet (Åström and Reese 1990, 11). In practice, it is not always possible to distinguish with certainty between shells with apexes removed by man and those on which the apex has broken off over time. However, on worked shells the broken edge was often filed down and smoothed, whereas shells on which the apex has broken off accidentally usually have a rough edge. Holes made by

[5] A triton shell with signs of burning was found at Mochlos (Soles *et al.* 2004, 41), for example.

predators can also be distinguished from manmade perforations when the edges of the latter have been neatly filed down. On the other hand, the removal of the central columella or spine of the shell can only be the result of manmade modification, so shells worked to form vessels are therefore easier to identify correctly.

These considerations highlight the importance of distinguishing correctly between manmade and natural modifications before making conclusions about shell use, and emphasise the importance of expert analysis. In order to interpret the use of Aegean triton shells as accurately as possible, I have relied on reports by shell experts such as Reese, Shackleton, and Karali, where available, for information on shell preservation and evidence of worked tritons from the Aegean.[6] As a final precautionary note, it is important to stress that many of the triton shells found in archaeological assemblages are too fragmentary to tell if they had originally been modified or not. This severely limits our ability to assess the true extent of the use of modified tritons in the Aegean Bronze Age.

Before examining the role of real triton shells in ritual and other contexts, an overview of the use of triton shells in the Aegean and a discussion of the representation of tritons in Aegean art are necessary in order to give a sense of the extent and scale of their use.

Section B. An Overview of the Evidence for Real and Imitation Triton Shells in the Aegean

Triton shells first appear in archaeological contexts on Crete in the Neolithic Period, with examples known from Phaistos, Knossos, and from a rock shelter at Magasa near Ayios Nikolaos (Appendix 2). From the contexts, it is not clear whether any of these early examples had a 'ritual' use. Some of the shells had clearly been worked

[6] Where details of the shell structure have been provided solely by excavators, this has been noted in the text (and in Appendix 2), as the information and interpretations provided may not be wholly reliable.

suggesting that the shell itself was an object of interest even in this early period. Examples from both Knossos and Phaistos have broken apexes and may have been trumpets (Table 7b: **Sh.Tr.13-14**). In the case of the Phaistos shell (Fig. 100), the case for its deliberate modification is supported by the fact that it also had traces of decoration in the form of applied red ochre. In the Neolithic period, tritons are also known from a settlement on the island of Skyros (Karali 1999, 23), from Saliagos, where remains of 94 tritons were found (Reese 1985, 359), and from Cyprus, where a tomb at Khirokitia produced a triton shell vessel (Åström and Reese 1990, 8).[7]

In the Prepalatial period, tritons begin to be found in Minoan tombs where they were placed among the offerings and cult equipment (Table 6b). They are also found in contemporary tombs in the Cycladic Islands, in EC cemeteries on Syros, Paros and Naxos (Table 6a). On Crete, tritons have been found in EM II contexts at Knossos, Myrtos, and Palaikastro, and in a MM IA context at the Oval House, Khamaizi (Appendix 2). Of these Prepalatial examples, only the triton from Khamaizi has been connected with ritual use; it is in fact the earliest example from a probable cult context. As in the previous period, some of these Prepalatial tritons were worked. Two examples from EM II Myrtos, for example, seem to have had special treatment. One large triton had enough of the apex removed to enable it to be sounded and, like the Neolithic triton from Phaistos, had traces of possible red pigment (Table 7b: **Sh.Tr.15**). Another from the same site had a hole in the side near the apex which may have allowed the shell to be blown, although it was too badly damaged to be certain (Table 7b: **Sh.Tr.16**). In addition, a triton from an EC tomb on Paros had the upper mouth and the columella removed to form a vessel (Table 6a: **T3**).

In the Protopalatial period, with the rise of the first palaces on Crete we now find evidence for the use of triton shells in palatial cult, with single triton shells found in two separate ritual contexts at the palace of Phaistos, and a further example at the MM II Independent Bench Sanctuary Complex at Malia (Appendix 2). Again, worked

[7] Further triton shells are also known from Neolithic Italy, particularly from the coast of Liguria, where, for example, five tritons with artificially removed apexes were found in the Caverna della Pollera in association with burials (Skeates 1991, 17-20).

examples are occasionally found: the triton from the Upper West Court Sanctuary at Phaistos had a worked apex and could be sounded (Fig. 101; Åström and Reese 1990, 8). Tritons also continue to be found in Protopalatial Minoan tombs (Table 6b). In this period, we also find the earliest three-dimensional models in the form of triton shells and these too are associated with the new palaces and sometimes with ritual contexts. For example, the same MM II bench sanctuary at Malia which produced the real triton shell mentioned earlier, also produced a large-scale model conch shell (Table 9b: **Sh.28**). In the Protopalatial period, we also get the first two-dimensional representations of conch shells, surviving on sealings from the palace of Phaistos (Table 5: **TS1-3**).

The following Neopalatial period sees a dramatic increase in the evidence for the Minoan interest in and use of triton shells. There are many examples of real triton shells found in ritual contexts and deposits, and many further examples from settlement sites or contexts with no evident ritual connections (Appendix 2). Tritons also continue to be deposited in tombs, with examples known from Neopalatial tombs at Poros and Pyrgos (Table 6b). Worked triton shells are still found, with possible triton trumpets known from shrines at Malia and the Gypsades Hill, and triton vessels from sites including Pseira, Mochlos, and Kommos (Tables 7-8). Real triton shells are also known from ritual and other contexts at LC I Akrotiri, on Thera (Appendix 2B). On Crete, the Neopalatial period sees a veritable explosion in terms of imitation triton shells, with more than twenty surviving life-size or over life-size examples made in materials ranging from simple clay to stone, faience, and amethyst (Table 9). Some of these shells have elaborate relief decoration; others have evidence of metal or other attachments. In addition to these triton shells, there is also an over life-size model argonaut shell from the palace of Zakro and a huge *Dolium* shell from the villa at Ayia Triadha. The Neopalatial interest in making such imitation shells and the high investment of resources involved in their manufacture suggests that the triton, and perhaps some other large univalve shells, had attained a high cultural or symbolic value by this time and were considered items worthy of imitation and elaboration.

In sharp contrast to the Neopalatial period, large-scale model triton shells are rare in the Third Palace or Post-Palatial periods. The few known examples from late contexts at Kalyvia Mesara, Midea, and Rhodes are all thought to be heirlooms, manufactured in the previous Neopalatial period,[8] yet the evidence shows that *real* triton shells continued to be used in religious contexts and at settlement sites (Appendix 2). There are also many examples of real tritons from Aegean tombs in this period, as well as an example from a tomb at the Minoan site of Kastri on Kythera (Tables 6a-c). As with previous periods, some of these Aegean shells had been worked, with possible triton trumpets from ritual contexts at Kephala Khondrou Viannou, Kommos and at Phylakopi on Melos (Table 7a: **Sh.Tr.6-9**). One of the few known examples of real triton shells from Mainland contexts, an example from Ayios Konstantinos, Methana (Table 7a: **Sh.Tr.10**), also comes from this period.

From this overview, it is clear that real triton shells were used continuously over a long period of time in Crete and the Aegean islands, in contexts including tombs, ritual sites, and settlement contexts with no evident links with ritual. Empty shells could be collected from the sea or beach, but when collected alive, the mollusc was probably consumed or used as bait before reusing the shell. The shells were used unworked or worked to form trumpets and vessels, with no apparent discrimination of use for a particular context. The use of triton shells in the Aegean appears to be greatest among islanders, who had easiest access to this resource. In addition to Crete and the Aegean islands, Cyprus and coastal Italy produced Neolithic shells as well as later examples (Åström and Reese 1990, 7-8; Skeates 1991). The comparative lack of evidence for the use of triton shells at Bronze Age sites on Mainland Greece suggests that the shell was not utilised to any great extent there. While sites situated inland would have had less access to marine shells, studies on ancient shell trade show that societies in which shells are highly valued will often go to considerable effort to acquire them. Kolb (1996), for example, has shown that in Mesoamerica highly valued shells such as *Spondylus* and the *Strombus Conch* were transported for distances of over 200km to inland sites from both the Pacific and Caribbean coasts. If

[8] For the date of manufacture of these pieces, see the discussion in Section E below.

the prehistoric Greek Mainlanders had placed a high value on triton shells, they would surely have imported them to major inland sites and they would be found more often at Mainland coastal sites. The lack of evidence for their use suggests that tritons were neither widely used nor highly valued there, in sharp contrast to Minoan Crete where the shell was widely used and became so highly valued that fine imitations were made.

Section C. Two-Dimensional Representations of Triton or 'Conch' Shells in Art

Unlike other popular marine creatures, such as the octopus, argonaut and dolphin, triton shells are not represented in the major arts of Minoan Crete, with the exception of the Neopalatial model triton shells made in fine materials such as stone and faience. Tritons do not feature in any surviving Aegean Bronze Age fresco, for example, nor are they depicted on fine metal vessels, such as the Dendra Cup. Representations of triton or conch shells can be seen, however, in glyptic art and as painted motifs on ceramic vessels.

i. Glyptic Art

Marine motifs were consistently popular on sealstones. Many of the earliest Minoan seals such as the MM II prism seals from Malia feature fish among their repertoire, while marine creatures such as the octopus, fish, flying fish, dolphin, and occasionally, the crab and argonaut, were also found on many later seal types. The triton, however, appears relatively seldom on sealstones, and of the nine examples I have collated, seven come from the palaces of Phaistos and Knossos (Table 5: **TS1-9**; Figs. 102a-f). On many of these representations, the identification of the species as a 'triton' is questionable so the term 'conch' is preferable in describing them. The earliest examples are the three sealings from a MM IIB hoard from the first palace at Phaistos (Figs. 102a-c). Two of these depict a single conch shell, the third shows two

shells together. On two of the depictions, the shells are shown in connection with a branch, hinting at their natural marine setting or perhaps, at their role in ritual.[9] On the finest example, however, (Fig. 102a) a single conch is displayed in a more emblematic way in a formalised setting surrounded by a double wavy line and framed all around by a watery zigzag boarder. The vertical ribs depicted on this shell are not found on the real triton and can perhaps be attributed to artistic licence. Conch shells also feature on four sealings from Knossos. Two came from the Eastern Temple Repository: one shows two large conch shells, placed side to side (Fig. 102d); the other is fragmentary with only the lower section of a shell remaining (**TS5**). A more complex scene can be seen on a fragmentary sealing from the Landing of the Grand Staircase, which appears to show a conch positioned below a line of figure-of eight shields (Fig. 102e). Another from Knossos seems to show a seated anthropomorphic figure with a small triton suspended in the air above and a figure-of-eight shield below (**TS7**). The significance of the scene, if any, is unclear. Gill (1985, 79) has observed that the craftsmen who made these depictions on sealstones may have intended to represent the triton, but, probably for artistic reasons combined features of the triton with the more distinctive profile of the Ranella (Fig. 104). The 'spiky' lip of the shells in Figs. 102a-b from Phaistos and the exaggerated body whorl of the shells in Fig. 102d from Knossos, for example, are not found on the natural triton shell.

On the two final seals, however, both of which are from LM III contexts, the triton shell is clearly identifiable. The first came from funerary building at Phourni Archanes (**TS8**). It depicts a large triton shell positioned beneath a bull. The shell may be a filler motif; however, as the bull was a sacrificial animal, the depiction could refer to the use of triton shells as cult equipment. The final sealstone, the crystal lentoid from the Idaean cave has been left until last to discuss because of the light it may shed on the role of triton shells in the prehistoric Aegean (Fig. 102f). The seal shows a female figure holding a large triton shell aloft before an altar. The importance of the scene is twofold: it is the only surviving Aegean Bronze Age

[9] The branch is also associated with the triton shell in the religious scene on the Idaean Cave seal (**TS9**), discussed below.

representation showing a triton shell being used and it provides clear iconographic evidence for their use as cult equipment. The ritual nature of the scene is clear from the altar topped by horns of consecration and sacred branches. A similar altar with incurved sides has in fact been found in a ritual context at the 'House of the High Priest' at Knossos (Gesell 1985, 21 and Pl. 167) and a set of horns of consecration with a central socket for holding a double axe or a branch, similar to the horns depicted on the seal, was found in the LM IIIA2 shrine near the Villa Ariadne at Knossos (Popham 1970, 191-94). The exact use of the triton shell on the Idaean Cave seal will be further discussed below.

ii. Painted Representations: Ceramics

The triton shell also featured in Minoan ceramic art, where it was found on pottery of the LM IB Marine Style. While realistic triton shells appear in ceramic relief work of the MM II period, when small relief tritons were sometimes attached to the handle, rim, or body of vases (Fig. 188),[10] there are no painted representations of conch shells until the LM IB period, when clearly identifiable conch shells appear in a naturalistic marine setting as one of the four main motifs of the LM IB Marine Style (Fig. 103). While generally termed 'triton shells' in the literature, the Marine Style shells are a somewhat stylised version of the triton, with a more elongated body which is decorated with spiky or hairy projections (Müller 1997, figs. 117-19). The elongated profile recalls that of the ranella shell, such as the *Cymatium (Ranella) oleaium* (Fig. 104), suggesting that as with the conch shells from glyptic art, the artists combined elements of both species on the Marine Style shells. The spiky projections on the painted shells are not found on either the triton or ranella, however, but somewhat resemble those of other marine species, such as the murex (Fig. 105). As a result, some scholars have suggested that the artists in fact intended to depict either the *Murex trunculus* or *Murex brandaris*, the species which produce purple dye (for example, Marinatos and Hirmer 1960, 76; Bicknell 2000, 97). However, these murex

[10] These are discussed further below in Section E.

shells reach lengths of only 8-9cm and the large scale of the Marine Style shells is more suggestive of the triton shell. Moreover, aside from their spiky profile, the shape of the shells in no way resembles that of any Mediterranean murex species. An alternative explanation is that the spiky projections are a stylised version of the nodules found on the ranella and *C. nodifera* shells, or perhaps, an artistic attempt to show the periostracum, the protective hairy surface found on conch shells collected when the animal was still alive.

In Chapter 1, I discussed Mountjoy's (1985) observation that many LM IB Marine Style vessels have been found in ritual contexts or deposits, suggesting that some were used as cult equipment. I also observed how the triton and star motif occur very often on the rhyton shape, a vessel type often used in ritual activity. Given the role of triton shells as cult equipment, it is possible that the popularity of the 'triton shell' motif on Marine Style pottery relates to the use of these shells in ritual, that is, that when depicted on a Marine Style vessel used in cult, the motif acted as a mnemonic signifier reinforcing the cult use of the vase. Not all Marine Style vases were used in ritual activity - many have been found in contexts with no apparent ritual connections. Yet, even on Marine Style vessels used in domestic or 'secular' activities, the triton shell motif may have brought to mind the whole range of associations of the shell, from its use in religious ritual to its more general use in day-to-day life. The popularity of the motif in this vase painting style coincides with an increased occurrence of real triton shells in archaeological contexts and with a time when triton shells were also being imitated in fine materials, factors which suggest that the triton had acquired a cultural value. Its sudden appearance and prominence in the LM IB period as one of only four main motifs of the ceramic Marine Style must relate to its social and religious significance at that time.

It is interesting that after the LM IB period, the triton shell motif becomes extremely rare on Minoan pottery. Occasional examples resembling the Marine Style triton shells can be seen on Palace Style vessels of the following LM II period (PM IV, figs. 240-41), but thereafter the motif becomes almost unrecognisable, being reduced into

a stylised corkscrew motif (Furumark 1941, 193, 308-11: FM 23). This reduced form, while clearly derived from a whorl-shell, is too far removed from the triton shell to suggest that it had any conceptual link to that shell in the later period. While rare on pottery from later Minoan Crete, it becomes one of the main motifs on Mycenaean pottery during the LH IIIA2 and IIIB periods, where it is placed diagonally in the early LH IIIA2 period, but always placed vertically in LH IIIB (Mountjoy 1993, 72, 82). The fact that this reduced whorl-shell motif is often depicted alone with no marine habitat in sight or else used as a filler motif, on chariot scenes for example (Vermeule and Karageorghis 1982, Pl. IV.48), supports my suggestion that the motif had lost its conceptual link to the triton shell by this time.

Before leaving artistic representations of conch shells, it is important to note that in Minoan representations it is the empty shell that it always depicted, despite the fact that the Minoans would have been very familiar with the living mollusc. This is in contrast to depictions in Mesoamerica, for example, where conch shells were also highly valued and used in ritual and daily life. There, murals depicting shellfish sometimes show an awareness of the living organism: on murals in Cacaxtla in Mexico, for example, the living molluscs can be seen emerging from the shells of two *Astrea* species (Novella 1995, 41). The Minoan decision to show only the empty shell, particularly on vessels of the LM IB Marine Style, further suggests that the shell was being depicted for its perceived value - perhaps partly for its visual properties as an interesting decorative motif, but also for its cultural value as an item used in both ritual and everyday life.

Section D. Real Triton Shells and Their Use

i. Real Triton Shells in Ritual Contexts

The ritual use of triton shells was first observed by Sir Arthur Evans, based on both the Idaean cave seal representation and finds of triton shells from ritual contexts at the

palaces of Phaistos and Knossos (PM I, 219, 221, 580-81). In 1990, Åström and Reese compiled a short catalogue of triton shells from cult contexts in the Aegean and Near Eastern Mediterranean. Since this publication, there can be little doubt that the triton shell was used as an item of cult equipment in Minoan Crete. Following from their work, I have created an updated catalogue (Appendix 2A-B), detailing the presence of triton shells in Aegean ritual contexts and deposits, and assessing the evidence for linking each context with ritual activity. For methodological clarity, I have catalogued the sites and deposits in two groups: those for which the ritual character of the context is 'probable' and those for which it is 'possible'; all of the examples in the catalogue, however, have been identified as 'ritual' by the excavators. In creating this catalogue, I made a number of important discoveries. On the one hand, I found that many more examples of triton shells in ritual deposits have come to light since 1990, providing further supporting evidence of the cult use of this shell type. On the other hand, a closer examination of the find contexts revealed a recurring methodological assumption: because triton shells are known to have been used as cult equipment scholars have sometimes used the presence of a triton shell as *evidence* that a given context or deposit was ritual in nature. For example, the MM III 'shrine' from Knossos, located near the Magazine of the Lily Vases, was identified as a shrine by Evans *on the basis of* a triton shell, which Evans describes as 'a usual concomitant of these sanctuaries' (PM I, 580-81). The only supporting evidence was the presence of a bench, a structure which is often found in Minoan shrines but which can also have non-ritual functions. As I shall show in the course of this chapter, triton shells were not exclusively used in ritual activity, so their presence should not be interpreted as evidence of cult activity without strong supporting evidence from the associated architectural features and/or finds. Tritons at a house on the Gypsades Hill and in a deposit in Roussolakkos at Palaikastro have also been used by the excavators to identify 'ritual' areas (Appendix 2Aii), however, in each case, the associated finds only tentatively support the identification and their designation as ritual remain 'possible' only.

In Appendix 2, I have identified 25 *probable* ritual contexts containing triton shells, and a further nine *possible* ritual contexts with tritons. Triton shells are known from palatial, town, and domestic ritual contexts, with examples also from rural sanctuaries at Kato Syme and the Idaean Cave. Usually a single triton is found in each context or deposit although exceptions are known, such as the three probable triton trumpets found together in the Neopalatial bench sanctuary of the palace at Malia (Fig. 110). There are also a few examples in which multiple triton shells have been found in separate rooms of shrines.[11] In general, however, the fact that triton shells are usually found alone suggests that they were used singly in rituals. The earliest example which can be clearly linked with ritual activity comes from a Prepalatial context at the Oval House of Khamaizi (Appendix 2Ai). Although a number of triton shells have been found in earlier, Neolithic, contexts on Crete, none have been linked with cult activity. One triton, however, from Neolithic Phaistos, can be singled out in this regard. The shell had been worked to form a trumpet and was originally decorated with red ochre (Table 7b: **Sh.Tr.14**; Fig. 100). The use of the colour red in Aegean ritual was discussed in Chapter 1, where I observed that red pigment was ritually applied to items of cult equipment and perhaps, to the skin of cult participants. It is not clear how early on the colour became associated with ritual on Crete. In Europe, the application of red ochre to bones in Mesolithic and later graves (Jones and MacGregor 2002, 8) suggests that the association was an ancient one.[12] The human eye is particularly sensitive to bright colours, especially to the colour red (Gell 1999, 165) and ethnographic accounts show that red is often associated with blood and concepts of life-force (Scarre 2002, 229). Red is also associated with danger (Pinch 2001), aggression (Gage 1999), power (Turner 1967, 70-71) and ritual power (Morphy 1992, 196). Such associations, together with the strong visual response the colour evokes, provide possible reasons why red was associated with ritual in Minoan Crete. Because of this association, it is possible that the triton trumpet with red

[11] Triton shells were found in four separate ritual areas at the palace of Tourkoyeitonia, Archanes, while three triton shells came from separate areas of the shrines in Building AC at Pseira and the LM IIIB Building 7 at Palaikastro (Appendix 2).

[12] The practice of applying red ochre to human bones may in fact be more ancient still, as suggested by Neanderthal bones with red ochre found at Le Moustier and La Chapelle-aux-Saints (Scarre 2002, 229).

pigment from Neolithic Phaistos (and also that from Prepalatial Myrtos) were used in ritual activities, although this has not been confirmed by archaeological context.[13]

From the Prepalatial period onward, triton shells are found consistently in cult contexts on Crete right into the Postpalatial period (Appendix 2A-B). Occasional examples are also known from later Greek shrines, at Geometric levels of the shrine at Vrokastro, for example (Åström and Reese 1990, 9), suggesting continuity. Clearly, the triton shell should be regarded as an item of Minoan cult equipment, although the fact that tritons are not found at every Minoan shrine suggests that the shell was an optional rather than an essential cult item.

So how were these triton shells used? The function of the triton shells in Aegean ritual can be determined to some degree from the shells themselves from whether they were used unmodified or modified, while their archaeological context can provide further clues as to use. However, a number of factors hinder shell analysis. Earlier I discussed some problems pertaining to preservation and the identification of manmade modifications. I observed that for shells which in their existing state appear to be modified, it is sometimes difficult to determine whether the modification, particularly the removal of the apex, was deliberate or an accident of preservation, while many further shells are too fragmentary to determine whether they were worked or not. In addition to these issues, the published reports present further problems. Many of the triton shells found in excavations are not illustrated or described in the reports. When the shells are described, excavators often describe them as 'complete' or 'intact' without specifying if they mean that the shell is *unmodified* or simply a whole specimen. Thus, in many cases, the information on whether a given shell has been worked or not is simply not available.

In spite of these problems, it is clear that of the large number of triton shells recovered from ritual contexts only a small number were worked to form trumpets or

[13] A comparable triton shell to the Neolithic example from Phaistos has been found in the Neolithic Grotta dei Piccioni, Abruzzo, Italy. It has a deliberately removed apex and is tinted with red ochre, but unlike the Phaistos shell, it was found in a funerary context (Skeates 1991, 19-20).

vessels. The majority of triton shells from ritual contexts in the Aegean were used *unmodified* (Åström and Reese 1990, 11). Unmodified examples found in ritual contexts could have been used as containers or scoops for offerings or food used in ritual dining. They could also be used to transfer liquids or to pour liquids in libations. Even with the columella intact, the shells can be easily filled by immersion in liquid or by pouring liquid slowly inside. They can be emptied by pouring the liquid slowly from the mouth of the shell or, very slowly, from the siphonal canal. By experimenting with triton shells in this manner, I have found that while pouring from the siphonal canal requires more care, it produces a more controlled flow of liquid, making it an excellent spout. Modified triton shells were also used in ritual although these appear to have been much rarer. Eleven worked examples of triton shells come from ritual contexts in the Aegean (Tables 7a and 8a). Of these, ten examples have the apex removed and are possible trumpets,[14] and one is a shell vessel. As a degree of effort was required to make these pieces, their exact use in ritual deserves further consideration.

(a). Triton Shell Trumpets in Aegean Ritual Contexts

I shall begin by discussing the Aegean shells worked to form trumpets. Shell trumpets are fairly simple to make and require only very basic tools. In selecting a shell suitable for use as a trumpet, size is important, as it is difficult to produce sound from shells smaller than seven inches (c.17-18cm) in length (Clark 1996, 2). It follows that for an archaeological shell to have been used as a trumpet, it should be at least this length, although smaller shells could have been used as whistles, like those illustrated in Safer and Gill (1985, 168).[15] Two types of conch shell trumpet are widely known ethnographically: end blown and side-blown trumpets. End-blown trumpets are made by removing the apex of the shell by cutting or sanding, and then smoothing down the

[14] Two further possible shell trumpets, **Sh.Tr.11-12**, are included in Table 7a although their identification as trumpets is tentative; see Table 7a for further details.

[15] Fukai (1994, 54) reports that in Japan, salt encrustations are also an important factor in the selection of suitable shells for trumpets, as salt adheres to shellfish of the deep ocean in abundance and such shellfish have thick shells producing a better sound.

opening. On side-blown trumpets, a blowhole is made on one side of the shell near the apex, which is left intact. Many different types of conch shells have been used to make shell trumpets worldwide and sometimes the shape of the shell dictates whether it is end- or side blown. The *Strombus gigas*, or Queen's Conch, which was often used as a trumpet in Mesoamerica, for example, is usually end-blown as the spire is shallow (Clark 1996, 2). Shells with steeper spires such as the Triton Trumpet shell or *Charonia tritonis* could be end- or side-blown: Fig. 106 shows an end-blown example used by the Shugendo priests of Japan, while side-blown examples of the same species can be seen in Fig. 107 where they are being blown by women in Fiji as part of a funerary ritual. Like the *Charonia tritonis*, the two Aegean triton species can be end-or side blown. While no side-blown triton trumpets have been identified with certainty in the Aegean, a possible example is the large triton from Myrtos which has a hole broken in one side near the tip; the shell is too badly damaged to be certain however (Shackleton 1972, 325).

Shell trumpets can be blown with or without a mouthpiece. The '*hora*' or shell trumpet of Japan (Fig. 106), for example, is traditionally provided with an elaborate brass mouthpiece cut to create its distinctive sound (Fukui 1994, 54). The use of mouthpieces is also attested in Mesoamerican art: the shell trumpets blown by jaguars in the mural from the Temple of the Jaguars at Teotihuacán have tubular mouthpieces (Figs. 108-109), while shell trumpets with clay mouthpieces have been found in archaeological contexts in New Mexico, for example (Both 2004, 267; Novella 1995, 46). There is no evidence for the use of mouthpieces in the Aegean, however, suggesting that shell trumpets may have been blown directly there.

Younger (1998, 64) lists four possible triton shell trumpets from the Aegean all from ritual contexts. These are from the palace of Phaistos, a possible house-shrine at the Gypsades Hill Knossos, a shrine at Kephala Khondrou Viannou and the sanctuary of Phylakopi on Melos. Further examples can be found, however, while some of those listed by Younger have been called into question. Reassessing the evidence, I have identified ten possible triton shell trumpets from seven ritual contexts in the Aegean

(Table 7a), on each of which the apex is missing or sufficiently pierced to allow it to be sounded. Seven of these come from Crete, three from the wider Aegean area. The earliest example came from the MM II 'Early Sacellum' or shrine in the Upper West Court Sanctuary at Phaistos (**Sh.Tr.1**; Fig. 101; PM I, 218-19). Reese describes it as a *C. sequenzae* which has been worked so that it can be blown (Åström and Reese 1990, 8). Three large triton shells with missing apexes were found in a Neopalatial bench sanctuary at the palace of Malia (**Sh.Tr.2-4**; Fig. 110). These may have served as trumpets and at least one of the shells has also been worked above the aperture (Reese 1985, 357). A triton from the possible LM IB house-shrine on the Gypsades Hill Knossos is described by Reese as having a carefully worked apex (**Sh.Tr.5**; Åström and Reese 1990, 9). It is among the possible shell trumpets listed by Younger (1998, 64), but it looks somewhat small for a trumpet (Hood 1958, 22, fig. 17) and I wonder if perhaps it was put to another use, as a funnel, for example. Another possible triton shell trumpet, made from a *C. nodifera* shell, was among the finds from a deposit thought to have fallen from an upper floor shrine at Kephala Khondrou Viannou (**Sh.Tr.6**; Platon 1957, Pl. 70a). According to Reese the apex of the shell had been worked (Åström and Reese 1990, 9). A seventh possible triton trumpet was among the finds from the LM IIIA1-2 level of a possible shrine in House X at Kommos (**Sh.Tr.7**). From the published photograph of the shell, it is clear that it had a broken apex, although the excavator, Shaw, describes it as a 'complete triton trumpet shell' (Shaw 1992, 61, fig. 49). Without further analysis, it is difficult to say whether the shell was worked or whether the apex broke off accidentally.

Three further examples of tritons with missing apexes came from shrines in the wider Aegean area, although in two of these cases their use as trumpets can be questioned. One example is from mainland Greece, two from Phylakopi on the island of Melos. The mainland Greek example is from a LH III sanctuary at Ayios Konstantinos, Methana, and has the apex removed (**Sh.Tr.10**). Konsolaki-Yannopoulou (2001, 214) states that the apex was deliberately removed, yet, surprisingly, she interprets the shell as a 'vessel' used in ritual dining or libation rather than a trumpet. This decision was based on the associated finds: eight kylikes found with the triton and a miniature

dipper and conical rhyton found nearby, all suggesting that liquids were poured and perhaps drunk at the shrine. While these associated finds could be indicative of its use as a ritual funnel or rhyton, the shell could equally well have functioned as a trumpet. The two Phylakopi tritons (**Sh.Tr.8-9**; Fig. 111) both came from the LM III shrine. Both are large complete *C. sequenzae* shells measuring 26 and 31cm in length without their broken tips (Renfrew 1985, 328). However, while both shells have broken apexes, the apexes may not have been modified intentionally. The amount broken from each apex is sufficient for air to pass through, but on deliberately modified shells, a larger piece of the apex is usually removed. The excavator, Colin Renfrew, admitted that one example may have been modified accidentally, yet he went on to say that *both* pieces could have been used as 'musical instruments as well as cult objects' (Renfrew 1985, 327). Younger (1998, 64), however, includes only the shell from the West Shrine (Fig. 111: bottom) in his list of possible Aegean triton trumpets. Some support for the use of one or both of the shells as trumpets comes from the fact that other possible sound-producing instruments were found in the shrine (drilled tortoise shells which may have been used as the sound-boxes of stringed instruments). Reese however, considers neither of the triton shells to have been deliberately modified and does not interpret them as trumpets (Åström and Reese 1990, 9). Thus, of the possible examples of triton shell trumpets from Aegean ritual contexts, these two from Phylakopi should perhaps be excluded from the discussion as the evidence is too tentative. None of the examples from ritual contexts at Akrotiri on Thera are known to have been worked (Appendix 2B), but as details of many of the shells have not been published, worked examples cannot be ruled out.

In addition to the examples from the Aegean, further probable shell trumpets are known from contemporary and later ritual contexts in the Near Eastern Mediterranean and Cyprus. Triton shells with worked apexes which can be sounded were found at a Philistine Temple at Tel Qasile on the Israeli coast, dated to the 11th century BC, and in 9th century BC levels at a site at Hazor considered by the excavator to have been 'cultic' (Åström and Reese 1990, 11). In Cyprus, a *C. nodifera* triton with 'a worked and carefully-smoothed down blow-hole' was found in a Cypro-Geometric level of

the sanctuary at Kition (Åström and Reese 1990, 11; Reese 1985, 353-54). Another probable trumpet came from a Late Bronze Age building at Hala Sultan Tekke, which Åström suggests may have had a religious function, based on the plan of the building but also on the fact that tritons worked to form trumpets have mostly been found in shrines (Åström and Reese 1990, 6, 11). While this observation is true, it is a dubious basis on which to identify the building as a sanctuary, and again, highlights a common methodological error whereby the presence of a triton shell is assumed to indicate ritual activity.

Returning to the Aegean shell trumpets, I have pointed out that all the probable examples have their apex removed. The important question is whether this is sufficient evidence to identify some or all of them as trumpets, as triton shells with no apex could also function as funnels, even with the columella intact. Regardless of the fact that some of these examples, such as the Phaistos shell, can clearly be sounded, it is possible that they were *all* used as funnels. That this is not the case and that triton shell trumpets *were* used in Minoan ritual activity is strongly suggested, however, by the scene on the Idaean Cave seal (Table 5: **TS9**; Fig. 102f). The Idaean Cave seal shows a human figure holding a triton shell aloft before an altar. The identification of the female figure as a votary standing before an altar has been discussed earlier. That the figure is engaged in ritual action and that the shell is being used as an item of cult equipment are beyond doubt. What is important here is *how* the triton shell is being used. The exaggerated size of the triton shell was probably intended as an artistic device to emphasise the importance of the shell within the scene. The forearms of the figure are raised and its left hand touches the underside of the shell, as if holding it aloft. The shell is shown on a horizontal plain with the apex positioned just below the mouth of the figure; it does not touch the mouth of the figure, nor is the figure's head tilted back as it would be if she were blowing it. However, it is being held the correct way for use as a trumpet, with the apex towards the mouth and the largest whorl facing away, suggesting that the votary was depicted frozen in time in the moment just before blowing into the shell before the altar.

That the shell is a trumpet is the widely accepted interpretation of the scene (PM I, 222; Younger 1998, 37). However, in recent years, some scholars have questioned this interpretation. Baurain and Darque (1983, 55), for example, have argued that the scene in fact shows a votary *pouring a libation* over the branches at the altar. They claim that the shell cannot represent a trumpet as the apex does not come into contact with the mouth of the figure. While it is true that the apex does not touch the votary's mouth, it is extremely close to it and the shell is clearly raised at head height. Baurain and Darque also claim that the shell cannot be a trumpet because the apex is depicted intact. While this does appear to be the case, it is important to consider the size of the seal: it is less than 2cm in diameter, and the technical difficulties involved in producing such detail on such a small scale could have easily led to an economy of elements. Here, Gombrich's (1982, 145) concept of 'the beholders share', the contribution which each viewer makes to an image from the stock of images stored in his mind, may help to explain why such a seemingly important omission could come about. If the act depicted on the Idaean Cave seal was one that would have been readily understood by the viewer, (as a scene of trumpet-blowing), the economy of depiction would not have been an obstacle to interpretation, as the viewer would have added his 'share' to interpret the image. Furthermore, shell trumpets are commonly side-blown. There is nothing to prevent the shell from being a side-blown trumpet, like the possible example from EM II Myrtos mentioned earlier. Triton shells can indeed be used as libation vessels, as I shall discuss later, but if the scene was intended to depict this use it seems to me that the shell should not be depicted so close to the mouth of the votary, nor on a horizontal plane. If an artist wanted to best show a figure engaged in an act of ritual pouring, surely he would position the shell as if tilted to pour? In my opinion, the evidence strongly suggests that the scene shows a votary about to blow on the trumpet as part of a ritual act taking place before an altar.

The interpretation of the scene as depicting the ritual use of triton shells as trumpets has led to further methodological problems, however, as scholars familiar with the seal have sometimes assumed that this was the only use of triton shells in ritual

contexts. On the basis of the Idaean Cave seal, Evans, for example, talked of triton shells found in ritual contexts as if *all* were used as trumpets. Discussing a triton shell from a MM III shrine at Knossos, he states that 'such conch-shells were in fact used as trumpets in calling down the divinity' (PM I, 581). As I have observed above, only a small number of the shells from Aegean contexts appear to have been worked to form trumpets. Moreover, it is not clear whether there is any basis in Evans' interpretation of this Knossian triton as a trumpet, as he does not mention whether the apex of the shell had been worked. A more recent example of a triton from a ritual context at the palace of Tourkoyeitonia, Archanes, provides another case in point. A reconstruction drawing in the published report shows a votary blowing a triton shell in a religious ritual enacted in the hall (Fig. 112). As the excavators, Sakellarakis and Sapouna-Sakellaraki (2002; 1997), do not mention in the reports whether the apex had been removed, it is not possible to tell if the interpretation is correct or whether it is based on an incorrect assumption that all triton shells in ritual contexts were used as trumpets. These examples again highlight the point that careful analysis of triton shells found in archaeological contexts must be undertaken before interpreting their use.

In addition to the Idaean Cave seal representation, indirect support for the occasional use of Aegean triton shells as ritual trumpets comes from the fact that large conch shells are commonly used as ritual trumpets worldwide. There exists a wealth of ethnographic and archaeological evidence for the use of shell trumpets in religious ritual. A closer consideration of these examples will also highlight the ways in which the Aegean shell trumpets may have been used in ritual.

Shell trumpets have been used in ritual activities in almost every part of the world at one time or another. Perhaps the best-documented example is the chank shell trumpet, which is sacred to Hindus and also used in Buddhist rites in Tibet, China and Southeast Asia. The role of the chank in India was vividly documented in the early 20th century by Hornell (1914), who served as superintendent of the chank shell fisheries to the Government of Madras. The chank shell, or *Turbinella pyrum*, is a

large white conch shell, described as 'comparable to the most brilliant ivory in lustre' (Fig. 113) (Hornell 1914, 122). In Hindu belief, it is one of the two most important symbols of Vishnu (Fig. 114),[16] whose alternate names include Chankapāni, the 'chank-armed', and Chankamēnthi, the chank-bearer (Hornell 1914, 122). Vishnu, reincarnated as Krishna, had a chank shell trumpet called Panchajanya, and according to one legend, it was originally the shell home of a marine demon, vanquished by Krishna, who took its shell as a trophy (Hornell 1914, 120). The chank shell is also symbolically linked with Vishnu and Hinduism because of its marine origin, its brilliant white colour, and its spiral shape: both the colour white and the sea are associated with purity in Hinduism and most of the symbols of Vishnu are spiral in form (Safer and Gill 1982, 148, 150). Statues of Vishnu and his incarnations (including Krishna) always portray the god holding the sinistral or left-handed version of the shell (Hornell 1914, 122).[17] Both the normal and sinistral forms are used in Hindu temple ritual but sinistral shells are particularly highly valued by Hindus and Northern Buddhists, and, when found, are often offered by the pious wealthy to their favourite temples (Hornell 1914, 130). Some examples have been kept for centuries as heirlooms.[18] In the southern part of India, many temples possess more than one, often mounted handsomely. Sinistral shells are so highly valued that they are also the object of worship: traditionally, the chank is one of three essential articles worshipped in the daily liturgy of the Brahmans, the priestly caste (Hornell 1914, 132-33). The curtailed version of the chank shell prayer runs as follows: 'Oh, chank shell, thou wast produced in the sea and art held by Vishnu in his hand. Thou art worshipped by all the gods. Receive my homage' (Hornell 1914, 133). Brahmans of the Sri Vaishnavite sect are even branded with the two symbols of Vishnu to show their devotion: the chank shell is branded on their right shoulder, the chakra on their left (Hornell 1914, 138-42).

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[16] Vishnu other main symbol is the *chakra* or wheel, which can be seen in Fig. 114.

[17] Most natural shells are dextral, that is, when viewed from the apex to the aperture, they open to the right, whereas sinistral shells, opening to the left are extremely rare in nature, perhaps one in a million (Saul 1974, 73).

[18] Monastic records at the Sakya monastery in Tibet, for example, show that the rare sinistral chank kept there was presented as a diplomatic gift by Kublai Khan when he was made ruler in the 13th century (Hornell 1914, 131).

According to Hornell, the ordinary dextral shell trumpets are used in the 'menial' duties of Hindu temple worship: to call the faithful to prayer, to announce the commencement of the main rites, and 'as an instrument of invocation to call the attention of the gods to the ceremonies to be performed' (Hornell 1914, 124). Chank shells are blown in Hindu temples at the four daily services. They are also sounded when statues of Vishnu are carried in procession and the duty of shell blowing is entrusted to particular castes (Hornell 1914, 135). Chank shell trumpets also play an essential part in wedding ceremonies. Hornell notes that at Hindu weddings in Southern India, blasts on the conch shell are the equivalent of Christian wedding bells, with conch shells sounded as the marriage badge is tied around the bride's neck (Hornell 1914, 144-45). In Bengal, the link between the chank shell and marriage is deeper still, as traditionally, the bride is not legally married until chank shell bracelets lacquered red have been placed upon her wrists (Hornell 1914, 146).

Prof. Robert Meagher, who is personally familiar with the use of conch trumpets in Hindu ritual practice today, has kindly communicated his first-hand experiences to me. He reports that in Kolkota and West Bengal it is omnipresent in both temple and domestic ritual. The female head of the household traditionally blows the conch every evening at sunset, especially during the great festivals, with the result that 'conches can be heard blaring in the city at every sunset'. They are blown in every ritual or festival: in the Great Mother Goddess Festival (the Durga puja), for example, they are used to great effect during the 'intersection', the part of the festival when the seam between time and eternity is said to be ripped apart so that the gods and goddesses are present with the worshippers in time. According to Meagher, 'all throughout this period the conches blare incessantly, together with drums, gongs, and bells' (Meagher, pers. comm. 25/11/06). In Southern India too, the fact that ten Tamil proverbs about the chank shell are known (Hornell 1914, 155-57) attests to how thoroughly its use permeates every aspect of Hindu life.

The chank shell trumpet also has a ritual use in land-locked Tibet, where it plays a major role in Tibetan Lamaism, an idiosyncratic mix of Hinduism and Buddhism. The

call of the chank is a familiar sound in Tibetan monasteries, where music and sound feature strongly in worship. Large mounted chanks, such as that shown in Fig. 115, are kept by the priests (Lamas) and blown as a call to prayer and during important festivals (Safer and Gill 1982, 150). Tea-drinking ceremonies are important among the Lamas and to ensure that a brother does not miss this important ceremony chank shell trumpets are sounded from the temple roofs to announce that the hot tea is ready (Hornell 1914, 137). Prayers are also spoken into the shells to be carried by trumpet sound to the ears of a deity (Safer and Gill 1982, 150). In addition to their use as trumpets, chank shells are one of the eight auspicious symbols of Buddhism and, filled with curds, they are offered by Tibetans to the sense of smell (Safer and Gill 1982, 152).

In Siam (Thailand), chank shell trumpets were blown in religious ceremonies connected with the ploughing festival, when the minister for agriculture was carried to the field on a palanquin, accompanied by the sound of priests blowing loud blasts on chank shells (Jackson 1916, 8). In Japan, the '*hora*' or conch shell trumpet is intimately associated with religious ritual and has been used for centuries by the Yamabushi priests of the *Shugendo* religion, an esoteric Buddhist sect who worship mountains as holy ground (Fukui 1994, 48). The *hora* is made from the large *Charonia tritonis* or Triton's Trumpet shell by specialist workmen and it is usually provided with an elaborate brass mouth-piece (Fig. 106). The shell trumpet is revered and priests must carry it at all times during religious training, kept in a string-bag with large holes like a fishnet, which hangs from the waist (Fukui 1994, 49). It is thought to have a mysterious character and is said to make a man wise, while the Buddhist teaching holds that the sound of the *hora* resembles the roar of a lion and can repel evil (Fukui 1994, 49). It is used to communicate both with other priests and with the gods. In the mountains, priests use it to signal other groups (Safer and Gill 1982, 175) and to keep away insects and harmful animals (Fukui 1994, 56). It is used to signal the commencement of all Shugendo ceremonies and, during the ceremonies, it accompanies sutra chanting (Fukui 1994, 49). Traditionally, it should be blown by the priests when arriving or departing from their lodgings, asking for guidance, replying,

or in case of a 'holy fire' (Fukui 1994, 49). In addition to its use as a trumpet, the *hora* is sometimes used as an instrument for changing the voice, as in *Saimon* performances, where melodies are sung into the shell (Fukui 1994, 51).

The ritual use of shell trumpets is not restricted to Asia, however, but is also well attested in the South Pacific and in Europe. In the Society Islands, for example, large triton trumpets were blown during processions, during temple worship, and when a taboo or restriction was imposed by the gods (Jackson 1916, 16). In Samoa, shell trumpets were an object of veneration and used in religious rituals relating to war. *Tapaai*, a local god of war, was thought to be incarnate in a trumpet shell, so before going to war the shell was blown by a priest as all listened: if the sound was rough and hollow it was a bad omen but if it was clear and euphonic all rejoiced and happily went off to battle (Jackson 1916, 15-16). In Europe, shell trumpets have sometimes been used in Catholic rites. At the turn of the last century, Mosso (1910, 365) reported that triton shells were still sounded in a church at Piedmont in Naples. They also used to be sounded during Holy Week in the Cathedral at Genoa (Jackson 1916, 4).

In addition to these ethnographic examples, evidence for the *ancient* use of triton shells in ritual comes from Mesoamerica, where both archaeological evidence and historical accounts attest to their widespread use. Shell trumpet use is depicted in iconography, on frescoes, bas-reliefs and ceramics, and actual shell trumpets are known from numerous archaeological sites. In the Temple of the Jaguars in Teotihuacán, Mexico, a fresco shows two jaguars blowing on plumed conch shell trumpets (Figs. 108-109). Representations of figures blowing shell trumpets can be also seen in Maya art: on a Classic Maya ceramic vessel, for example, Uc-Zip, the 'god of the trumpet' is shown blowing his shell trumpet at the arrival of a vision serpent (Fig. 116; Schele and Miller 1992, 306-307, n.4, 308). In Central Mexico, shell trumpets (called *tecciztli*) were part of the Aztec priestly paraphernalia and were used in social and religious ceremonies (Novella 1995, 46-47). One of their most important uses was in the nightly trumpet ritual, *tlatlapitzaliztli*, when they were

blown five times during the night by specialised priests to signal the call to blood-letting rites and to announce astronomical phenomena (Both 2004, 265). An illustration in the Codex Magliabecchiano shows priests blowing shell trumpets during a procession in which *Xochipili*, god of plants, music and dance, is being carried (Novella 1995, 48; Both 2004, 266). They were also blown in Aztec ceremonies associated with Tlaloc, god of rain, and during blood-letting rituals in the annual festival to *Tezcatlipoca*, Lord of the Night (Novella 1995, 47). In many depictions, speech scrolls are shown emerging from the shells, suggesting that the sound was being carried to the ears of the gods or ancestors (Safer and Gill 1982, 152). Sometimes, shell trumpets are depicted being blown by deities, an example is the Maya deity Uc-Zip (Fig. 116), who could also be shown emerging from the mouth of a serpent, blowing his shell trumpet (Both 2004, 263).[19]

Additional evidence for shell trumpet use is provided by pottery figurines in the shape of men blowing, carrying, or holding conch trumpets. Examples are known from Colima, in Mexico (Novella 1995, figs. 268-70), and from the Moche culture of Peru (Fig. 117). In addition to iconographic and historical evidence, numerous real shell trumpets are known from archaeological sites in Mexico (Fig. 118)[20] and from ritual contexts in the Pre-Columbian Andes. At Chavin de Huantar, for example, twenty strombus conch trumpets, many of which were engraved, were found together in the ritual complex where they are thought to have been stored for ritual use (Silverman 2004, 62). Ethnographic examples point to the continued use of shell trumpets in ritual in some areas of Mexico today. The Huichol Indians, for example, use a type of murex shell as a trumpet in their feast of the raw corn *Tamales*, which heralds the rainy season. Participants are appointed to blow the shell trumpets five times during the day and five times at night to signal to the gods that the sacred feast is ready (Both 2004, 266).

[19] The glyptic name of this trumpet god is also among the incised motifs decorating an actual Maya shell trumpet from the Early Classic period (Schele and Miller 1992, 309 and Pl. 121).
[20] Examples are described and illustrated in Novella (1995).

From this ethnographic and archaeological evidence, it is very clear that the use of shell trumpets in Aegean Bronze Age ritual is far from unusual; rather it is part of an ancient tradition attested worldwide. In the Aegean, as already noted, Evans suggested that shell trumpets were used in invocation rituals, 'in calling down the divinity' (PM I, 581). Interestingly, a similar use is attested in Mesoamerica: on the Classic Maya pot described earlier, the deer-eared 'God of the Trumpet' is depicted blowing his shell trumpet to announce the arrival of the vision serpent (Fig. 116) and Schele and Miller suggest that real shell trumpets were used for this purpose by the Maya (1992, 308, 302-303). Aside from invocation rites, the ethnographic evidence highlights many further possible reasons for the use of shell trumpets in Aegean rituals. From the above discussion, a number of common uses emerge. Shell trumpets are traditionally used to call the faithful to prayer, to announce the commencement of various rituals and to punctuate rituals, marking the transition between different phases of ritual activity. Jackson (1968, 295), for example, has commented on how the subtle variations of sound make it 'an ideal marker' for the changing moments of ritual action. As with the bells in Christian rituals, shell trumpets could also have been used to instruct participants to behave in a particular preordained way, to stand, sit, process, and so forth. Younger (1998, 48) has also suggested that sound was used in Aegean rituals to cover gruesome noises during sacrifice; indeed, on the Ayia Triadha sarcophagus, for example, musicians are shown playing music as the bull is sacrificed.

The ethnographic accounts also point to widespread beliefs in the 'magic of sound' (Safer and Gill 1982, 152) and the mystical power of the shell trumpet: its ability to repel evil spirits, to house gods, and to bridge the gap between the living and the transcendental. Shell trumpets serve as a means of audible communication with the supernatural realm, sending prayers to the ears of divine listeners and attracting the attention of vision-serpents, ancestors, and deities. In addition to capturing the attention of transcendental forces, and perhaps inducing epiphanies, sound in ritual also focuses the attention of the *participant* and may be instrumental in arousing religious states. The fleeting realm of sound and its role in inducing 'religious

experience' is one which has been little considered for the Aegean Bronze Age.[21] In his discussion of music, Younger (1998, 51) has commented generally on its 'religious qualities' and its ability to heighten emotions. He states that, 'music creates a heightened sense of the moment by being able to capture our perceptions of time and to present alternative organisations to a strict linear construction of it' (Younger 1998, 51). This sense of timelessness is important to the use of sound and music in ritual, as it provides a link to tradition while creating a sense that the participant is connecting to the wider forces of the universe. Moreover, particular rhythms and sounds are thought to be particularly effective in inducing 'religious experience'. Anthropologists have long been aware that the cross-cultural popularity of drumbeats and rattles in ritual activity is connected with the ability of certain rhythms to induce mind-altered, ecstatic, states (Jackson 1968, 297). From a scientific point of view, it has been shown that rhythmic stimulation has a direct effect on brain rhythm, causing neurological changes which can create a feeling of 'closeness to god' (Newberg, D'Aquili and Rause 2001, 86-97). Ritual chanting is also known to produce unusual auditory effects, in this case conducive to more meditative states. Referring to the effects of the Ohm mantra at a monastery in Tibet, La Barre (1980, 56) states that 'the experience is so unbelievable...as to seem hallucinatory'. Whether the triton shell trumpet was used to induce such 'religious' sensations is open to question. Both (2004, 267), for example, notes that when a number of shell trumpets of different sizes are played together they produce slow beats of oscillating intensity and this auditory effect could have helped produce mind-altered states. Thus, in addition to the practical functions suggested earlier, shell trumpets would have acted as 'attention-focusing devices', to borrow a phrase from Renfrew (1985, 18), that is, as devices which focused the attention of both the deity *and* the participant, invoking the presence of the former and perhaps heightening the religious experience of the latter.

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[21] The importance of sound in ritual and its phenomenological aspects have been considered to a greater degree in other academic arenas. For Prehistoric Britain, for example, Watson and Keating (1993) have argued that sound may have been deliberately manipulated at certain ritual sites, where particular structural configurations could direct sound in unexpected ways, heightening a sense of mystery about these structures and contributing to the religious experience of participants.

Before leaving triton trumpets it is worth considering the type of sound produced and how they were played in the Aegean. Shell trumpets are usually reported as having a deep and somewhat melancholy sound which can be heard over long distances. Hornell (1914, 136), for example, says that the sound of the chank shell has 'a haunting charm that clings sweet and seductive in the memory'. Somewhat less eloquently, Durán (1971, 495) talks of their 'abominable, dismal sound'. Shell trumpets are usually one-note instruments, the pitch determined by the volume of the shell and the size of the blowhole (Younger 1998, 37). There are exceptions, however: the *hora* of Japan, for example, can produce three or four different notes (Fukui 1994, 51). Shell trumpets provided with a finger hole can produce a fixed pitch and trumpets with finger holes are known from Fiji (Montague 1981, 274) and from Mesoamerica (Both 2004, 263). While finger holes have not been identified on any of the possible shell trumpets from the Aegean, the sound could have been modified in other ways: hand-stopping the aperture can vary the pitch (Montague 1981, 273), while the intensity of the sound can be modified by controlling the quantity of air blown in (Novella 1995, 46). The number of blasts sounded can also be used to create a signal code: Jackson notes that in Japan, for example, a riot was indicated by a single blast, a fire by two blasts, robbery by three, and treachery by four (Jackson 1916, 10). The same technique is employed to create a signal code in Maki religious ceremonies in the New Hebrides (Montague 1981, 273).

No proper tunes can be played on shell trumpets but the melody can be diversified by the techniques described above and by changing the length of the notes or playing multiple shell trumpets together, as shells of different sizes produce different pitches. Tibetans, for example, distinguish between the low note of the large shell trumpet and the high-pitched note of the smaller shell. In order to heighten the contrast between the two, the large shells are mounted to deepen their sound and these large mounted chanks are always played in pairs (Safer and Gill 1982, 150). The pairing of shell trumpets is also known from Mesoamerica: a pottery representation from Colima, for example, shows a pair of musicians blowing into shell trumpets (Novella 1995, fig. 268) and the same practice is illustrated in the fresco in the Temple of the Jaguars

(Figs. 108) and in the Codices (Novella 1995, 46). In the Aegean, the three possible trumpets found together at Malia may have been played together. In general, however, Aegean shell trumpets have been found singly, suggesting that they were usually played solo.

Finally, we should consider the issue of embellishment. While shell trumpets can be used without any further embellishment, in many societies they are decorated or strung. Decoration can be elaborate, as with the bronze mounted shell trumpets of Tibet (Fig. 115) or simple: archaeological contexts in Mesoamerica, for example, have produced shell trumpets with painted and incised decoration, the painted decoration ranging from a simple coloured slip to elaborate figural imagery (Novella 1995, 12-14; Fig. 118). While no mounted examples or examples with incised decoration have been found on Crete, traces of red paint on an example from Neolithic Phaistos and possibly, on another from EM II Myrtos, have been identified (Reese 1987b, 207; Shackleton 1972, 324; Fig. 100). Neither of these pieces came from a ritual context, but they provide important evidence for the use of painted decoration and raise the tantalising possibility that many of the other known triton shells were painted originally.

Aegean shells may also have been decorated with organic materials, which do not survive well in the archaeological record. In Mesoamerica, for example, shell trumpets at Teotihuacan were adorned with the iridescent feathers of the sacred Quetzal Bird (Both 2004, 262; Fig. 136).[22] In Peru, shell trumpets were decorated with tassels of human hair and a leather strap (Jackson 1916, 17), while a pottery figurine from Mesoamerica shows a figure carrying a shell trumpet on his back by means of a strap (Novella 1995, fig. 270). While straps made from organic materials have not survived in the Aegean, careful analysis of shells can reveal strap-holes made for carrying and suspension. An example of a triton shell pierced for suspension

[22] This use of feathers is attested in the art of Teotihuacan, where plumed shell trumpets are illustrated on the mural of the jaguars (Figs. 108-109) and also on the façade of the Temple of the Plumed Conches, which features monumental stone reliefs showing four pairs of feathered shell trumpets (Both 2004, 262, fig. 6).

is known from a tomb at Stamenioi in Crete (Table 6b: **T18**) and further analysis may yet uncover more examples.

(b). Triton Shell Vessels in Aegean Ritual Contexts

The second type of modified triton shell found in Aegean ritual contexts consists of shells hollowed out to form vessels (Table 8a). While many are known from settlement sites, the only known example from a ritual context is the shell vessel from the bench sanctuary at the LM IB house at Pseira (**Sh.V.1**; Appendix 2; Fig. 119). Made from a large *C. sequenzae* shell, it had been cut to form a vessel by removal of the columella and part of the body of the shell (Reese 1995d, 42). In its worked state, it measures 19.9cm in length and is the best preserved example known from the Aegean. More shell vessels are reported from other houses at Pseira (Seager 1910, 25-26; Reese 1985, 358) but it is not clear if they were used in house shrines or in domestic activities. In ritual contexts, shell vessels were probably used in drinking rituals and/or to pour libations. In addition to shells modified to form vessels, many of the unmodified shells from Aegean ritual contexts could have been used as libation vessels. A closer consideration of their contexts and associated finds may help to identify examples used in this way.

A number of triton shells from ritual contexts have been found in association with built installations for the receipt or drainage of liquids. In the 'Hall' of the palace of Tourkoyeitonia, Archanes (Area 10), a large triton shell was found inside a jug-like vase of veined marble. Nearby, there was a depression and channel in the floor next to a double axe base (Sakellarakis and Sapouna-Sakellaraki 1997, 101). The arrangement recalls that in the later Throne Room in the palace at Pylos, and both the shell and jug may have been used as vessels for liquid offerings in connection with the depression and channel. In another area of the same palace, Courtyard 11, a triton shell was found in connection with a stepped altar at the north side of a built platform. Among the finds were forty handleless cups, suggesting that liquid offerings or

drinking ceremonies were among the ritual activities taking place here. Next to the altar ran a drain which the excavators have suggested may have been used to drain liquids from libations and sacrifices conducted at the altar (Sakellarakis and Sapouna-Sakellaraki 1997, 103). Given this evidence, it is possible that the triton shell was used in drinking and/or libation rituals taking place there. At the MM II Independent Bench Sanctuary at Malia, where a triton shell and a clay model triton were found, a clay vase with a broken bottom was set into the floor outside the door of the main room (Gesell 1985, 107). Peatfield (1995, 224) has observed that another such jar was found in Salle B at Malia and he suggests that they were libation jars intended for liquid offerings which would soak into the ground. The two shells at Malia may have been used in such libations. In the palace of Zakro, a triton shell was found in the Northeast Lustral Basin, another type of installation thought to have been used for the manipulation of liquids. While not all lustral basins are thought to have had a ritual function,[23] the example at Zakro showed evidence of ritual activity (Platon 1985, 182; full details are provided in Appendix 2Ai). The triton was found together with a fragmentary rhyton and both may have been used in connection with libation or lustration rites taking place there.

Other triton shells have been found in close association with assemblages of vessels used for drinking or libations. In such cases, these associated finds support the use of the shells as ritual vessels. I mentioned earlier how, despite its broken apex, the triton shell from Ayios Konstantinos in Methana has been interpreted as a vessel rather than a trumpet, due to associated finds pointing to the practice of libation and/or ritual drinking (Konsolaki-Yannopoulou 2001, 213-14). Triton shells have also been found in direct association with vessels in Minoan ritual contexts (Appendix 2). In a possible ritual deposit at Roussolakkos, Palaikastro, for example, a triton shell was found in association with c. 85 conical cups (MacGillivray *et al.* 1984, 140) and at a possible LM III shrine at Amnisos, a triton shell was found beneath an upside-down conical cup (Kanta 1980, 40-41).

[23] For a full discussion of the ritual use of lustral basins, see Chapter 1.

As with shell trumpets, the use of conch shells as ritual vessels is well attested ethnographically. In Hindu worship in India, for example, the sacred chank shell is used as both a trumpet and libation vessel (Fig. 120). In temple worship, it is used to pour holy water over statues of deities, and whenever a new temple or shrine is built one of the most important parts of the ceremony is a special libation to the gods of floral water poured from the mouths of 108 chanks, or more if they are available (Hornell 1914, 136, 142). In family worship, chank shells are used as libation vessels by orthodox Brahmans: daily, before the midday meal, the head of the family bathes the statues of the deities with water made holy from the chank (Hornell 1914, 132, 136). In some parts of India, they are used as vessels in wedding ceremonies to pour water coloured with turmeric over the bound hands of the bride and groom (Hornell 1914, 147). Historical records also attest to the use of chank shells as libation vessels during coronation ceremonies, when holy water from the sacred conch shell was sprinkled over the hands of the king and queen (Hornell 1914, 125).

It should be noted that among Hindus, the power of the sacred chank shell is considered so great that it is contact with the chank shell which makes water holy; thus a Tamil proverb runs: 'If you pour water into a chank it becomes holy water; if you pour it into a pot, it remains merely water' (Hornell 1914, 136). It is possible that in the Aegean liquids poured from triton shell vessels were also perceived as made sacred or holy. Regarding the types of liquids used in connection with shell vessels in the Aegean, I wish to draw attention to an important new finding. At the 2006 Cretological Conference in Hania, Dr. Tom Brogan produced the results of the first ever analysis of a triton shell vessel to determine its ancient contents. The shell, from Area E4 at Mochlos, had been hollowed out to make a vessel and when tested for residues it was found to contain traces of tartaric acid, which Brogan tentatively suggests may have come from resinated wine. Wine, of course, was both consumed and offered in libations in ancient Greece. However, the shell does not appear to have come from a ritual context. As it was found in association with conical cups and jugs, it may have been used to fill the cups in drinking ceremonies (Brogan, pers. comm.

15/04/07).[24] The results of the analysis are very interesting, but it must be kept in mind that wine may have been only one of a number of liquids used in connection with shell vessels. Before the tests were conducted, it was not known whether analysis for organic contents would work on shells. Now that we know that such analysis is possible, it is my hope that future shell vessels found will be similarly tested and that the results will shed more light on the issue of what liquids they contained.

(c). General Observations about the Use of Triton Shells in Aegean Ritual

Before looking at the use of triton shells in other social contexts, some general observations must be made concerning the ritual use of triton shells in the Aegean. From the ethnographic evidence described above, an interesting parallel between the Hindu use of conch shells in ritual and their use in the Aegean can be made. In both areas, conch shells are used as trumpets and vessels; in both areas, they are used in formalised ritual practice (in temple worship by Hindus, in palace and town cult by Minoans) as well as in domestic cult. Just as the chank shell is 'omnipresent' in India, it seems to have had a noticeable presence in Minoan Crete where it was used in a wide variety of contexts, ritual, funerary and 'domestic'. The particular value placed on sinistral chank shells in Asia was also observed above. In relation to this, it should be noted that no sinistral triton shell has been identified in an archaeological context in the Bronze Age Aegean, suggesting that this rare shell type was not an item of particular veneration there.

Before leaving the use of triton shells in ritual, I wish to raise the question of whether marine origin of the shells had any bearing on their use in Aegean ritual? Were they specifically used in rituals connected with water and fertility or perhaps in marine-oriented ritual practice? In Chapter 1, I discussed the use of shells in fertility rituals

[24] Brogan has informed me that a paper on this topic will be presented in the forthcoming Aegaeum conference in 2008.

worldwide and their widespread association with water and rain. In Mesoamerica, conch shells were often associated with gods linked with fertility. In Teotihuacan, for example, they were linked with Tlaloc, the god of rain,[25] and in the Yucatan peninsula, the conch shell was the emblem of a number of Mayan gods including *Tecciztecatl*, the god of the moon, who was linked with fertility and growth (Novella 1995, 3). In Mesoamerica, shell *trumpets* were also closely associated with creation, water and fertility (Both 2004, 262). The Aztec creation myth involved a conch shell trumpet which was produced in the Underworld by *Quetzalcoatl*. According to myth, the shell originally belonged to the Lord of the Underworld, *Mictlantecuhtli*, who promised *Quetzalcoatl* that if he could make a sound from the shell he would allow him to take the bones of the previous world age, which mixed with the sacrificed blood of the gods would create humankind. Using magical powers, *Quetzalcoatl* succeeded in making the trumpet and blew on the shell, heralding the creation of the fifth world age (Both 2004, 264). Conch shells also played an integral role in the Maya creation myth. The *Popul Vuh* recounts how the old Maya deity, God N, was pulled from his conch shell and sacrificed by one of the Hero Twins, making possible the creation of humankind (Both 2004, 263), an episode which is depicted on the vase shown in Fig. 26. The association of shell trumpets with fertility is evident at Teotihuacan, where shell trumpets are shown as if sounding by themselves and causing waters to flow or plants to burst forth. On a mural in the Temple of Agriculture, for example, aquatic plants are shown emerging from the sound scrolls of four shell trumpets (Both 2004, 262). In connection with this, it should be observed that shell trumpets are often employed in rain and harvest rituals. The use of trumpets in ploughing festivals in old Siam and in the *tamales* feast of the Huichol Indians were mentioned above. It has also been suggested that shell trumpets from Mesoamerica were used to call rain: at Teotihuacan, for example, large drops of water are shown dripping from the end of the shell trumpets held by the jaguars in the mural described earlier (Fig. 108-109; Novella 1995, 45). Shell rattles have been used to same purpose in Oaxaca, where they are associated with Cocijo, the god of rain (Safer

[25] A mural in Patio 5 at Tetitla shows two plumed conches juxtaposed with a Tlaloc image (Kolb 1987, 31, fig. 264) and two actual shell trumpets decorated with painted representations of Tlaloc have been found (Novella 1995, figs. 16 and 20).

and Gill 1982, 153). It is unclear whether shell trumpets from the Aegean were specifically employed in such 'fertility' rituals, but the possibility should be considered.

In light of the evidence for marine-oriented ritual action in Minoan Crete, discussed in Chapter 1, it is also worth considering whether triton shells were specifically used in such rituals. Shells worked to form trumpets are intimately associated with fishing and seafaring rituals in many parts of the world. They are often used as signal horns by fishermen and sailors. Jackson (1916, 3), for example, reports that *C. nodifera* trumpets were still used by fishermen in Sicily in the early 20th century. Similarly, in the South Pacific, the Torres Straits islanders use a shell trumpet when sailing, particularly when racing or sailing fast (Jackson 1916, 11). A good ethnographic example of the use of shell trumpets in rituals directly related to the marine world is its use in rituals associated with the Kula exchange ring, practised by island groups in the archipelagos of Eastern New Guinea. The exchange process is laced with magical rituals intended to protect the participants during their hazardous voyages and to ensure that they receive 'more kula', and the conch shell plays an important part in these rituals. Before the canoes set off the 'spell of the conch' is spoken into a conch shell to ensure that the canoe is swift and safe. It is spoken into the aperture of the shell which is then sealed up along with the apex so that the spell is retained until the shell is blown (Malinowski 1920, 104; 2002, 340-42). The conch is later sounded to announce the arrival of the canoes and is blown before exchanging the kula valuables (Malinowski 1920, 99, 106; 2002, 341-42, 350). The marine origins of the conch seem to be important in its effectiveness in ritual, as the kula exchange involves a voyage overseas and the exchange of marine artefacts - highly valued spondylus shell necklaces and arm-rings. According to Malinowski (2002, 342), the sound of the conch trumpet is meant to arouse the kula partner to do his duty eagerly, the magic spell heightening its effect. Similarly, among the Warao Indians of coastal Venezuela, the conch trumpet plays an important role in rituals associated with canoe building (Wilbert 1977, 26, 32). There, the marine origin of the shell trumpet may also be significant, as it is used in each stage of the rituals accompanying the making and

launching of a new sea-going canoe.[26] The use of shell trumpets in marine-oriented rituals is also attested in China, where they were traditionally blown to calm the waves and ensure a safe voyage (Jackson 1916, 10). It is also known from Greek and Roman myth, where Triton, Poseidon's trumpeter uses his shell trumpet to control rivers and seas. Ovid's *Metamorphoses*, for example, recounts how Poseidon bade him blow on his conch shell, 'and recall waves and rivers by his signal' (1.330-45).

These examples linking the use of shell trumpets to marine-oriented rituals worldwide raise the question of whether shell trumpets were used in such rituals in the Aegean. From Appendix 2A-B, it is clear that many of the triton shells from ritual contexts or deposits were found in association with other marine artefacts such as shells, pebbles and Marine Style vessels, which are suggestive of marine-oriented ritual activities. At some of these sites, such as Area 17 at the palace of Tourkoyeitonia, Archanes and the West House Shrine at Akrotiri on Thera, the quantity of marine finds suggest that the ritual activities had a strong marine orientation. It is difficult to tell, however, whether the triton shells were used specifically in relation to these rituals because of their marine origin, or whether they were simply a general item of cult equipment. That triton shells are also found in ritual contexts with no associated marine artefacts indicates that they were not exclusively used in marine rituals. An interesting case where a triton shell may have been used in marine-oriented ritual activity is at the LH III shrine at Ayios Konstantinos, Methana, where Konsolaki-Yannopoulou (2001, 214) has suggested that the type of offerings and the religious symbolism of the votive terracottas seem to point to Poseidon as the deity being venerated.[27] Given the early date of the shrine, however, its connection with Poseidon is by no means clear. Moreover, it is difficult to say whether the triton shell was significant here or whether it was simply being used as an item of cult equipment, regardless of the deity. In later

[26] The Warao also use the conch trumpet as a foghorn: the shaman-captain of the canoe blows his conch trumpet to announce the arrival of the canoe before the boat is in sight from the land (Wilbert 1977, 44).

[27] In particular, the sanctuary contained a large group of terracottas, including bovids, toreadors, horseback riders and charioteers, types of offerings which Konsolaki-Yannopoulou (2004, 62) argues are closely associated with Poseidon in later Greek cult. However, as observed in Chapter 1, such specific associations between finds and deities are not evident in Early Greek cult, a fact which undermines her association of the Bronze Age offerings with Poseidon.

Greek and Roman myth, the triton shell trumpet was the attribute of Triton, Poseidon's trumpeter, who was depicted in the iconography blowing or carrying the shell (Skeates 1991, 22). However, there is no evidence that the shells were specifically used in connection with Poseidon or Triton at later Greek sanctuaries. In fact, the use of actual triton shells in later Greek ritual seems to have been very rare, and examples are known only from a handful of later cult contexts, such as Geometric Vrokastro and Proto-Geometric Temple A at Kommos, where they have not been linked with marine deities (Gesell 1985, 59; Åström and Reese 1990, 9). Although the triton was an appropriate symbol for a marine deity, there is no indication that it was specifically associated with a particular deity or 'aspect' of a deity in the Bronze Age.

ii. Real Triton Shells from Funerary Contexts

In addition to real triton shells found in ritual contexts, a large number of triton shells have also been found in funerary contexts in the Aegean, particularly in tombs on the Aegean Islands and on Minoan Crete. I have catalogued examples in Tables 6a-c (**T1-128**) along with details of the shells, where available. In the Aegean islands, the earliest examples come from EC tombs on Syros, Paros (Fig. 97) and Naxos (Table 6a). They coincide in date with the earliest known examples on Crete, from EM tombs at Gournes, Sphoungaras and Palaikastro. Later examples have been found in a tomb at Kastri, Kythera and in a LC III tomb on the island of Rhodes. In Crete, triton shells are found more or less continuously in tombs from the EM period until LM III (Table 6b). On the Mainland, a triton shell is known from a tomb at Peristeria in western Messenia (Table 6c: **T28**; Åström and Reese 1990, 10), but other examples have not been forthcoming.[28] The evidence suggests that tritons were rarely deposited in Mainland tombs, providing further support to the suggestion made earlier that triton shells were utilised and valued more by Aegean islanders.

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[28] It is perhaps significant that Peristeria is geographically close to the Minoan settlement on Kythera and seems to have been an area with lots of Minoan influences. For example, Minoanizing pottery as well as actual imports of Minoan pottery have been found both at Peristeria and in neighbouring areas of the southwest Peloponnese (Lolos 198, especially 533-36). This Minoan influence could perhaps explain the use of the triton shell in this Helladic tomb.

Most of the triton shells in Aegean tombs were deposited singly, although paired examples are known from tombs at EM II Gournes, MM III-LM I Poros, LM III Gournes and from two LM III tholos tombs at Myrsini. Four large complete unmodified tritons were found together in a single communal tomb at Myrtos-Pyrgos, where they are thought to have fallen from a storage room for ritual equipment located on the upper floor (**T15**; Soles 1992, 177-79). The use of so many triton shells together in ritual is quite unusual however. Many of the triton shells from tombs are complete or almost complete examples. From the available information, it seems that the majority were unmodified; only a small number seem to have been worked. Only one triton shell vessel is known from an Aegean tomb: a *C. nodifera* from an EC tomb on Paros, which had the columella and upper mouth removed (**T3**; Åström and Reese 1990, 10).[29] It is not clear whether any of the tritons from Aegean tombs were used as trumpets, although a number have open apexes. A *C. nodifera* from a tomb at Kastri on Kythera has an open apex and can be blown and sounded, but Reese thinks that it was not deliberately worked (**T6**; Åström and Reese 1990, 10). One of the two tritons from a tomb at Myrsini on display in the Ayios Nikolaos Museum also has a broken apex (**T20**; Fig. 121), but as the broken edge is not filed smooth the break may have been accidental. The triton from the Mainland tomb at Peristeria also had a 'broken' apex but Reese does not mention if it was worked (**T28**; Åström and Reese 1990, 10). Interestingly, a triton shell from a LM III tomb at Stamnioi is described by Kanta as 'perforated for suspension' (**T18**; Kanta 1980, 54). No information about the position of the hole is given, but if the identification is correct, it provides evidence that Aegean tritons were sometimes provided with straps for wearing, carrying, or suspending them, like the shells with straps known from Mesoamerica, for example.

There is no clear evidence that any of the shells represent food debris - there is no mention that any had traces of burning or were found in association with hearths, ashes, or animal bones. Rather, they were usually deposited among the offerings to the dead. Some or all of the shells may have been used prior to their final deposition,

[29] A similar example is known from a funerary context in Cyprus, where a triton made into a vessel was found among the boulders placed upon a child's head in a Neolithic tomb at Khirokitia (Reese 1985, 355).

perhaps by the deceased in daily life, or as cult equipment in funerary rituals taking place at the tomb. In particular, unmodified shells as well as the example worked to form a vessel may have been used as libation vessels or in drinking ceremonies associated with funerary cult. Regarding shell trumpets, while their use in Aegean funerary rituals cannot be confirmed at this time, it should be observed that they are commonly used in funerary rituals worldwide. In Tibet, for example, shell trumpets are sounded as the body of a deceased monk or nun is conveyed from the place where death occurred and in many parts of India, they are blown during Hindu funerals (Hornell 1914, 148-49). In Malikolo in Melanesia and in Fiji (Fig. 107) they are sounded at the funerals of chiefs (Jackson 1916, 12; Saul 1974, 72). As in the Aegean, conch shells are sometimes among the grave goods in Mesoamerican burials, and both unmodified examples and examples worked to form trumpets have been found. At the Early Classic shaft tombs of Las Cebollas, for example, 125 conch shells were found, of which at least 111 were trumpets (Kolb 1987, 102-3). Further north, a *Strombus* trumpet has been found in a burial at Pueblo Bonito in New Mexico; as it was cracked and showed signs of repair it was clearly used prior to its deposition in the tomb (Jackson 1916, 20). The reason why shell trumpets are commonly used in funerary rituals is not clear, but may be connected to the qualities of the sound produced. As the sound is often described as melancholy, it is perhaps especially appropriate for lamentation. Moreover, in many parts of the world, the sound is thought to repel evil spirits and as important rites-of-passage such as Death are often perceived as liminal periods or times of great danger, it is possible that in some societies shells sounded in funerals were intended to keep evil spirits and disruptive forces at bay. These considerations throw some light on the possible functions of triton shells in Aegean tombs, and the reasons for their deposition.

iii. Real Triton Shells from Other Social Contexts

Earlier in this chapter, I described how the presence of a triton shell in an archaeological context has sometimes been assumed by scholars to indicate that the

context was ritual in nature. Because of this misconception, it is necessary to emphasise that triton shells are also found in 'domestic' contexts with no obvious ritual connections in the Aegean Bronze Age. Examples of these triton shell finds are described in Appendix 2C, although this list is by no means exhaustive. At the EM II settlement at Myrtos, for example, 29 whole or fragmentary triton shells were found (Shackleton 1972, 324). In the Artisan's Quarter at LM IB Mochlos, 46 triton shells were found in 39 separate deposits (Soles and Davaras 2004, Table 24). At Kommos, 52 triton shells have been found in total (Reese 1995c, Table 5.25), while remains of no less than 79 tritons were found at Myrtos-Pyrgos (Reese 1985, 357). These figures give some indication of how omnipresent the triton shell was within Minoan daily life. It is possible that some of these shells were used in domestic rituals embedded socially and spatially within the activities of daily life, like the chank shells used in Hindu domestic ritual. Most, however, were probably used in everyday, domestic tasks with no ritual connections.[30] While some may represent food debris, the majority of whole shells were probably reused in some way. Most were unmodified, but a number of examples worked to form vessels and trumpets have been found, indicating that worked triton shells were not exclusive to ritual activity.

Although Reese has stated that triton shell trumpets are *only* known from cult contexts in the Aegean Bronze Age (Åström and Reese 1990, 12), possible shell trumpets with no evident link with cult activity have in fact been found at Neolithic Knossos and Phaistos, at EM II Myrtos and at Phylakopi on Melos (Table 7b; Appendix 2C). I discussed earlier how the red pigment on the Phaistos and Myrtos shells provides a tentative link with ritual on the grounds that red pigment was strongly associated with ritual activity in Minoan Crete. However, as there is no evidence from the contexts of the pieces to link them with ritual,[31] a non-religious function for these shell trumpets must therefore be assumed. In addition to their religious and funerary use, shell trumpets have often been put to secular use as signal-horns and battle-horns. Their use in battle is well attested in the ethnographic and

[30] For a discussion of the issue of 'socially embedded rituals', see Chapter 1.
[31] At EM II Myrtos, for example, the excavator Warren (1972, 266) observed that the contexts of the two possible trumpets 'gave no evidence of any ritual connection'.

historical records from their use in warfare by the Maya and Aztecs (Novella 1995, 46, 48) to their more recent use in the 18th century by the Corsican militia (Jackson 1916, 4). That triton shells were also used as battle horns in ancient Greece is suggested by a scene on an Archaic cup painted by the Nikosthenes painter, which shows a conch being blown by a young man holding a spear, who walks between an armed hoplite and a winged horse (Fig. 122). The use of triton shells as signal horns is also well attested in Crete and Greece. In 1901, Evans (1901, 142) reported that shell trumpets were still used by Cretan village guards to raise the alarm and Alexiou (1969, 108) describes how until more recent times the triton shell was used both as a trumpet and megaphone by rural postmen and shepherds in Crete. Classical Greek literary sources also mention the use of triton shell trumpets as signal horns in rural areas: in Euripides' *Iphigenia Among the Taurians*, for example, herdsmen blast on their conch shells to summon help when their herds are attacked by two strangers (Eur. *IT* 295-305). It seems very likely that the Minoan islanders would have used triton shells as signal horns too.

In addition to trumpets, a number of triton shells cut to form vessels have been found in contexts with no obvious ritual connections (Table 8b). More complete vessels like that found at House AB at Pseira (Table 8a: **Sh.V.1**; Fig. 119) are known from Malia, the Royal Road at Knossos (Reese 1995c, 265) and from the Chalinomouri Farmhouse at Mochlos (Reese 2004, 120), while Seager (1910, 25-26) mentioned that further vessels were found in other LM I houses at Pseira, although these cannot be located today. Myrtos-Pyrgos also produced three shells vessels of both the *C. sequenzae* and *nodifera* species as well as cut body fragments from further possible examples. The complete vessels are large, measuring 18.9-30cm in length, and vary in form: one simply has a worked aperture, another has the columella and part of the body whorl and siphonal notch removed and the outer surface of the shell smoothed down in places (Reese 1985, 357). In addition to these more or less complete vessels, cut body fragments which may have come from triton shell vessels are known from EN I Knossos, the Royal Road at Knossos, Malia, Kommos and Pseira (Reese 1995c, 265; 1999b, 162), while apical fragments with the columella removed have been

found at Kommos and Building AD Centre at Pseira (Reese 1995c, 264; 1995b, 129; Appendix 2C). Further shell vessels are also known from Cyprus, at Neolithic Cape Andreas and Middle Bronze Age Alambra (Reese 1985, 354; 1995a, 42). These shell vessels could have been used in domestic activities as containers or scoops and for transferring dry and liquid products from one place to another.

In addition to shells worked as trumpets and vessels, two apical fragments with holes on the upper spire, perhaps for stringing, have been found at Myrtos-Pyrgos (Reese 1985, 357-58; Appendix 2C), suggesting that triton shells were sometimes strung for storage or were perhaps hung as ornaments decorating the homes of fishermen and island folk. These examples from contexts with no evident ritual connections reinforce the point that triton shells had both social and religious use in Minoan Crete, and that unmodified examples as well as trumpets and vessels were used in both everyday life and formalised ritual contexts.

Section E. Large-Scale Imitation Shells

Having examined the role of real triton shells in the Aegean Bronze Age it is time to turn to the remarkable series of large-scale imitations of tritons and other shells known from Minoan Crete and the Aegean. In their detailed publication of the Malia stone triton shell published in 1983, Baurain and Darque catalogued 21 large-scale Aegean shell models in stone, terracotta, and faience. As some examples were omitted from their catalogue[32] and as further examples have since been found, I have compiled an updated catalogue which includes these new additions, providing a description of each piece and details of their material, shape, and key features (Tables

[32] For reasons which are unclear, Baurain and Darque (1983, 59) mention the model tritons from Akrotiri and from the East Slope at Knossos in their text but do not include them in their catalogue. The example in the private collection in New York was also known to them but it was not fully published until later, by Lloyd (1994).

9a-b). To the original 21 examples listed by Baurain and Darque (1983, 59-73),[33] we can add a further nine examples: an almost complete triton shell from Akrotiri, another from Myrtos, a spire fragment from the east slope at Knossos, fragments thought to come from two different triton shells from the Unexplored Mansion at Knossos, a fragment from the Royal Road at Knossos, two fragments in amethyst from Midea and Mycenae, and a terracotta triton from a private collection in New York, which Lloyd (1994) has convincingly argued comes from Minoan Crete (**Sh.13-16**, **21-23**, **26-27**). These new additions bring the number of large-scale Aegean shell models to 30.[34] Of these, 16 are made of stone, nine of terracotta, three of faience, and two of amethyst. Twenty-seven of the pieces are thought to take the form of the triton shell and are described in Table 9a. Three remaining pieces represent other shell types and for this reason they are catalogued separately here in Table 9b. They include a stone dolium shell from Ayia Triadha, a faience argonaut shell from the palace of Zakro, and a model 'conch' shell from the MM II 'Independent Sanctuary' at Malia.[35]

Many of the 30 large-scale shell models are known only from fragments. Some, such as the stone triton shells from Zakro and Palaikastro and the faience triton from Myrtos-Pyrgos (**Sh.7-8**, **24**; Figs. 127-28), have been heavily restored, although in each case enough of the shell survives to suggest that the reconstruction is reasonably accurate. Two of the triton shells are now lost and known only from brief mentions.[36] Nine shells can be considered complete or almost complete, including the argonaut shell and dolium (**Sh.29-30**), and seven of the triton shells: the Malia stone triton

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[33] The examples catalogued by Baurain and Darque (1983) come from Knossos, Kalyvia Mesara, Malia, Zakro, Gournia, Sklavokambos, Palaikastro, Pyrgos, Mycenae, and Lardos-Stafylia on Rhodes; these are indicated in Tables 9a-b.

[34] This figure should be regarded as an approximate figure only, as the four fragments from Pyrgos may have come from multiple examples (**Sh.11**), while it has been suggested that the fragments in amethyst from Midea and Mycenae (**Sh.26-27**) may have come from the same shell model (Demakopoulou 1998, 222).

[35] While the Malia shell may have been intended to represent a triton, the shape is too rounded so the generic term 'conch' seems more appropriate here.

[36] One from a tomb at Lardos-Stafylia on Rhodes (**Sh.12**) is thought to have been destroyed by vandals during the Italian occupation of Lindos in 1912 (Baurain and Darque 1983, 65, n.11), while the other (**Sh.22**), a spire fragment from the East Slope at Knossos, was described by Evans (PM IV, 111) but has yet to be located.

(**Sh.6**; Fig. 137), the two large stone tritons from Kalyvia Mesara and Knossos (**Sh.1-2**; Figs. 123-24), the two terracotta examples from Gournia (**Sh.16-17**; Figs. 125-26), and the two terracotta tritons in private collections in Germany and New York (**Sh.20-21**; Fig. 130).

The earliest of the large shell models, the Malia 'conch' and the painted triton spire from Knossos (**Sh.28**, **22**), came from MM II contexts.[37] Of the shells for which the context is known, the majority were found in LM I contexts (Tables 9a-b) and this factor along with the increased popularity of marine objects and motifs in the MM III-LM IB periods suggests that the majority of the shell models were made between MM III-LM I, as proposed by Warren (1969, 91). Examples from later contexts such as the shells from Kalyvia Mesara (LM I-III), Rhodes (LM III), and Midea (LH IIIB2), are thought to have been heirlooms, retained long after the time of their manufacture (Warren 1969, 91; Baurain and Darque 1983, 49, n.187, 50). In considering these large-scale triton shells, it is important to note that in the MM II period there was also a wider tradition of making *small* clay models of shells and marine creatures for attachment to the rims, handles, and bodies of ceramic vases. This tradition of ceramic relief is discussed in detail in the following chapter; here it will suffice to note that triton shells were among the marine repertoire selected for such small-scale relief attachments.[38] These small relief tritons can be distinguished from the large-scale models in terms of both size and function: while the smaller examples were intended as attachments for ceramic vessels, the larger examples were designed to be freestanding models.

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[37] The three MM II miniature model 'triton shells' in terracotta which Evans reports from the Loomweight Basement of the palace of Knossos (PM I, 219-22, fig. 168) are omitted here because they have since been called into question by Baurain and Darque (1983, 60, n.9), who argue that they were not triton shells at all but conical beads or 'pearls', like those illustrated elsewhere in Evans (for example, PM I, 490-91, figs. 351-52).

[38] Individual clay relief tritons as well as examples still attached to their original vases have been found at Malia, for example (Poursat 1980b, 124-25), while a fine example of a relief triton can also be seen on a MM II Kamares ware fragment from Phaistos, on which the triton is rendered in white against a dark background (Fig. 188). A small clay triton mould found at Quartier Mu, Malia would have been used to make such appliqué relief ornaments (Fig. 189).

The majority of the imitation shells come from Crete, although three examples have been found on the Mycenaean mainland (two from Mycenae and one from Midea), one at Akrotiri on Thera, and another on Rhodes. Based on stylistic similarities and the particular Minoan love of the marine world it is generally thought that all were manufactured in Minoan Crete.[39] Within Crete, most of the shells came from central Crete and the northeast coast (Knossos, Malia, Gournia, Palaikastro, and Zakro), with some examples known from the south and southeast. As eight of the shells came from the Knossos area, Baurain and Darque (1983, 48) may be correct in suggesting that most of the pieces were manufactured there. This could be supported by the suggestion that at least one of these pieces, the fragment with the relief octopus, was unfinished (Baurain and Darque 1983, 62). However, other Minoan sites have also produced multiple shells[40] and the originality of some pieces such as the Zakro triton and the Malia relief triton may point to local manufacture; indeed, the Zakro triton was found within an area identified as a workshop (Platon 1985, 220-21). Similarities between the Kalyvia Mesara triton and another from Knossos (**Sh.1-2**; Figs. 123-24) suggest that they may have come from the same workshop (Baurain and Darque 1983, 48), and at least one of the Gournia tritons (**Sh.17**; Fig. 125) is similar enough in form to suggest the same point of manufacture.

i. Design and Decoration

The dolium and argonaut shells are both considered masterpieces in terms of craftsmanship and attention to naturalistic detail. The dolium shell from Ayia Triadha is made of black obsidian with white flecks and can be easily identified as a highly realistic representation of the *Tonna galea* (dolium) shell (**Sh.30**; Fig. 132).[41] The

[39] Baurain and Darque (1983, 47), for example, say that the Minoan origin of the majority of the shells is 'beyond a doubt'.

[40] Sites producing multiple triton shell models include Malia (3), Pyrgos (two or more), Zakro (2), Gournia (2), and Palaikastro (2).

[41] Gill (1985, 79) identified the shell as a faithful copy of another type of dolium shell: the *Tonna perdix*, perhaps because the white spots in the stone recall the spots found on this natural shell. However, this shell type is only found in the Indo-Pacific and no examples have been identified in the

natural shell (Fig. 131) has a huge body whorl which has 15-20 broad flat ribs, each separated by three or more smaller ribs. A deep suture separates the body whorl from the spire, which has short truncated whorls. The shape of the Ayia Triadha shell is accurately rendered and its surface is covered with fine relief bands, imitating the ribs of the natural shell. This attention to naturalistic detail also extends to its complex interior, where the smooth walls are modelled to form two interior whorls which follow the external contours of the shell (Baurain and Darque 1983, 22, 60). At 28.5cm in length, it is larger than life-size, as real *Tonna galea* shells reach maximum lengths of c. 20cm and are often much smaller (Oliver 1980, 140). It has also been provided with a rim at the aperture. In all other respects, however, the shell is a highly naturalistic piece indicating that the real shell was known to the Minoan artist who copied it so faithfully. The *Tonna galea* shell is native to the Mediterranean and examples have been found at a number of archaeological sites including Kommos, where remains of 21 shells were found in 18 deposits (Reese 1995c, 241-50).[42] Although Evans (PM IV, 110) suggested that the dolium was eaten, Reese (1995c, 265) argues that this was unlikely as it lives in deep water. One of the Kommos shells was water-worn, indicating that some at least were collected empty. An extremely fine and beautiful shell with thin fragile walls, the dolium was perhaps also collected as a curio and valued for its delicate structure, beautiful form, and relative rarity. A *Tonna galea* shell was among the shells stored in the Temple Repositories at Knossos, for example (Panagiotaki 1999, 175), which are thought to have been used to decorate a shrine (see Chapter 1).

The argonaut shell from the palace of Zakro (**Sh.29**; Fig. 133) represents another rare shell type: the paper nautilus shell (*Argonauta argo*). A comparison of the Zakro shell with a real argonaut shell (shown in Fig. 10) reveals that the Zakro piece is a highly

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Aegean; for this reason, the Ayia Triadha shell should be identified as the *Tonna galea*, which is native to the Mediterranean.

[42] A full list of Minoan sites where *Tonna* shells have been found is provided in Reese 1995c, 265. While five examples are known from Neolithic Knossos, most of the sites yielding *Tonna* shells have produced single examples. For example, single *Tonna* shells were found in the Temple Repositories, at the Royal Road and Unexplored Mansion at Knossos and at Myrtos, Pyrgos, Malia and Chania (Reese 1995c, 265). This deposition pattern strongly suggests that the *Tonna* was not a major source of food (if eaten at all) and that the shells found at Minoan sites were collected for their own value.

realistic rendering of the natural shell form. With its curved spiral shape and rippled surface, it is a striking example of naturalistic art. Measuring 22.7cm in length and 11.9cm at its maximum width (Baurain and Darque 1983, 73), the shell is a little larger than life-size and is hollow. Argonauts are mostly found at great depths although they can be encountered swimming on the surface of the open sea. While real argonaut shells may have occasionally washed up on beaches, they would have been extremely rare. The artist was clearly familiar with the details of the real shell and may have been working from a real specimen, rather than from existing illustrations or models.[43]

Like these two model shells, the triton shells (Table 9a) are generally large impressive pieces. The more complete examples range in length from 17.6cm (for the restored triton from Zakro) to 31.4cm (for the alabaster triton from Knossos). These dimensions correspond to those reached by real tritons and suggest that triton shells of different sizes were used as models when making imitations.[44] Baurain and Darque (1983, 23) have divided the triton shell models into two broad stylistic groups based on their form and surface treatment.[45] The first group is typified by the alabaster triton from Knossos (**Sh.2**; Fig. 123). They have a naturalistic shape with conical bodies on which the successive whorls are well demarcated and increase gradually in size, with the large body whorl bulging to form a naturalistic curve. On most of these shells, the successive whorls are decorated with parallel relief bands, which imitate the pigmented bands visible on the surface of the natural shells. The pieces assigned to this group include stone tritons from Knossos, Kalyvia Mesara, Malia, and Palaikastro, two terracotta tritons from Gournia, another in a private collection in

[43] The Zakro shell comes from a LM IB context, by which time small-scale models such as those from the Temple Repositories had already been made. However, it can be distinguished from these models not only in terms of scale but also by its fine workmanship. While earlier argonauts such as the MM II relief examples from Kouloura 2 at Knossos and the MM III models from the Temple Repository also have a naturalistic shape, they have an extra protuberance or 'ear' at the aperture which is not found in nature (Gill 1985, 77, n.55; Figs. 29 and 176).

[44] Lloyd (1994, 80) is mistaken in describing the smaller examples as 'approximately one-half life-size' as these pieces may imitate smaller, younger triton shells - it must be remembered that lengths of 30-40cm are estimations of the largest dimensions that triton shells reach, rather than usual sizes.

[45] This division has also been followed by Lloyd (1994, 80).

New York, and perhaps, also the faience shell from Myrtos-Pyrgos[46] (**Sh.1-2**, **6**, **8**, **17-18**, **21**, **24**; Figs. 123-26, 128, 130, 137-39). Of these shell models, the first two are so similar in form that it has been suggested that they were made by the same hand (Baurain and Darque 1983, 48), while one of the Gournia shells is also extremely similar in shape and surface decoration (**Sh.17**; Fig. 125). There are some significant variations between the pieces assigned to this group however. On the Palaikastro and Malia shells (**Sh.6**, **8**; Figs. 128, 137), for example, the whorls are more pronounced and have a different surface treatment, with additional relief decoration. The Zakro triton (**Sh.7**; Fig. 127) is included by Baurain and Darque (1983, 23) as a variant of this first group. Like the Malia and Palaikastro pieces, it has more pronounced whorls than the Knossos piece, and whereas the surface of other shells in this group are covered with relief bands which wind naturalistically around each whorl, the Zakro triton has relief bands only on the body whorl, the rest of the surface being left plain. The New York triton (**Sh.21**; Fig. 130) has a similar form to those from Gournia, Knossos, and Kalyvia Mesara, but varies in the treatment of the aperture and appendix.

The second group identified by Baurain and Darque (1983, 23) consists of more stylised shells with a simpler form and surface treatment. Assigned to this group are the terracotta examples from Akrotiri, Bastion E at Malia and a private collection in Germany, and the faience shell from Mycenae (**Sh.16**, **19-20**, **25**; Figs. 129, 135). The shell from Akrotiri (**Sh.16**; Fig. 129) has a conical shape with simplified curved whorls which gradually increase in size. The whole surface is left plain. Despite its simplified form, it is a highly effective piece which retains the essential shape and impression of the triton shell form. In contrast, the three other pieces assigned to the group are much more stylised. On the Malia piece (**Sh.19**) the natural triton shape has been reduced to a simple cone, with no marked bulges to represent the whorls of the shell, although the relief bands on the spire and body whorl are retained. The shell in Germany (**Sh.20**) also has a stylised conical form but the outer surface is left plain

[46] Baurain and Darque (1983, 23) tentatively assigned the Pyrgos triton to the second group, but it appears closer in form and surface treatment to the Gournia, Kalyvia Mesara and Knossos pieces.

and the successive whorls are indicated by sharp angular protrusions. The shell from Mycenae (**Sh.25**; Fig. 135) also has a plain surface, but here the successive whorls are demarcated by a single narrow relief band; while the body whorl bulges naturalistically, the spire is more elongated than that of the natural shell and has a slightly concave profile. In actuality, the factors linking the tritons of 'group two' are somewhat tentative - aside from the fact that they are all more stylised than naturalistic, there is little to link them together. In fact, there are so many broad differences within *both* groups that they seem to me to be somewhat arbitrary, if not misleading. For this reason, I think that broad groupings should perhaps be avoided in favour of an approach which recognises that while there are certain similarities between some pieces, particularly between the Knossos, Kalyvia Mesara and Gournia shells, there are also many individual idiosyncrasies.[47]

In addition to differences in basic form, variations can often be seen in the aperture of the shells. The Kalyvia Mesara and Knossos stone tritons and the two from Gournia all have distinctive stylised upper lips, which flare outwards with a scalloped or wavy profile (**Sh.1-2**, **17-18**; Figs. 123-26). On some pieces, such as the triton in Germany, the upper lip is left plain, although details may have been added in paint originally. Curiously, the aperture on the triton in New York appears as a simple, unframed opening (**Sh.21**; Fig. 130) and I wonder whether the aperture was originally added in another material, now lost. On almost all of the examples with a surviving aperture, either the lower or upper lip is decorated with undulating lines in relief which were clearly intended to imitate the natural ridges found on the inner lips of the real shell.[48] These naturalistic additions again show that the artists who made these shell models were familiar with the real shells, down to the detail of their inner surface, and that some artists chose to highlight these visible and tactile features. On most of the more intact triton models, the appendix (siphonal canal), the short extension of the body

[47] This brings to mind a broader concern about the nature of categorization and the problems inherent in the wider archaeological tendency to group items together; while the act of 'categorizing' is intended as a helpful tool to logically organise large amounts of data, there is a danger of artificially imposing groupings upon the data.

[48] These relief 'ridges' can be seen on the lower lip of the Kalyvia Mesara triton, the Knossos alabaster triton, and the tritons from Akrotiri and Gournia; they also occur on the upper lip of the Zakro triton.

whorl, is realistically modelled as a hollow tubular appendage. The terracotta shell in New York is unique in this respect as no appendix *per se* is shown. Instead, the body whorl tapers upwards into a blunt, flat triangle, which is pierced by a single large hole (**Sh.21**; Fig. 130). Lloyd (1994, 87-88) has suggested that the hole was for suspension, but an alternative suggestion is that it was used to affix an attachment in another material, which would also explain why in its existing state the aperture appears unfinished. As none of the triton models displays the characteristic nodules of the *C. nodifera* species, they seem to represent the *C. sequenzae* species. This is clearly the case for the Malia stone triton, where the crescent shaped pigmented markings found on the surface of the *C. sequenzae* are naturalistically imitated by relief crescents which decorate each band of the shell (**Sh.6**; Figs. 94-95 and 137-39). This attention to naturalistic detail is remarkable and points to a close familiarity with the actual shell and an interest in depicting the details of its surface patterning.

While some of the triton shells have no surviving decoration apart from simple relief bands, a small number have elaborate relief scenes, while others were originally painted or had metal attachments. The stone triton from Malia and two fragments from Knossos can be singled out as special because of their elaborate relief decoration (**Sh.4-6**). The Knossian fragments both bear marine scenes appropriate to the triton shell shape: they appear to have shown an octopus amid marine rockwork and a dolphin in a marine setting (Fig. 158), respectively. The original shells would have been quite striking and the marine imagery would have served as iconographic reinforcement, reinforcing the marine theme created by the shell shape.[49] The body whorl of the Malia triton is carved with a complex scene involving two Minoan genii apparently engaged in an act of ritual purification (Figs. 137-39; Baurain and Darque 1983, 46; Peatfield 1995, 225). Because of their elaborate relief decoration, these pieces will be discussed in detail in the following chapter, which examines the role of marine relief work, particularly in relation to stone vases. A fourth triton, from

[49] The term 'iconographic reinforcement' comes from Morris 1995. Baurain and Darque (1983, 62) have suggested that the octopus fragment came from an unfinished triton shell, but it is very difficult to tell.

Palaikastro, also has additional relief decoration although it is much simpler (**Sh.8**; Fig. 128). Only a single large fragment of the shell has survived, but parts of three whorls of the spire can be clearly seen, each decorated with a double relief foliate band framed on either side by a plain band. A fragment of the lower end of the aperture shows that a line of stylised rosettes also ran parallel to the upper lip. The rosettes call to mind metal rivets and one wonders whether metal shell imitations were also made, which have not survived.

In addition to these pieces, many of the terracotta triton shells had traces of paint when first found. One of the Gournia shells had traces of brown-orange paint, while the other has red paint preserved on the spire. The MM II 'conch' from Malia had traces of a brown-orange slip while the shell in Germany had a purple-brown slip. The preserved decoration on the MM II triton fragment from Knossos was more elaborate: although the shell has not been located, Evans described it as having white bands on a black ground (PM IV, 111). Significantly, the number of terracotta tritons with traces of painted decoration represents more than half of the known examples and it is possible that all of the models in this material were originally painted. In relation to this, we should recall that real triton shells from Myrtos and Neolithic Phaistos also retained traces of paint (Fig. 100). Pottery representations of conch shells known from Mesoamerica were also painted. While most had monochrome decoration, one example has an elaborate pattern of incised semicircles, with details picked out in red and off-white against a black ground (Novella 1995, 49, fig. 265). Unfortunately, too little of the paint survives on the Aegean terracotta shells to tell whether the decoration was generally restricted to a coloured slip or whether they had more complex painted decoration, like the Mesoamerican shell, originally.

No traces of paint survive on the stone shells, but some have evidence of attachments in different materials. Four small holes along the length of the upper lip of the alabaster triton from Knossos (**Sh.2**; Fig. 123) were clearly intended for an attachment in metal or perhaps ivory or faience. A fragment from Sklavokambos (**Sh.10**) also has four small holes at the bottom of the lower lip for such an

attachment.[50] The visual effect of a stone or terracotta shell with the aperture decorated in a fine material such as gold would have been impressive. The combination of materials would have provided a striking contrast in terms of colours and textures, heightening the visual and tactile effect of these shell models. A similar effect is achieved by the modern day practice of electroplating real shells. For the stone shells, we should also consider the type of stone selected for use. While the ease with which a given stone can be carved was an important factor governing selection, additional factors such as colour, markings and translucence may have been important. Eleven of the 16 stone shells were carved in relatively soft stones such as chlorite and serpentine, ranging in colour from black to green. These materials allowed for a highly polished finish, which would have enhanced the visual effect of the finished shell. The Zakro triton and the relief tritons from Malia and Knossos, for example, each had a highly polished exterior (**Sh.3-7**; Figs. 127, 137-39 and 158). The remaining shells were carved in harder materials such as obsidian, veined alabaster, and marble. As these materials would have been more difficult to work, they may have been selected primarily for their particular visual and tactile qualities. The translucent obsidian used to make the Ayia Triadha dolium shell (**Sh.30**; Fig. 132) provides a case in point: as real dolium shells have thin, almost transparent walls, the translucent quality of the stone selected for the model helps recreate this natural effect.

The choice of colour for the three faience pieces is also worth noting. The triton shell from Myrtos-Pyrgos (**Sh.24**) is made of reddish faience, while the Mycenae shell (**Sh.25**; Fig. 135) is in white faience with traces of a clear yellow glaze. The argonaut shell from Zakro (**Sh.29**; Fig. 133) is made of whitish-grey faience with pale pink and green hues; while real argonaut shells are white (Fig. 10), the additional hues of the faience piece add a luminous quality to its surface. The two triton fragments in purple amethyst (**Sh.26-27**; Demakopoulou 1998, 222, Pl. XXIa-e) are unique in terms of their material and colour and the complete shells in this material would have been

[50] I also suggested earlier that the terracotta triton shell in New York (**Sh.21**) may have had an attachment at the aperture.

quite dazzling.[51] While an amethyst source may have existed in the Aegean, the only sources of amethyst so far identified in the ancient world are in Egypt, so it is thought that the material was an exotic import (Krzyszkowska 2005b, 122). The source area of a material can have symbolic associations, imparting a place-based biography to an object (Chapman 2002, 57), and Helms (1988) has observed the cognitive links between access to exotic (often highly coloured) materials and concepts of identity and power. The geographical origins of the material and its striking purple colour may have distinguished the amethyst triton shells as valuable and exotic items, associated with distant lands.

In recent years, there has been a growing awareness among the archaeological community of the importance of these more phenomenological aspects of artefacts and buildings, and of the significance of aspects such as colour, brightness, luminosity, and texture.[52] The possible importance of the use of paint, of attachments in different materials, and of the selection of particular types of stone has been somewhat overlooked in relation to these model triton shells. In other cultures, particular colours or qualities of materials have been shown to have cultural significance, as was seen with the colour red earlier. In Egypt, for example, magical texts often specify the colour paint or ink to be used when writing particular spells, based on the symbolic associations of each colour (Pinch 2001, 182-83).[53] Metals also had particular symbolic associations in Egypt: gold, for example, was associated with the sun-god Ra and the divine realm, silver with Thoth, the god of magical knowledge (Gillis 1999, especially 297-99; Pinch 2001, 283). Ethnographic studies have also explored the issue of luminosity and brightness: in the art of the Yolngu people of Arnhem Land in Australia, for example, the quality of brilliance is associated with ancestral power (Morphy 1992, 189), while Saunders (2002) has shown that brilliance

[51] While the two fragments came from different contexts, Midea and Mycenae, Demakopoulou (1998, 222) has suggested that they may have come from a single shell.

[52] An example of this recent interest is the volume by Jones and MacGregor (2002), which is entirely dedicated to the use of colour in the past.

[53] White, for example, was considered auspicious and was used for the robes of all ritual specialists and in spells invoking benevolent spirits. Green was associated with Osiris, freshness and fertility and had positive associations. Black, on the other hand, was associated with Anubis and the underworld, and was used in rituals aimed at controlling more dangerous spirits and demons (Pinch 2001, 183).

was associated with spirituality and power in many pre-Columbian Amerindian societies. Although it is difficult to establish the cultural significance of such aspects in the prehistoric Aegean, the awareness that such phenomenological factors have a cultural resonance in many societies opens up the possibility that such qualities were also significant in the Aegean and helped impart agency and cultural value to objects such as the shell models.

ii. The Function of the Large-Scale Imitation Shells

Having considered these broader issues, it is time to question why these large-scale shell models were made, for whom they were made and how they were used. In considering the function of these imitation shells, it is important to note that the Minoans are not unique in producing large-scale shell models. A small number of imitation conch shells are also known from neighbouring areas including Mesopotamia and Egypt.[54] However, as Lloyd (1994, 83) notes, these are less faithful imitations than the Aegean shells and they distort the natural shell form into utilitarian objects, such as lamps. In contrast, two large-scale shell models from the late 5th or early 4th century BC Mediterranean on display in the National Museum of Athens (Fig. 140), are more realistic in form; they can be easily recognised as *Lambis* (scorpion) shells, a genus found only in the tropical Indo-Pacific. Unfortunately, the find contexts of the shells is unknown so little can be said about their function, but they are comparable to the earlier Minoan shells in terms of naturalism. The best parallels for the Aegean tritons, however, come not from Europe but from Mesoamerica. Numerous pottery models of conches have been found there, ranging in size from small to over life-sized (Novella 1995, figs. 262-65). They could be plain or decorated and many were modified for use as trumpets. The Mesoamerican pottery shells provide a fascinating point of comparison: like the Aegean shells, they were highly realistic, occasionally, down to the finest details of their interiors. In both

[54] Four 'conch' lamps dated to the Third Millennium BC are known from Southern Mesopotamia and a model conch has been found in a Middle Kingdom tomb in Egypt (Lloyd 1994, Table 1, n.39 and 41).

areas, real conch shells were widely used in social and religious settings, sometimes as trumpets. Most interesting is that like the Minoans, Mesoamerican societies also made *small-scale* clay model conches intended as appliqués for ceramic vessels: a ritual censor (*adornos*) from Tetitla, for example, is decorated with a large strombus conch in relief, along with starfish and bivalve shells (Fig. 141; Berrin and Pazstory 1993, 218). These factors suggest that in both areas conch shells had a high symbolic value, which led to the production of realistic large-scale models. In Mesoamerican societies, the practice of making imitations of highly valued marine items which were used as ritual equipment extends beyond imitation shells. The Maya, for example, also made imitations of the natural stingray spines which were used in rituals because of the toxic substance they contain (Maxwell 2000). While the imitation spines in materials such as jade (Fig. 142) may have lacked these natural toxins, their sharp edges would have allowed for use in blood-letting rituals. Similarly, Aegean imitation triton shells could have been used as cult equipment in place of real triton shells.

A number of factors indicate that the Aegean shell models, particularly those in stone, faience and amethyst, were highly valuable objects intended for a restricted elite use. The majority of the shells are made of luxury materials[55] and there is evidence that some of the examples in terracotta had additions in finer materials, which have not survived. Although some of the terracotta and faience pieces were clearly mould-made,[56] examples such as the Zakro argonaut shell (Fig. 133) are of the highest quality. The stone and amethyst shells required a high investment of resources in terms of materials and skilled labour; the dolium shell (Fig. 132), for example, is among the finest stone vessels known from Minoan Crete. Of the 25 model shells from Crete, the majority come from palatial centres and elite villas: eight pieces come from Knossos, two from the palace of Zakro and three from Malia, with further examples from the rich villas at Ayia Triadha and Pyrgos. Of these, most were made of fine materials: seven of the eight Knossos shells were made of stone, for example.

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[55] Of the 30 shells, 16 are made of stone, three of faience and two of amethyst, with only nine examples made of terracotta.

[56] A terracotta shell from Gournia and the faience argonaut shell from Zakro (**Sh.17**, **29**) are both thought to have been moulded in two parts (Baurain and Darque 1983, 22, n.21).

The remainder of the shells came from settlement sites, such as Gournia, Myrtos, and Palaikastro, or from funerary contexts. On the Mycenaean mainland, the three shell models also came from elite contexts (the Acropolis and Shaft Graves at Mycenae and the Acropolis at Midea). These factors all suggest that the majority of the model shells were highly valuable elite objects.

In considering the issue of value, it will be useful to return to Sherratt's categories of value, as discussed in Chapter 1 (Sherratt 1994, 62-63). Her categories of 'preciosity' value, 'added' value and 'cultural' value may be applicable to the imitation shells. 'Preciosity' value refers to materials which gain their status or value through their perception as rare or exotic; 'added' value refers to the value added to materials by the craft or manufacturing process; 'cultural' value is defined as the degree to which an object or class of object acquires a recognised social or ideological significance. The concept of added value may apply to all of the shells to various degrees but is particularly relevant to the fine examples in stone and amethyst, which required considerable skill to make, and to those with complex spiralled interiors such as the terracotta triton in New York and the stone shells from Ayia Triadha and Kalyvia Mesara. Preciosity value is perhaps most relevant to the amethyst triton shell fragments, as the material is thought to have been an exotic import (Krzyszkowska 2005b, 122). Most of the worked amethyst found in Aegean contexts was made into simple beads; aside from the two triton shells only a single vase fragment, from Poros, has been found (Krzyszkowska 2005b, 122), indicating that the amethyst triton shells were extremely unusual and rare objects. Their exotic material, the apparent rarity of such complex vessels in that material, and the high degree of skill required to make them single these two pieces out as elite items of both high 'preciosity' and 'added' value. Although Sherratt's concept of 'preciosity' value was intended to relate only to materials, it could also be extended to form. The triton shell vessels imitate a natural shell form, which, while local to Cretan waters and by no means rare, may have been perceived as exotic because of its marine origin and the degree of effort required to acquire good specimens. These observations also apply to the dolium shell. The argonaut shell, on the other hand, would have been rarely seen and

certainly may have been considered rare and unusual.[57] For these reasons, both real and imitation conch shells may have been valued as exotic and precious items. That they also had a 'cultural' or symbolic value is suggested by the role of real triton shells as items of cult equipment and their use as one of the few motifs of the LM IB ceramic Marine Style.

The large-scale imitation shells form a unique group, comparable in scale, materials, fine craftsmanship and attention to detail only with other zoomorphic vases such as bull's head and lion-head rhyta. They must have had a specialised function. Based on the use of triton shells as cult equipment, Warren states that the large-scale models seem to have been a 'ritual class' (1969, 91). Although the exact provenance of some of the shells is either not known or specified, five were found in contexts identified as ritual in nature,[58] three were from funerary contexts, and the remainder came from contexts with no evidence of ritual activity (Tables 9a-b). The range of contexts corresponds with those in which real triton shells have been found, and we may wonder if the imitations were intended as finer versions of the real shells, for use on special occasions. The important question is whether the fine imitations had the same range of functions as the real shells or a more specific use.

In their discussion of the function of the Malia stone triton, Baurain and Darque argue strongly against the use of large-scale model triton shells as trumpets. Their argument is based partly on their observation that of the 11 shell models with preserved apexes known to them, ten have *closed* apexes; only the Malia shell had a hole near the apex which could have allowed it to be blown (Baurain and Darque 1983, 22; Fig. 139).[59] According to Baurain and Darque, this meant that the majority of the shell models

[57] No remains of argonaut shells have been found at Aegean archaeological sites, although the paper-thin shell is perhaps too delicate to survive.

[58] In addition to these five examples (**Sh.2**, **24**, **28-30**), a sixth example which may have come from a ritual context is the amethyst fragment from the gate area of the acropolis of Midea (**Sh.26**), as Demakopoulou (1998, 222) reports a 'goddess figure' among the finds.

[59] Oddly, Baurain and Darque include the faience shell from Mycenae among those with preserved but closed apexes, yet the apex is clearly pierced, albeit with a very small hole (Fig. 135). While thirteen shells with preserved apexes are now known, the two further examples from New York and Akrotiri also have closed apexes.

cannot have been blown; indeed, they observed that they were unable to produce any sound when attempting to blow the Malia shell (Baurain and Darque 1983, 56, 22 n.25). In dismissing the possible use of the shell models as trumpets, they have overlooked two important factors. When attempting to blow the Malia shell, they did not seem to realise that the sound is produced by the vibrating lips of the player, 'the trumpet merely gives the pitch, timbre and amplification' (Younger 1998, 36).[60] The Malia triton shell could indeed have been used as trumpet by someone familiar with how to blow the instrument. Regarding the lack of blowholes at or near the apex of most of the shells, Younger points out that shell models can also be blown through the drilled appendix and many of the shell models with the appendix preserved have a hole drilled through it, which could have allowed the shell to be sounded (Younger 1998, 36).[61]

Baurain and Darque (1983, 56) also argued against the use of model shells as trumpets on the grounds that the interior structure of the shell models is unsuitable and variable. All of the shells have a hollow interior except for three examples which have an internal spire: the dolium from Ayia Triadha and the triton shells in terracotta and stone from New York and Kalyvia Mesara (**Sh.1**, **21**, **30**). The two stone shells each have two internal spiral whorls, while X-ray analysis of the terracotta shell in New York has revealed that the shell is provided with a helical internal structure with a central columella and spire (Lloyd 1994, figs. 7-9). In this respect it resembles pottery shell trumpets from the Mochica culture, illustrated in Montague (1981, figs. 13-16), which were also provided with an internal spire. The difficulties involved in making stone shells with such complex interiors were considerable. As it is unlikely that the interior would be seen, one wonders whether this design feature was integral to the function of these pieces. It would have allowed these shell models to function as trumpets, like the real shell trumpets. However, as most of the models are hollow,

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[60] This important factor has been overlooked by many scholars who follow Baurain and Darque's conclusion that the Malia shell was not a trumpet, on the basis that they could not sound it. Lloyd (1994, 85), for example, argues against the use of the shell as a trumpet on this basis.

[61] Younger (1998, 64-5) lists the Malia, Ayia Triadha and Kalyvia Mesara shells and the alabaster shell from Knossos as having a drilled appendix suitable for use as a trumpet (**Sh.1-2**, **6**, **30**); to these examples we can add a fragmentary stone triton from the Unexplored Mansion at Knossos (**Sh.14**).

the important question is whether an internal spire was necessary for shell models to be sounded. Montague has argued that it was not. Based on the fact that in New Guinea a straight bamboo tube is used to imitate the sound of the conch trumpet, he suggests that shell trumpets may work as simple 'vessel trumpets', that is, that the sound may carry from one whorl of the shell to the next rather than down the spiralled air tube (Montague 1981, 274-75). He argues that 'this could permit the Minoans to produce a "shell" trumpet of stone which was a vessel which followed the shape of a shell externally but which had no internal construction' (Montague 1981, 274-75). In other words, many of the shell models could have functioned as trumpets.

On the other hand, other functions are also possible, and while many of the shells could have been sounded, others clearly could not.[62] While these shells could represent variations on a more 'usual' Minoan type (that is, a trumpet), they may point to a different function for the model shells, or perhaps, a *variety* of functions. The explanation of function offered by Baurain and Darque (1983, 57) is that the model shells served as libation vessels, with the liquids poured into the body whorl and out of the appendix. They argue that the hollow interiors and enlarged apertures of many of the pieces recall the familiar form of the worked triton shell vessel (such as that from Pseira: Fig. 119). They also observe that the conical shape of many of the triton models recalls the shape of rhyta and while the shell models are generally not pierced at the apex, they may have had a similar function (Baurain and Darque 1983, 56-58). An additional point, which surprisingly was not mentioned by Baurain and Darque, is the fact that on two of the shells, from Akrotiri and Germany, the appendix has been altered to form a kind of spout (**Sh.16**, **20**; Fig. 129). These factors certainly suggest that the shells with *hollow* interiors could have served as vessels. That this was the function of the Malia stone shell is strongly suggested by its relief iconography, which seems to show a scene involving the ritual manipulation of liquids (Peatfield 1995, 225; Baurain and Darque 1983, 46). This shell is unusual

[62] These include the argonaut shell from Zakro, which has no appendix, and triton models with closed apexes and unsuitable appendixes: the triton shell from New York, for example, has a modified appendix which tapers into a flat, blunt triangular projection (Lloyd 1994, 87), while the appendixes of the tritons from Akrotiri and Germany open into a kind of spout.

among the group of model tritons in having a hole near the apex (Fig. 139); as such, it could have functioned as a rhyton in the proper sense (Koehl 2006, 38). Moreover, Baurain and Darque (1983, 58) have made an important point about the orientation of the imagery which, in my opinion, confirms its intended use as a vessel: when the shell is positioned so as to function as a rhyton, with the lower hole facing the ground, the viewer is afforded the best possible view of the imagery (Fig. 137). Its use as a trumpet should not be excluded however, and it is quite possible that the shell was used for both functions, at different times or in different contexts. The Zakro argonaut shell (Fig. 133) may have also served as a vessel or container of some kind, as it cannot have functioned as a trumpet. As with triton shells, real argonaut shells have been used as vessels ethnographically: Fig. 134, for example, shows a woman on the Andaman Islands using a nautilus shell to feed her baby.

The Aegean triton shell in New York (Fig. 130) provides an exception in terms of function. While the other shells which cannot have served as trumpets could have served as vessels, the complex internal structure and single opening of this shell indicate that it functioned as neither a vessel or trumpet (Lloyd 1994, 87). Like some of the other Aegean tritons, such as the chlorite triton from Zakro, it is small and can be held comfortably in the hand (Lloyd 1994, 87). It also has a large hole at the top, at its flattened aperture, and an unusually solid tip. On this basis, Lloyd suggests that it was originally suspended, and may have been worn about the body as a personal amulet or talisman, like Minoan talismanic sealstones, with the flat side of the tip resting against the body (Lloyd 1994, 87-88). Her suggestion is interesting but not entirely convincing, as a clay shell of this size (18cm in length) would have been quite cumbersome to wear and, while small for a triton shell model, it is much larger than a sealstone. Real triton shell (trumpets) *are* carried on a daily basis by *Shugendo* priests from Japan (Fig. 106), for example, but a terracotta model would have been much more prone to breakage. Lloyd (1994, 88) also suggests that the shell could have been offered to a deity or hung on a cult statue, suggestions which offer interesting alternatives. In this regard, we should note that while Baurain and Darque argue strongly for the use of triton shell models as vessels, they concede that the

shells may have had a 'symbolic function, perhaps as votives' (Baurain and Darque 1983, 58).

From these considerations, I have come to the conclusion that instead of thinking of function in terms of 'either/or', we should perhaps consider that these large-scale shell models had a range of functions. Some may have served as trumpets and could perhaps be sounded through their drilled appendix, the shells with spiralled internal constructions, for example, would have been more suited to this use than as vessels. Others could have served as vessels, particularly those with hollow interiors and conical shapes, although their drilled appendixes may have also allowed them to be blown. Exceptional shells like the New York triton suggest additional possible uses, including a votive function which may or may not relate to the use of *real* triton shells as cult equipment and the common Minoan practice of dedicating real shells in shrines. If the conclusion that the large-scale shell models served a range of functions is correct, it was perhaps a significant factor in their design; a direct response to the many social functions of the real triton shells which they were intended to imitate.

Conclusion

In considering the role of the captivating conch in prehistoric Crete, we have travelled the world in search of meaning and use. Our journey began within the Aegean, with an analysis of the contexts in which triton shells have been found and the information provided by the shells themselves. Ethnographic studies were then called upon to help bear witness to the many and varied uses of conch shells in religious and social life worldwide. I have shown that contrary to popular belief, Aegean conch shells were not restricted to ritual use, nor were they always used as trumpets. Triton shells were in fact used in a wide range of contexts in the Bronze Age Aegean, including ritual, funerary, and everyday social arenas. In this respect, the case of the Hindu chank shell in India provides an interesting comparison: as the chank is omnipresent in Hindu life, so it seems, was the triton in Minoan Crete. While scholars such as Evans

(PM I, 581) assumed that all triton shells were used as trumpets, I have shown that this was only one of a number of uses to which the triton shell was put. Most of the Aegean triton shells were used *unmodified*, although examples of both trumpets and vessels have been found. Further research revealed that there was no exclusive association for worked shells: unmodified tritons and examples worked to form vessels or trumpets have been found in a range of different social contexts on Crete.

Hitherto, although the role of the triton shell in Minoan religious ritual had long been recognised, the *ways* in which they were used in ritual and other social contexts had not been explored. In particular, the wealth of information on conch shell use provided by ethnographic studies had not been applied to the Aegean material for comparison. As I have shown, the ethnographic data is of immense value to this study and helps to illustrate the many possible ways in which the Aegean triton shells may have been used. In the Neopalatial period, the class of large-scale imitation conch shells manufactured for the Minoan elite provides further evidence of the social importance of the triton shell and is part of a wider trend of increased investment in ritual paraphernalia at this time (Moody 1987, 238). Analysis suggests that the Minoan shell models had a range of functions, which perhaps mirrored the many social uses of the natural shells on Crete. The desire for imitation shells in a range of fine materials attests to the value which the triton had acquired; an exotic item, it was culturally important through its role as an item of cult equipment and through its wide range of social uses. It is significant that the only ethnographic comparisons for these largely realistic shell models come from Mesoamerica, where conch shells were also highly valued. Clearly, the conch shell captured the imagination of the Minoan islanders, who utilised and valued it so highly.

Chapter 3

Marine Imagery in Relief: Relief-Carved Stone Vases and the Wider Tradition of Marine Relief Work

The subject of this chapter is a group of special stone vases with marine relief decoration. Minoan relief-carved stone vases represent a small but important group of artefacts. Remains of only 37 vessels decorated with elaborate relief scenes are known (Logue 2004, 149).[1] Many of these vessels are exquisitely carved and wonderfully display the technical virtuosity of the skilled Minoan craftsman. Yet these objects are of interest not only for their technical mastery but also for the subject matter with which they are carved and the role this iconography may have served. Of the known pieces, thirteen, that is more than one-third, are carved with marine scenes.[2] Hitherto, the question of why such a high proportion of these vessels were carved with marine imagery has not been examined. Moreover, it is widely thought that relief-carved stone vases were a ritual class of vessel yet the role of this marine group has not been analysed in relation to ritual. The aim of this chapter is to consider the function and use of stone vases with marine imagery and to assess whether the imagery had a religious significance. The marine imagery on the stone relief-carved vessels will first be considered in relation to the developing Marine Style and the broader tradition of marine relief work, before then exploring its use in relation to the wider class of stone relief vessels.

Previous research on the subject of Minoan stone vases has been limited in scope. A small number of the vessels have been published in detail, while two main works consider the stone vases as a wider group: Warren's *Minoan Stone Vases* (1969) and Kaiser's *Untersuchung zum Minoischen Relief* (1976). Both works provide useful catalogues of the known fragments, yet neither is particularly concerned with the iconography of the relief pieces or the common themes depicted. These shortcomings

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[1] Logue (2004, 149, n.3) has observed that three additional pieces are known but are generally regarded as fakes (Table 10b: **SV38-40**).

[2] The marine and non-marine relief stone vases are listed in Tables 10a-b, where a description of each vase is also provided.

have recently been dealt with to some degree by Logue (2004). Her work focuses specifically on the small group of stone vessels with relief-carving, exploring the different types of imagery depicted and the possible role of these vessels in the expression of elite power. However, while Logue provides an insightful discussion of the broad categories of imagery used, she has not explored the marine imagery in any detail, mentioning it merely as part of her 'ritual' category. Thus, the role of the marine vases, the largest group of relief scenes, remains little understood.

While providing little insight into the use of marine imagery, these sources do, however, provide the necessary background for the study of the marine pieces. On technical issues, for example, Warren provides a good overview of the techniques of manufacture and the range of materials used. All of the relief vases were made of fairly soft stones which were relatively easy to carve.[3] Seven of the marine vases are made of serpentine,[4] the most common material for the manufacture of stone vases on Crete (Warren 1969, 138). Several varieties of serpentine are known, ranging in colour from blue/black to pale grey. Five of the marine vases were made of chlorite, another popular stone, which can vary in colour from green to grey. A single marine example was made of white limestone. All of these materials were readily available on Crete and were probably chosen as much for ease of access and working as for aesthetics. Serpentine, for example, was an attractive and relatively soft stone, but it also had an even composition, which meant it was less likely to fracture during manufacture (Warren 1969, 143).

Relief stone vases seem to have been produced over a relatively short period of time, although there is some disagreement about the exact time period. Warren (1969, 174) notes that no relief-carved vases are known for the Protopalatial period so the surviving examples must have been made after MM II. He dates the relief examples to MM III-LM I on the basis that the Ayia Triadha and Zakro relief vases were found

[3] The materials used for the marine-relief vases are listed in Table 10a and where possible the colour of the stone has been specified.

[4] Some examples, such as the 'Ambushed Octopus' fragment (**SV5**), have often been mistakenly referred to as steatite but Warren notes that the term should be reserved for stone of true steatite, that is, talc or soapstone rather than serpentine containing a proportion of steatite (1969, 138).

in LM IB destruction deposits, providing a *terminus ante quem* for their production (Warren 1969, 174-75). Kaiser, on the other hand, divides the relief pieces into stylistic groups, assigning the most substantial pieces to the first group, which he dates to MM IIIB-LM I, and the remaining fragments to a date-range of LM II to IIIA (Kaiser 1976, 180-82). Regarding the specific dates of the marine pieces, the disagreement continues. Warren (1969, 88-90) describes some of the pieces as remarkable examples of the 'Marine Style', thus equating them stylistically with the LM IB period. Evans, however, described marine relief vases, such as the 'Ambushed Octopus' fragment (**SV5**),[5] as MM III forerunners of the ceramic Marine Style (PM II, 502-503). The issue of date is important because the LM IB Marine Style is generally seen as the high point of marine decoration; if the relief stone vases pre-date this period they show that the Minoan interest in marine subject matter had reached a high degree of technical development in other media before its transference to ceramic wares. The problem of dating the vessels is exacerbated by the fact that many of the marine pieces have no recorded find contexts. The 'Ambushed Octopus' fragment from the Throne Room at Knossos is one of the few pieces from a secure context, yet the date of this context, LM II-IIIA, is surprisingly late. Early stylistic features, such as the suckered and overlapping tentacles of the octopus, suggest that the vase may in fact have been an heirloom. As stone vases are made of durable and hardwearing materials it is possible that many were used over a long period of time before their final deposition. The secure MM IIIA-LM IA context of the Zakro fragment with dolphins (**SV3**) does suggest that some, if not all, of the marine pieces predated the ceramic Marine Style.

[5] The numbers beginning with 'SV' or 'Sh.' in this chapter refer to the number assigned to each relief piece in Tables 10a-b. Note that in Table 10a the three triton shells with relief decoration (**Sh.4-6**) are labeled differently to the other relief-carved stone vases because they belong with the triton shell models catalogued in Table 9a.

Section A. Decoration

Sadly, most of the 13 marine-relief vessels survive only in a single fragment (Figs. 143, 154, 156, 158 and 174) so that much of their decoration is lost. In spite of this, it has been possible to identify the vessel types to which they belonged: ten are rhyta of various types and three are imitation triton shells. The triton shells belong to a wider group of large-scale imitation shells made in stone, faience, terracotta and amethyst, the role of which has been analysed in Chapter 2. As only three of the known examples of imitation triton shells have marine relief decoration, they have been included here with the relief vessels. Two of the marine vessels are complete or almost complete: the Malia stone triton (**Sh.6**; Figs. 137-39) and the rhyton or 'sprinkler' from Mycenae (**SV6**; Fig. 147). The marine decoration on the relief stone vases consists of a limited number of subjects (Table 10a). There is no evident correlation between the choice of subject and type of vessel. The most common depiction is of octopi or dolphins in a seascape. More unusual examples include a frieze of argonauts, tentacles in high relief, a depiction of Minoan genii framed by marine rockwork, and a dolphin and boat in a coastal scene. To appreciate the significance of the imagery it is necessary to place each scene within the wider developmental framework of Aegean marine imagery.

i. Octopus and Rockwork

Four of the marine stone vases are carved with scenes involving the octopus. The most famous piece is the fragment of an ostrich-egg shaped rhyton which Evans named the 'Ambushed Octopus' rhyton (PM II, 502-503). It shows a partially concealed octopus watching warily from its rocky marine habitat (**SV5**; Figs. 143-45). The body of the octopus is partly hidden by marine rockwork. A single eye peers out from behind the rock, while its suckered tentacles curl and twist naturalistically above. The beauty of this piece lies in its fine execution and attention to detail; the latter is perhaps best exemplified on the tentacles, where each sucker has been carved

individually in a highly naturalistic manner, and on the marine rockwork, which is pitted with irregular shapes as though carved by the sea. The habitat is recreated accurately, as octopi are usually found residing in small cavities in the rockwork close to the seabed. They are also great contortionists, a skill reflected in the twisting and contorted tentacles shown here (Figs. 143-44).[6] In depicting the octopus partially hidden yet watchful, the artist highlights its shy yet curious nature. Octopi are inquisitive and tactile creatures; while they may tentatively extend a tentacle to explore a new object, they will retreat into their lair at the slightest provocation. The octopus depicted here seems poised on the verge of retreat. Yet it is the treatment of the eye that most suggests an awareness of this creature's behavioural characteristics. The eyes of the octopus are very prominent and alert, and the pupils widen when threatened or provoked (Wells 1978, 152-53). Upon first encountering an octopus one cannot help but notice those wide staring eyes. As Wells notes

> Anyone watching an octopus for the first time is bound to notice that he is being observed. The animal has eyes that stare back. It responds to movement, cowering if anything large approaches it, or leaning forward in an alert manner to examine small happenings in its visual field. Anyone who keeps the creatures in a laboratory, or any diver who approaches them in the sea soon discovers that they can see just as well as we can. (Wells 1978, 141)

The eye of the octopus on this stone vase from Knossos has a powerful impact on the viewer and creates the impression that the octopus has been caught off guard. The close observation of both the natural environment and behavioural characteristics of the octopus becomes especially clear when the image is compared with a photo of the real creature in its natural habitat (Fig. 8). Clearly, the artist who carved the 'Ambushed Octopus' rhyton was familiar with his living subject matter and its habits and habitat.

The piece can be compared with the earliest and best examples of the LM IB Marine Style, such as the 'pilgrim flask' from Palaikastro where the octopus also appears to return the viewer's gaze (Fig. 3). Although the rhyton fragment was found in a LM III

[6] I have heard reports from divers who have seen octopi in coastal waters take up residence in aluminium cans, contorting their bodies so that they can fit through the narrow ring-pull.

context, stylistic features suggest that it was made at a much earlier date. Overlapping tentacles are rarely found after LM IB. The suckered tentacles are also an early feature. Mountjoy (1974, 177-79) has distinguished between three types of Marine Style octopus or argonaut based on differences in the suckers: Type A suckers enclose a dot, Type B have no dot, while on the later Type C examples the suckers are reduced to blobs or are completely absent. The suckers of the octopus on the Knossos stone vase enclose a carved dot, suggesting that it should be dated stylistically to the beginning of the LM IB period at the very latest.

Three other relief stone vases are also decorated with the octopus motif. The first is a small fragment of an imitation triton shell from an unknown location at Knossos (Table 10a: **Sh.4**) which seems to have been carved with a scene of an octopus framed by marine rockwork. All that remains of the octopus are part of its interlaced tentacles, each of which had individually carved Type A suckers, comparable in style to those of the 'Ambushed Octopus'. The surviving fragment comes from the area around the aperture of the shell, the rim of which was carved with a simple band of vertical curved lines. The main decoration may have been restricted to the largest and outer whorl of the triton shell, as on the Malia stone triton (**Sh.6**; Figs. 137-39). The second octopus piece is extremely unusual. The lower section of a limestone conical rhyton was found in the cemetery of Mavro Spelio, Knossos (**SV2**; Fig. 146). It is decorated with two tentacles carved in high relief. The tentacles have two rows of pronounced suckers and they curve inwards, with their outer edge projecting over the edge of the vase. The fragment is just over 18cm high. A comparison of this height with the height of intact stone rhyta of the same type suggests that the vase may have been up to twice this size originally.[7] It is possible then that the original vessel was decorated with an entire octopus in high relief, the effect of which must have been quite striking.

[7] For example, the Boxer Rhyton from Ayia Triadha is 44.85cm high while a comparable limestone conical rhyton from Knossos is 39.4cm high (Warren 1969, P469 and P471).

The next piece is an octopus rhyton or 'sprinkler' from a chamber tomb at Mycenae (**SV6**; Fig. 147). While the piece is shaped like an ostrich-egg rhyton, its flattened base is pierced with numerous holes rather than a single one; for this reason, Koehl refers to it as a 'sprinkler' (2006, 9). The vessel is intact, although it consists of two joining parts. While the decoration continues uninterrupted between the two parts, they are made of slightly different coloured serpentine. This has led Kaiser (1976, 39-41) to suggest that the lower half was a later addition to the vase, perhaps replacing a broken part. Stylistically the lower section does indeed appear later than the top. The decoration consists of two octopi, each set in a rocky pool. The octopi decorate the lower half of the vessel, with the head positioned at the base and the tentacles raised above. Only the tips of the tentacles appear on the upper half of the vessel where they are perfectly matched with the carving below. The marine rockwork however is very different in style. In the top section, it forms a continuous band around the vessel and is comprised of c-shaped curves with bifid projections. The design is very tidy but the use of irregular pitting on the rockwork adds a naturalistic touch. In contrast, the rockwork on the lower section appears formulaic and repetitive and is completely patterned with regularly placed drill-marks. The stylised carving of the octopus on the lower half also suggests that this half is of a later date than the top section. The octopus retains early features such as the suckers but they are no longer individually carved as on the Knossos vases and the tentacles are combed out symmetrically rather than overlapping. The vase was found in a LH III context but the top section is comparable in style to the two octopus vases from Knossos, suggesting that the original vase was a Minoan import, perhaps of MM III-LM I date. The later addition may have been modelled on the earlier design, hence the retention of the suckers, but the style in which it is executed points to a date after LM II. The lower half is thought to have been manufactured in Mycenaean Greece, and thus provides important evidence that relief stone vases were also made there (Sakellarakis 1976, 183-84). The fact that the lower half of the vessel was replaced suggests that the vase was in use for a long time and was important enough in the eyes of the owners to warrant mending.

The most obvious points of comparison for these stone relief vases are the ceramic Marine Style vessels of the LM IB period, of which the octopus was one of the favourite subjects (Fig. 3). Before that period, the octopus seems to have been a relatively rare motif. The earliest ceramic representations of the octopus are painted in polychrome on MM IB-II Kamares vessels. Four of these early octopus vessels survive (Vanschoonwinkel 1996, 370);[8] as the octopi on these vessels are all similar in style, it will suffice to describe one example: the MM II Kamares Ware vessel illustrated in Fig. 148. Each side of the vessel has a single octopus painted in orange, with red cross-hatching on the body and white details. There is no attempt at naturalism in this early stage. The octopus has only six tentacles, positioned symmetrically, and its habitat is not yet shown, unless indicated by the stylised white lines which frame the scene. The tentacles form what Walberg (1992, 83) describes as 'J-spirals' and terminate in coils which wind around rosettes. The depiction is a fine example of the Kamares style whereby the choice of subject matter and composition served to emphasise the shape of the vessel, but in terms of naturalism, it is far removed from the scenes on the stone vases. The next example of an octopus seems to bridge the gap somewhat. It is painted on a burial pithos from Pachyammos, and is thought to date to a transitional stage between MM III and LM I (Seager 1916, 21-22). The vessel has a huge facing octopus painted in dark-on-light style (Fig. 149). The composition has an unusually horizontal emphasis, with the tentacles positioned below the head and body, and splayed out to either side. The creature is more naturalistic-looking than the Kamares example, and the eyes are prominent, but there is no indication of habitat and it is still missing suckers and a full complement of tentacles.

The earliest truly comparable examples to the octopi on the stone vases are not painted on ceramics however, but found in glyptic art and in stone and metalwork. While very simplified octopi are found among the MM II sealings from Phaistos (Fig.

[8] The octopus Kamares vessels consist of a MM II octopus cup from Malia, two vessels from Phaistos, one of which is a cup (Walberg 1976, 67, 193, fig. 48: 25v.1-2), and a vessel from the Kamares area (Walberg 1983, 60, pl. 49: 2viii.2). These vessels are also listed in Vanschoonwinkel's catalogue (1996, nos. 369, 459, 461-62 respectively).

150),[9] the first naturalistic representation of a cephalopod in its habitat appears on a MM II sealing from the Hieroglyphic Deposit at Knossos (Fig. 151). It shows a large fish and octopus or squid in a rocky pool. The rockwork is simpler than that on the stone vases but is clearly related in form, with visible c-curves with projecting rounded ends. A comparable scene appears on the repoussé plate handle of a bronze amphora thought to be from either Kourion or Episkopi, Cyprus (Table 14: **MV4**; Fig. 153) where two octopi and part of a third are shown in rocky pools. They have only four or five tentacles but the suckers are shown and the tentacles now overlap, as on the stone vases. The rockwork is indicated by simple raised discs. The rest of the handle is decorated with a frieze of Minoan genii, with ewers embossed on the rim. It may be significant that both of these motifs recur with marine decoration on the Malia stone triton shell (discussed below). Although the amphora was found in a LC III Cypriot tomb, it is generally thought to be a Minoan import of earlier date (Markides 1911-1912, 97; Catling 1964, 158-59). While Evans (PM II, 504-505) dated it to LM IA or earlier, comparing it stylistically with the octopus stone vases, Catling (1964, 160) argues against such an early date on the grounds that the necessary technical skills to create such a piece had not been developed by that time. However, strong support for an earlier (LM I) date comes from the discovery of the Malia stone triton shell, as the Minoan genii on this piece are stylistically similar to those on the bronze amphora (Baurain and Darque 1983, 32-46).

Another close comparison can be seen on the beautiful gold octopus cup from Dendra (Table 14: **MV3**; Fig. 152). The cup is embossed with a marinescape in which the octopus predominates. Four octopi are set in sandy rock-pools at the base of the scene, with dolphins and argonauts arranged above.[10] The positioning of the creatures on the cup seems to reflect their respective marine habitats, with the octopi living

[9] The MM II octopus sealings from Phaistos are CMS II.5 301-303 and 312. Two early seals may also show schematic octopi: CMS VII 219 (from an unknown provenance) and CMS II.1 111 (from Ayios Onouphrios), dated to EM I-MM II. A MM III seal from a tomb at Mochlos also shows a schematic octopus along with a dolphin, fish and probable urchin (CMS II.3 251).

[10] Evans (PM II, 505-507) mentions that embossed ships sail around the upper border of the bowl. Persson (1931, 31-32), who described the decoration, does not mention these nor are they visible in the published illustrations. It is possible that Evans mistook the argonauts or perhaps the fluted decoration under the handles for the ships he mentions.

among the rocks on the seabed, dolphins diving above, and argonauts bobbing close to the surface. The disproportionate scale suggests that the octopi were the main focus of attention; the other creatures serving as fillers to complete the seascape. The octopi are quite naturalistic although the composition is less fluid than on the stone vases. Each octopus is slightly different, with tentacles curling in different directions or degrees. All have prominent eyes and a full set of suckered tentacles. Where the tentacles join the body there is a naturalistic web effect, rarely seen in Aegean depictions. The marine rockwork consists of speckled overlapping discs and is thus very different in style from that found on the stone vases or in the ceramic Marine Style. The design is thought to have been executed by two different artists on the basis of inconsistencies of style - for instance, some of the argonauts are smaller than others, while some of the rockwork is stippled, some not (Davis 1977, 277). The evidence suggests that one artist almost completed the vessel and another less skilled craftsman finished the work. The cup was found in a LH IIIA tholos tomb but may have been an heirloom. Hood (1994, 169) assigned a cautious date of LH IIB-IIIA on the basis that the composition is somewhat stylised and repetitive, and he suggests it may have been manufactured on the Mainland, despite the Minoan subject matter. Persson (1931, 45), on the other hand, argued that it was an earlier Minoan import and dated it stylistically to LM IB-II. The fact that the suckers are shown suggests to the present author a date close to LM IB and a Minoan origin. It possibly post-dated the stone vases, although it is comparable in both subject matter and style.

The final point of comparison is provided by the octopi on the LM I relief stone anchor from the palace of Knossos (Fig. 34), discussed in Chapter 1. The anchor is made of porphyry and is pyramidal-shaped. On each side is a large octopus with prominent eyes. Its tentacles curl around the sides of the object as if the real creature is clasped to the anchor. Carved in stone, it is directly comparable to the stone relief vases but much simpler in style: the octopus is simply carved and solid looking, with none of the fine detail that we see, for example, on the 'Ambushed Octopus' rhyton. Yet the composition is just as effective as on the vases and the decision to carve an

octopus as if grasping the anchor suggests direct experience with this tactile creature and an interest in depicting its behavioural characteristics.

From this overview, it is clear that the naturalistic octopus depictions on the stone vases and the LM IB Marine Style pots did not develop in the ceramic repertoire. Rather, the development seems to have taken place in other media such as metalwork, glyptic art and the art of the Minoan lapidary. This suggests that the stone vases may have predated the LM IB Marine Style. It must be said that of the comparisons drawn above, only some of the finest Marine Style pieces can compare with the 'Ambushed Octopus' rhyton in quality, and there is no artistic parallel in any medium for the tentacles in high relief on the Mavro Spelio rhyton.

ii. Dolphin and Rockwork

Five of the remaining stone vases are carved with dolphins and marine rockwork. Whereas the octopus was usually depicted alone, the dolphin was often shown in a group as a social creature. A conical rhyton fragment from Zakro (**SV3**; Fig. 154) shows parts of three overlapping dolphins, one diving, two rising. The head of one dolphin and part of the central body of two others are all that remain, with no indication of the flippers or tail. Above them is simplified marine rockwork, with c-curves and bifid projections. A school of dolphins also features on a rhyton fragment from Palaikastro (**SV4**; Fig. 155). Parts of three dolphins are preserved, all diving towards the rockwork at the base of the scene. Here the flippers are visible and are almost aligned with the dorsal fin, an anatomical error often repeated in Aegean representations (Morgan 1988, 61). The marine rockwork is more naturalistic, with irregular pitting, and some of the c-curves are filled with a dotted arced band perhaps representing sand. The finest dolphin piece, however, is undoubtedly that carved on a fragment of an ostrich-egg shaped rhyton from the palace at Knossos (**SV7**; Figs. 156-57). Most of the body of the dolphin is preserved, the flippers pointing downwards and the body arced as the dolphin swims gracefully above naturalistic

rockwork. The lower part of the tail is visible and it clearly has a vertical axis, another anatomical error usually repeated in Aegean depictions of the dolphin. The tail should in fact have a horizontal axis. In other respects, however, the scene is highly naturalistic and beautifully executed.

On all three of the above stone vases attempts have been made to observe the natural colouration of the dolphin, with the pigmentation of the body indicated by a series of undulating lines. It is the appearance of the same undulations and marine rockwork which enable the identification of another dolphin on a fragmentary triton shell from Knossos (Table 10a: **Sh.5**; Fig. 158). Like the octopus triton shell fragment, this piece is from the outer whorl of the shell, near the aperture. The dolphin was carved on the widest space of the main whorl and was framed by pitted marine rockwork. Only a tiny part of the body of the dolphin is preserved but it can be identified by its reserved stripes. These triton shells with marine relief carving are especially interesting: essentially, we have a marine object carved with a marine scene. The choice of imagery suggests a deliberate attempt to reinforce the marine nature of the object.

The rhyton fragment from Zakro came from a secure context, dated to MM III-LM IA (Michaud 1972, 793). The remaining dolphin stone vases are probably from the same date, as the dolphin was not commonly depicted in Minoan iconography outside this period (Morgan 1988, 61) and, unlike the octopus motif, was extremely rare in the LM IB Marine Style.[11] One of the closest parallels for these pieces can be seen on a MM II relief vase from Phaistos (Figs. 160-61). The object has been tentatively identified as the base of a clay fruit-stand and is decorated with a relief seascape (Levi 1976, 502-503). Two dolphins, modelled in the round, are shown diving amid relief cockleshells and modelled marine rockwork. The vessel is one of the earliest examples of marine relief work and seems to be one of the earliest Minoan representations of the dolphin.[12] Another close comparison can be seen on a MM III

[11] The dolphins on a pair of rhyta from Pseira (Fig. 14) are the only known examples painted on Marine Style vessels (Mountjoy 1984; Müller 1997, 200-201).

[12] There is some difficulty in identifying the earliest dolphin representations, particularly on sealstones and vases where early 'fish' motifs are often too schematic for further identification. The earliest

flattened cylinder seal from Palaikastro (Fig. 159). Like the rhyton fragment from the same site it is carved with dolphins, swimming one above the other, towards marine rockwork. This seal is made of steatite or serpentine,[13] and was coated with a thin layer of gold plate (PM I, 675).

Parallels for the dolphin stone vases can also be found in metalwork. The examples mostly come from Mainland contexts but are all thought to be of Minoan manufacture. The dolphins on the gold cup from Dendra were mentioned above (Table 14: **MV3**; Fig. 152). They are positioned diving between the four octopi, alternately depicted alone and in groups of two. Another gold repoussé cup, that from Shaft Grave III at Mycenae, was entirely decorated with dolphins shown alternately leaping and diving below marine rockwork (Table 14: **MV2**; Fig. 162). Two inlaid daggers from the Mycenaean Mainland provide a good comparison for the dolphin on the ostrich-egg shaped rhyton from Knossos (Table 15: **D2-3**). One, from Prosymna, has a single dolphin depicted in the centre of each side of the blade (Fig. 163); the other, from Katarraktis in Achaea, has three swimming dolphins on each side (Papadopoulos 1998, 7-8, nos. 27 and 30). In both instances, the dolphins are depicted in an almost identical pose to that on the stone rhyton fragment. The combination of ostrich-egg shaped rhyton and dolphin motif can also be paralleled, as a rhyton made from a real ostrich-egg shell and decorated with faience appliqué dolphins was found in Shaft Grave V at Mycenae (Table 13: **F1**; Fig. 164; Sakellarakis 1990). Five dolphins are preserved with traces of at least three more. The back surface of each dolphin was curved to fit a specific point on the egg's surface, allowing for a

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representations of 'fish' on EM III seals from Viannos (CMS II.1 446) and Mochlos (CMS II.2 219) and on EM III-MM I 'white-on-dark' vases from Palaikastro, Malia, Petras and Vasiliki (Vanschoonwinkel 1996, cat. nos. 368, 374-77) are too schematic to tell if dolphins or fish were intended. While both Czernohaus (1988, 5: no. 10 and 7: no. 15) and Vanschoonwinkel (1996, 367) have identified fish on two MM IA and MM II seals (CMS VII 209; XI 16) as early dolphin representations, there is no clear indication that a dolphin was intended in either case. The first of these seals shows a large fish and waterbird, but the pointed head of the fish can hardly be identified as a beak, as Vanschoonwinkel (1996, 367) suggests. On the second seal, which shows two large fish, the row of fine fins along the back of the fish show that a fish was intended, not a dolphin. Instead, the earliest dolphin representations which can be identified securely in glyptic art are those on MM III seals which have clearly defined dorsal fins and/or flippers. Such seals include MM III examples from Palaikastro (PM I, 675, fig. 495), Mochlos (CMS II.3 251), 'Crete' (CS 191; CMS X 313) and Malia (Czernohaus 1988, no. 26 and possibly nos. 22-25).

[13] See n.4 above.

reconstruction of the original composition (Fig. 165). The dolphins were arranged on two levels as on the Palaikastro stone vase, and were shown swimming or diving in a lively and varied composition. Although there is no marine rockwork here to compare with that on the stone vases, Sakellarakis (1990, 306) has suggested that such decoration may have been painted directly on the shell, citing examples of painted ostrich-egg shells from Cyprus and Africa. The faience dolphins were also painted, the eye and wavy lines on the body of each dolphin picked out in green or brown paint.

It is interesting that there are few ceramic depictions of dolphins from Minoan Crete. The earliest ceramic depictions appear on two MM III burial jars from Pachyammos, each painted in different styles and both more simplistic than the stone vases. One is decorated with a series of dolphins swimming on two levels (Fig. 166). Although the composition is lively, there is no indication of habitat and the dolphins are more stylised than naturalistic, with an elongated beak and a peculiar bulge or knop in the tail, which is fairly common on early depictions but has no basis in nature. Gill plausibly suggests that the knop is a result of artistic attempts to disguise the point of transition from the profile view of the body to the frontal view of the tail (Gill 1985, 69). The second jar from Pachyammos is somewhat closer to the relief representations as the dolphins are depicted in a seascape, swimming above a stippled field which possibly represents the seabed (Fig. 167).

The rarity of the dolphin motif on Minoan pottery contrasts sharply with the situation at Akrotiri, on Thera, where no less than 11 vessels painted with the dolphin motif were found in the LC I destruction levels.[14] Two offering tables with dolphins painted in fresco technique were also found (Figs. 46-47). Dolphins had also featured in the major arts of the Cycladic islands by this time, with schools of dolphins painted on LC I frescoes from Akrotiri on Thera and Ayia Irini on Keos (Figs. 65-66; Coleman

[14] These vessels are listed and described in the catalogue compiled by Vanschoonwinkel (1990, 333-34, nos. 28-29, 32-36 and 38-41; 341-43).

1973, 293-96, fig. 2).[15] The popularity of the dolphin motif at Akrotiri prompted Vanschoonwinkel (1990, 343) to suggest that the dolphin was a characteristically Cycladic rather than Minoan motif, and that the examples with dolphins found on the Mainland may have been influenced by Cycladic art, rather than having a Minoan origin. However, the earlier relief stone vases show that the dolphin was also a Minoan motif, but one which was more popular in non-ceramic media.

The fifth relief-carved stone vase depicting a dolphin is being treated separately here because of its Mycenaean context and its wider iconographic associations. The vase was found in the Sanctuary of Apollo Maleatas at Epidaurus and is represented by two fragments (**SV9**; Fig. 168). The dolphin appears on the upper fragment rising obliquely from the sea. To the right is part of a rectangular structure, which has been interpreted as the stern cabin (*ikrion*) of a ship, like those of the ships on the Theran miniature painting from the West House (Warren 1979, 126-27; Figs. 65-66). Raban (1984, 17) suggests that the dolphin was actually part of the ship; his reconstruction drawing shows it carved onto the prow (Fig. 169). Boats with anthropomorphic prows are represented on a number of Aegean sealings, while the miniature ship fresco from Thera shows dolphins used as prow emblems and as decoration on the hull of the flagship (Morgan 1988, 60; Fig. 65). Alternatively, the position of the Epidaurus dolphin in close proximity to the ship may suggest that it was leaping in the foreground. If this is the case, it perhaps served to reinforce the marine setting, like the school of dolphins which accompanies the ships on the Theran Ship Fresco. To the left of the dolphin two figures can be seen, their position on the same plane as the dolphin and ship suggesting that they are on board another boat. At the top of the scene a line of figures march to the right above coastal rocks. The lower fragment shows part of a boat with a figure falling overboard into the sea, which is indicated by the tricurved arch motif.[16]

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[15] The Dolphin Fresco from Knossos was also originally assigned an early date of MM III-LM IA (PM I, 543-44; PM III, 377-81) but has since been re-dated to LM IIIA (Koehl 1986a, 413); for further details, see Chapter 1, n.35.

[16] For a discussion of the use of the tricurved arch motif as a shorthand symbol for the sea, see Chapter 4 (under 'Abstract Marine Motifs').

The scene belongs to a genre of depictions which Morgan has named the 'Shipwreck and Warrior' genre (1988, 150-54). Other members of this genre include the silver 'Siege Rhyton' from Shaft Grave IV at Mycenae (Fig. 170), the Town Mosaic from Knossos, and the coastal scene painted on the north-east half of the north wall of Room 5 in the West House at Akrotiri (Fig. 171). Elements which distinguish the genre include ships, drowning figures, marching warriors, a coastal settlement, villagers and animals (Morgan 1988, 150). None of the existing examples is extant or represents the genre in its totality but each incorporates a combination of the above elements. The Epidaurus and Mycenae vessels have closely comparable imagery, with a tripartite composition (Figs. 168-70). At the top of each scene are warriors, marching on the stone vase and engaged in combat on the Mycenae rhyton. Below this, warrior-sailors arrive at the coast by sea. The tips of their helmets and the upper half of a figure standing on a boat and using a pole as a punt are all that is visible on the silver rhyton. On the Epidaurus vessel, the stern cabin of the boat can be seen and the warriors wear a shield like those worn by the defenders on the Mycenae rhyton. The lower section of each vase shows figures drowning in a tricurved arch sea, with part of their boat visible on the stone vase. The dolphin on the Epidaurus vase is not found in the other scenes, while the dramatic action on the Mycenae rhyton is unique to that piece. Other elements of the Epidaurus scene are paralleled on the Theran fresco: the boat, the drowning figure fallen overboard, and the line of warriors marching along the coastline (Fig. 171). Further elements are absent on the Epidaurus vase, such as the animals and tiered buildings which appear on the Theran and Knossian scenes. Two more frescoes may represent the same genre: a fragmentary example from Tylissos and another miniature fresco from Ayia Irini on Keos (Warren 1979, 127). The latter also featured a dolphin, painted on the hull of a boat, recalling those decorating the hull of the flagship on the Theran miniature fresco. Other elements of the fresco from Keos that belong to the genre include a procession of figures and a coastal setting, indicated by the boat and fragments of blue sea (Abramovitz 1980, 62-70).

The interpretation of the genre has been examined by Morgan (1988, 153) who argues that the division of the scenes into two elements, 'warrior' and 'shipwreck', suggests a twofold message about the dangers of the sea. On the one hand, the shipwreck scene seems to be a warning against the danger of the sea itself. Scenes evoking the destructive power of the sea would have had a special resonance for a maritime people, accustomed to the perils of storms and shipwrecks. On the other hand, the function of the warrior scene may have been to evoke the dangers of the sea as a vehicle for external attack (Morgan 1988, 153). The nature of the attack has been the subject of debate, particularly with regard to the Theran fresco. Morgan (1988, 153) dismisses the idea that the arrival of the warriors was generally meant to anticipate a siege, as seems to be the case on the Mycenae rhyton. Instead, the scenes seem to represent coastal raids, or the moments immediately preceding such raids. Warren (1979, 129) argued that the purpose of such raiding was to collect booty, notably animals and women, thus explaining the marked presence of these elements in some of the scenes. As supporting evidence, he cites a fragment of a stone relief rhyton from Knossos showing a helmet and a man dragging off a goat (Table 10b: **SV29**; Fig. 172), which seems to represent the raid itself, rather than the moments preceding it (Warren 1979, 129). Thus, it seems that the function of the genre was to provide a warning against the dangers of the sea from the perspective of a maritime people.

It is interesting that of the 24 non-marine stone vessels with relief decoration (Table 10b), Warren (1979, 126) has attributed two further fragments to the same genre as the Epidaurus piece. The first was the fragment depicting the raid (**SV29**; Fig. 172). The second is a tiny rhyton fragment from Knossos showing an archer (**SV28**; Fig. 173). The archer is directly comparable to those defending the settlement on the Mycenae rhyton and he is shown against a tricurved arch sea, which suggests that he was standing on a boat. The fact that three of the small group of relief-carved stone vessels depicted this genre and that it is also found in other media suggests that it was important. The origin of the genre is difficult to determine as examples come from Minoan Crete, the Mainland and the Cycladic islands. Although Sakellarakis originally argued that the Epidaurus vase had a Mainland origin (1973, 162-63), Hägg

notes that it may in fact be Minoan, as other Minoan imports were found at the site (1984, 120-21). Hood proposes that both this vase and the Siege Rhyton were manufactured in Crete (1994, 147, 160-63). For the purpose of this chapter, it is sufficient to note that the Epidaurus piece has affinities with other Minoan relief vases, suggesting a common theme representing Minoan, if not wider Aegean, interests. The piece was originally dated to LH III (Sakellariou 1971, 14) but should be re-dated to LH I or LH II on the basis of stylistic affinities to other members of the genre (Morgan 1988, 151).

iii. Other Marine Representations

Of the four remaining marine stone vases, two may have had similar representations to some of the vessels described above. The surviving fragment of a rhyton from Knossos Gypsades is reportedly carved with the tail of a fish or dolphin (**SV10**), while a fragment of the neck and upper body of another rhyton from Knossos is decorated with marine rockwork, which may have originally framed a scene of octopi or dolphins (**SV8**). It is interesting that the argonaut, that strange creature which was so popular in the LM IB ceramic Marine Style, appears on only a single example of the relief stone vases: the strap handle of a conical rhyton from Katsamba (**SV1**; Fig. 174). It is carved with two large argonauts. No find context was recorded but Evans (PM IV, 129) assigned a MM III-LM I date to the piece, linking it to the other stone vases of this date. Warren (1969, 85), however, re-dated it to LM II-IIIA. While he does not state the reason for this later date, it is surely based on comparison with a LH II-IIIA bronze cup handle from Mycenae, decorated with argonauts inlaid in gold (Table 14: **MV1**; Fig. 175). However, these argonauts are quite different in style to those on the stone handle. The closest artistic parallel to the Katsamba argonauts is actually much earlier: the MM II polychrome relief argonaut from Knossos (Fig. 176). The shells of both argonauts have a naturalistic shape with a vertical emphasis and a pronounced curl at the apex. These similarities suggest that the two pieces may

be close in date, and for this reason Evans' date of MM III-LM I may in fact be more accurate (PM IV, 129).

The final stone vase with marine relief work is the Malia triton (**Sh.6**; Figs. 137-39). Unlike the two triton shells mentioned above, the Malia triton is largely intact. It is exquisitely made and because of its unusual decoration it has been the subject of detailed study (Baurain and Darque 1983). The main decoration is restricted to the largest whorl, extending partly to the second whorl. The scene shows two Minoan genii, one of which pours liquid from a ewer onto the paws of the other (Fig. 138). The genii stand on a stepped pedestal and are framed by pitted marine rockwork. The remainder of the shell is carved with bands of evenly spaced crescents. Although at first glance the bands of crescents seem to be decorative, they in fact represent the actual markings on the *C. sequenzae* triton shell (Fig. 95). This attention to the naturalistic detail of the shell is remarkable and breaks only on the rim, where the crescents form a stylised 'arcade pattern'. The relief scene is fascinating. The genii seem to be engaged in a purification ritual (Peatfield 1995, 225), and the fact that the scene is framed by marine rockwork and appears on a marine object suggests that there was a relationship between the manipulation of liquids and the role of the marine world in Minoan cult. The relationship between the iconography and the use of the vase will be explored further later in this chapter.

From this overview, it is clear that the marine stone relief vases anticipated the LM IB Marine Style in both subject matter and quality of execution and mark the true emergence of the Minoan interest in the marine world in art. Many of the pieces are extremely fine and some, such as the Malia triton, have highly unusual imagery. However, in order to understand the significance of the marine relief carving and to assess how unique these stone vessels were, it is essential to position the stone relief vases within the wider tradition of marine relief work. As the corpus of surviving material with marine relief decoration is large, there is not sufficient space here to describe all of the material. Instead, an overview of the ceramic tradition of marine relief work is provided, while selected examples of marine relief in ivory, faience,

and metal are discussed in the text, with a fuller inventory of this material provided in Tables 11-16.

Section B. The Minoan Tradition of Marine Relief Decoration

The Minoan tradition of marine relief carving reached its highpoint in the stone vases, but its origin can actually be traced back to the much earlier MM period. On pottery, two types of marine relief vessel can be distinguished: vases with relief decoration on the main body and simpler vessels where the marine relief was restricted to the rim or handle area. The earliest marine relief is the so-called Barnacle work of MM IA date and the Barbotine decoration of MM IB-II. Both were types of relief decoration whereby the surface of the vessel is pinched to form irregular, thorny protuberances. Evans (PM IV, 100-105) argued that the decoration was inspired by marine barnacles, in the case of Barnacle work (Fig. 177), and by the prickly shells of marine creatures such as the Thorny Oyster and the Thorn-Back Crab, in the case of Barbotine (Fig. 178). While the marine origin of Barnacle work is undisputed, a number of scholars deny the marine origin of Barbotine. Walberg (1976, 41) argues that the technique is entirely ceramic in character and is wholly based on the texture of the clay. Equally, Floyd (1999, 252) notes that as Barbotine is usually restricted to defined zones on the surface of the vessel it is not used in imitation of marine settings. However, while Barbotine technique was not marine *per se*, it could be used in combination with marine imagery to create a marine setting. An example can be seen on a MM II Kamares Ware vase painted with polychrome seashells, where Barbotine technique was used to mark the prickles of the shell (Fig. 179).

In the MM IA period we also get the first examples of moulded seashells. The ceramic cockleshell found in House B, at Knossos seems to have been moulded from a real shell (PM IV, 108, fig. 75). It was probably attached to the handle or rim of a vase, like the cockleshells on the rim of a MM IIB jug from Knossos (PM IV, 117, fig. 82). In the following MM II period, a new tradition emerged in which the real

shells were substituted by manmade shell designs, impressed by stamps. These shell motifs were now used to decorate the main body of vases, often in combination with painted motifs, in what MacGillivray (1998, 57) has termed 'precision stamped ware'. An example can be seen on a straight-sided Kamares cup from Phaistos, dated to MM IIB (Fig. 180). The decoration is divided into two zones, the lower of which is decorated with three lines of stamped shell impressions. Evans examined the shells and found that they have no exact parallel in nature but instead have elements taken from both the *Venus verrucosa* and the pectin shell species (PM IV, 118). As can be seen from Fig. 181, the composite 'Venus-Pectin' shells have seven or less semicircular ridges recalling those of venus shells, combined with the vertical teeth of the pectin (scallop) shell. Both of these shell types are common to the Cretan coastline and real examples of each are often found in the archaeological record.[17] The composite shells are unique to Minoan ceramic relief, however, and represent an early example of the Minoans 'interfering with' and altering natural forms. Evans identified fragments of three contemporary vessels with relief decoration from Knossos and Palaikastro, which have identical composite shells to those on the Phaistos cup, suggesting that all four vessels were made at the same workshop (possibly at Knossos) and were decorated using a man-made stamp (PM IV, 118-19, figs. 84-86). The stamp would have been applied to the outside of the vase while simultaneously using the fingers on the inner surface to press the clay into the mould. The impressions made by the finger and nail of the potter can still be seen on the inside of one of the fragments from Knossos (PM IV, 118-19, fig. 84b). Since Evans' publication, further examples of vessels with these composite shells have been found at Phaistos, including a fragmentary cup from the Kamilari tholos tomb (Levi 1976, 718, fig. 1152) and a tall three-handled jug from the palace of Phaistos (Levi 1976, Pl. 77a) which provides evidence that the 'Venus-Pectin' shell stamps were also used to decorate larger vessels.

[17] For example, 616 specimens of *Venus verrucata* shell were among the shells deposited in the Temple Repositories at Knossos (Panagiotaki 1999, 175), while pectin (scallop) shells have been found at Kommos (Reese 1995c, 271) and many other archaeological sites.

This tradition of using composite shell stamps seems to have continued concurrently with the use of moulded shells in the MM II period, when ceramic fragments with naturalistic-looking relief cockleshells and tritons are found at Mavrikiano, near Olos (Eliopoulos 2000, 114, n.23) and at the settlement of Diaskari, Makrygialos (Davaras 1997, 120, fig. 4). From Malia there are also numerous isolated ceramic relief shells, which may have originally been placed on the handle or rim of a vase (Poursat 1980b, figs. 178-80). Fragments of MM IB-II ceramics with marine relief mouldings have also been found outside Crete, on the island of Kythera (Sakellarakis 1996, 87, Pl. 20b).[18]

Relief shells were particularly popular on a type of open vase with an internal handle, known as the Minoan scoop (Fig. 182). Most examples come from Malia, although a number have also been found at Pseira (Floyd 1999, 250-51). While the marine relief often decorated the rim, many of the Malia pieces also have relief decoration of shells on the internal handle.[19] The exact function of these open vases with internal handles is unclear. Floyd (1999, 254-55) has convincingly dismissed traditional interpretations of them as lamps, lids, or spinning bowls, arguing that the presence of a pulled spout suggests that they were used to measure or portion out dry goods. While the plainer pieces may have served as domestic scoops, she suggests that the relief pieces may have been used in an official capacity, in the doling out of particular substances (Floyd 1999, 255-56). It is possible that the examples with marine relief were used for marine produce, perhaps cockles or other edible shellfish, or sea salt, as suggested by Floyd (1999, 256). Thus, in addition to its decorative role, the marine relief decoration would have served as a visual reminder of the function of the vessel, in the same manner as the marine creatures painted on later Hellenistic fish plates (Fig. 183). From Floyd's catalogue of Minoan scoops (1999, 250-52), it seems that marine relief is the only type of relief decoration found on these vessels; non-marine

[18] These marine ceramics come from the peak sanctuary of Ayios Georgios on Kythera (Appendix 1B). They consist of a cup sherd with barnacle style decoration and a 'clay oyster-shell moulding' attached to the lip, and clay appliqués of an argonaut and fish(tail) which may have belonged to the same vessel (Sakellarakis 1996, 87, Pl. 20b).

[19] Three internal handle fragments decorated with barnacles, triton and patella shells were found in House E, Malia, for example (Pelon 1970, 66, nos. 80-83, Pl. XIII, a-d).

examples tend to be plain or have simple knobs on the exterior.[20] The fact that the decorative additions on the MM II scoops seem to have had an *exclusively* marine frame of reference supports my argument that the marine additions were meaningful and served as visual markers relating to use.

While the use of relief shells to decorate the rim or handle of a vase is found on pottery vessels of the MM I-III periods, it is seldom found in later pottery (Foster 1982, 114-15, Chart 14). However, the tradition of marine relief shells continues in other media, particularly in more precious materials such as faience and metal. Examples include the faience miniature basket from the Temple Repositories at Knossos which has cockleshells set into the rim, a bronze jug from the cemetery of Phourni, Archanes, which has a relief band of shells on the shoulder, and a bronze ewer from the 'Chieftain's Grave' at Zapher Papoura, Knossos, which has a moulded cockleshell positioned beneath the handle (Tables 13-14: **F2**, **MV9-10**). Stone objects with relief shells are also known: the LM II/LH II tombs at Isopata, Knossos and at Mycenae each produced a matching set of two stone lamps with whorl shell decoration carved on their rims (Table 11: **St.2-5**).[21] The cockleshell motif is also found in later ivory work, where it was sometimes used as a handle-grip on pyxides (Table 12: **Iv.8-10**).

A rare later example of a *ceramic* vessel with relief shells is the exquisite LM IB Marine Style ewer from Poros (Fig. 184), which is unique among vessels of the Marine Style in having marine relief decoration in addition to painted motifs (Dimopoulou 1999, 219). The main body of the vase is decorated with a scene of argonauts swimming amid seaweed, set against a scale-patterned sea. The decoration on the shoulder is punctuated with three large relief trefoil appliqués, each enclosing three cockleshells. Two rows of fourteen similar cockleshells are applied on both

[20] One early scoop from Malia also had painted decoration of a fish, while other examples are decorated solely with raised rockwork, different from Barbotine work but also suggestive of marine coral (Floyd 1999, 252).

[21] As these pieces date to LM II/LH II, have very simple relief decoration and are lamps rather than vessels they have not been included with the group of stone vessels with intricate marine relief-carving (Table 10a).

sides of the handle, with three to four more shells set at its upper and lower junction. The position of the shells along the handle of this vase recalls the similar positioning of shells on the handles of the earlier 'scoops' from Malia and Pseira. However, the shape of the ewer, particularly, its trefoil neck, suggests that it was made in imitation of metal examples (Dimopoulou 1999, 220) and that the inspiration for this vessel came from metal prototypes which are now lost.[22]

In the MM I-II period, in addition to ceramic vessels decorated with shells we also get the first relief decoration of marine creatures such as the argonaut, crab, triton, and dolphin. The earliest relief argonauts are two examples on fragments of Creamy-Bordered Ware, found in Kouloura 2 at the palace of Knossos, dated to MM II (PM IV, 128). The first argonaut was small and made in clay with a creamy wash. It was simply modelled and was originally attached to the curved rim of a vessel. The second was larger (c. 12 x 6.5cm) and much finer and more detailed (Fig. 176). The shell is white, its segments are picked out in vermillion, and it was moulded on a black glaze ground. As mentioned above, this shell has a pronounced vertical accent, which imitates the natural shape of the real argonaut shell. It has an extra protuberance or 'ear' beyond its aperture (Gill 1985, 77, n.55). The same 'ear' recurs on the faience argonauts of the following MM III period, from the Temple Repository at Knossos (discussed in Chapter 1 above). While it is not found on the real shell, the ear may have developed as a practical addition - on freestanding models, such as those from the Temple Repositories (Figs. 28-29), for example, it would have provided support allowing them to stand without toppling. In other respects, however, these early relief shells are highly naturalistic in terms of shape, ribbed surface, and colour – I observed earlier that the Temple Repository shells, for example, have a dark stripe along their top-most surface which imitates the natural band of dark-brown/black found along the curved-edge of the real argonaut shell (Figs. 10 and 29). On each of the above pieces, only the shell of the argonaut was modelled, perhaps

[22] Another late example of an object decorated with clay relief seashells is the potter's wheel from Skhinias, Mirabello, the upper surface of which was decorated with two rows of relief cockleshells (Eliopoulos 2000, fig. 1). Although its exact context is not known, Eliopoulos (2000, 114) argues that it could be as late as LM I in date.

due to an unfamiliarity with the creature which inhabited the shell, or because the tentacles were too delicate for relief attachments. These early freestanding relief argonauts anticipate the fine, naturalistic LM I faience argonaut shell from the palace at Zakro (Fig. 133) and the argonauts on the stone vase handle from Katsamba (**SV1**; Fig. 174).

A final example of relief argonauts attached to a clay vessel can be seen on an unusual clay stand in the Ayios Nikolaos Museum (Fig. 52). The cylindrical stand is over half a metre tall and is divided into two sections by a series of modelled clay ridges. The bottom section has three huge argonauts modelled in relief positioned around the body of the stand. Part of the upper section of the stand is missing, but traces of relief additions suggest that further argonauts were positioned there too. The argonauts are depicted on their sides and their shells are very simply modelled with a pronounced curl at the apex. The vessel is thought to be from the Mesara (Eliopoulos 2000, 114, n.13) but as its exact find context is not known, its function and date are not clear. As discussed in Chapter 1, its shape resembles that of the LM III Minoan snake tube, an item of cult equipment, although in the display entry in the Ayios Nikolaos Museum it is described as a 'ritual fruitstand'.

Relief argonauts were popular in other media, too, although most examples are later in date than the ceramic pieces. Mention was made earlier of the argonauts on the bronze handle from Mycenae and gold cup from Dendra (Figs. 175 and 152); to these metal examples we can add a bronze jug with a band of argonauts on the rim from the cemetery of Phourni, Archanes and a gold plate decorated with argonauts from a tomb near Praesos (Table 14: **MV8**, **11**), both of which date to the LM III period. The only known faience vase with relief argonauts, an example reported from the Little Palace at Knossos but now lost, may have been earlier in date, as it is thought to have come from the Neopalatial level of the shrine (Table 13: **F3**; Hatzaki 2005, 189). Relief argonauts are particularly well represented in later ivory work, where they are found on a number of ivory plaques, thought to have served as furniture inlays (Table 12: **Iv.11-15**). Most come from the Mycenaean Mainland, although one example is

known from Palaikastro on Crete, from a LM I context (Table 12: **Iv.13**; Fig. 185). On the Mainland in the LH II-III periods argonauts were also used to decorate ivory combs and pyxides (Table 12: **Iv.1**, **3**, **16-17**). A particularly fine argonaut pyxis was found in a LM IIIA tomb in the Mycenaean Agora at Athens (Table 12: **Iv.1**; Fig. 186). It is decorated with three horizontal rows of stylised argonauts and at only 5cm in height it is a masterly miniature. A comparable pyxis and lid was found in a LH II-IIIB tomb at Mycenaean Achaia (Table 11: **St.1**; Papadopoulos 1979, fig. 301). Although made in stone, it is clearly more closely comparable with contemporary ivory work than with the group of stone vessels with elaborate marine relief carving. In particular, its late date, stylised imagery, and pyxis shape distinguish it from that group of vessels, justifying its separate treatment here.

Returning to ceramic relief, from the MM II period we also have the unusual clay stand from Phaistos with relief dolphins in a seascape, discussed above (Figs. 160-61). In this same period, the palace of Malia seems to have specialised in a class of relief vases combining marine and terrestrial imagery. Three pieces with applied relief, a small bridge-spouted jar and two cups, have been found (Poursat 1980b, 120-29, nos. 172-74). Each is decorated with similar imagery of cats and trees against an irregular Barbotine background to which relief marine creatures - crabs, a miniature fish and shells - have been applied (Fig. 187). As Foster has observed, there is no apparent separation of subject matter: the marine life is positioned both next to and on the opposite side from the cat (Foster 1982, 87). The mixture of marine and terrestrial elements all rendered in relief is interesting and a composite landscape is created. The cat does not seem to be portrayed as a predator to the fish and crabs: its pose is by no means menacing, nor are shellfish likely prey. While the combination of marine and feline motifs is extremely rare in Minoan art, a crab and cat can also be seen on a MM III sealstone from an unknown provenance, on which a crab is positioned between the legs of the cat (CMS VII 45c).[23] The relief shells depicted on the Malia vessels represent a number of species, including bivalve, patella, trochus (topshells) and

[23] Structurally, the crab on this seal is a made up of a small disc punctuated by three arcs, one above the disc and two below. Although difficult to be certain, the resulting motif looks like a crab with raised pincers.

triton shells (Poursat 1980b, 124-25). While the relief tritons from Malia provide some of the earliest examples of tritons modelled in relief, a much finer relief triton can be seen on a contemporary Kamares Ware fragment from Phaistos, rendered in white against a dark background (Fig. 188). A small clay triton mould found at Quartier Mu, Malia would have been used to make such appliqué relief ornaments (Table 16: **MM1**; Fig. 189). Three-dimensional models of triton shells also begin at this time, with MM II examples in clay found on the East Slope at Knossos and at Malia (Tables 9a-b: **Sh.22**, **28**). All of these examples anticipate the class of fine model triton shells rendered in stone, faience, amethyst and terracotta, produced in the MM III-LM I period.

Some of the most naturalistic examples of marine relief decoration can be seen on two fragmentary MM III clay vessels from the palace of Knossos, which recall the relief vases from Malia. Numerous terracotta relief fragments belonging to a large basin were found in Kouloura 1, in the West Court of the palace of Knossos (PM I, 521-23). The fragments are completely covered in marine relief, with sea creatures including small crabs, a pectin shell and a limpet or small sea urchin, all set in a naturalistic background of barnacled rockwork (Fig. 191). The small crabs recall those on the Malia jars and are so naturalistic that they seem to have been moulded from the living creatures (Gill 1985, 73; Fig. 192).[24] The use of crabs to decorate these early vessels is especially interesting as the crab does not feature in the later Marine Style repertoire and is seldom painted on Minoan pottery. The motif was used in glyptic art, however, and many examples of the Talismanic class of seals show abstracted crabs identifiable only by a circular disc with legs (Gill 1985, 72-73, fig. 19; Fig. 77).[25] The Knossos vessel retains traces of white and blue paint preserved around the barnacles (PM I, 522). A fragment of a second marine relief vessel, a straight-sided basin, was found at the same location and the preserved decoration

[24] Gill (1985, 73) identifies the relief crabs with the Running Crab, *Pachygrapsus marmoratus*, based on their square carapaces.

[25] As with many Talismanic motifs, many of the motifs identified in the CMS volumes as crabs have an element of ambiguity about them; for a fuller discussion of the issue of ambiguity on Talismanic seals, see Chapter 1. When identifiable, crabs are usually distinguished by the presence of a round or oval carapace framed by pairs of arcs for legs. While occasionally provided with raised pincers, crabs on seals are rarely provided with a full complement of legs (Gill 1985, 73).

shows a large relief triton shell against marine rockwork or barnacle growth (PM I, 523, fig. 381).

Evans hypothesised that these clay basins may have been used to serve seafood, perhaps *Fruit de Mer* (PM I, 523), a simple dish in which various types of seafood are served in a culinary celebration of the fruits of the sea. His suggestion implies that the diverse creatures depicted on the Knossos vessels would have mirrored the range of seafood served in such a dish. The idea that the marine relief decoration emphasised the function of the vase as a container for seafood is attractive. An important aspect of the relief decoration is that it is tactile. Its three dimensional aspect appeals to the viewer's sense of touch, and by extension, would have enhanced the sensory delights of those about to eat from it. While this interpretation may suit the function of vases of an open shape, such as the Knossos basins and the vases with internal handles from Malia, it is more difficult to determine a liquid marine product for the relief cups and jugs, although it is possible that a sauce derived from fish (such as the later Roman garum) was used. Alternatively, the marine decoration on the jug and cups could have functioned as sensory enhancement if used in complement to a marine meal.

Kaiser (1976, 249) suggested that the relief pieces from Kouloura 1 were perhaps freestanding dedicatory offerings, rather than attachments for a vessel. However, a closer examination of the find contexts supports Evans' idea that they were originally attached to vessels, and suggests that these vessels may in fact have been used in feasting or ritual dining activities. The fragments were found in Kouloura 1 in the West Court at Knossos, along with a large number of other fine pottery fragments. As many of the fragments from the three Kouloures were found to join pieces from the adjacent North-West Acropolis Houses, MacGillivray (1998, 33) has suggested that they all came from the same source, the houses, and were deposited in the Kouloures pits at the same time. A clue to how the marine relief vessels were used in these houses comes from the fact that they were found along with many other fragments of fine ware, including Creamy-Bordered Ware with relief flowers as well as the fragments with argonauts mentioned earlier (MacGillivray 1998, 135-48). The large

amount of fine ware raises the possibility that some of these vessels were used in feasting activities taking place within one or more of the North-West Acropolis Houses. In recent years, there has been a growing recognition of the social and political role of feasts as arenas for public display and for the negotiation of political power (Steel 2004, 162-64; Borgna 2004, 135, 138). In the context of Minoan Crete, Hamilakis (2002, 188, 194-97) has argued for the importance of feasting to factional Minoan elites competing for retinues and power. He argues that feasts were arenas for competitive display and for cementing and negotiating political alliances. The fine ware vessels from the Kouloures at Knossos, especially the tactile clay vessels with marine relief decoration, may have been used in such feasts, where they were perhaps filled with the fruits of the sea in a competitive display of abundance and opulence.

It is interesting and perhaps significant that the wide range of marine subject matter found in the ceramic relief tradition is not paralleled on the relief stone vases. The limited range of marine imagery depicted on the stone vases suggests a deliberate selection and perhaps points to a different function for these vases. However, before returning to relief-carved stone vases, two final examples of marine relief must be mentioned. At the Minoan palace of Tourkogeitonia, at Archanes, two gigantic white seashells rendered in relief wall-plaster point to the existence of marine relief friezes (Fig. 190). The shells were found together with a relief ivy leaf and are thought to have been part of a larger relief frieze or marinescape (Sakellarakis and Sapouna-Sakellaraki 1997, 502). Although the pieces date to the LM I period, they raise the tantalising possibility that earlier relief wall-plaster, now lost, once existed alongside the ceramic and stone relief work, perhaps providing a source of inspiration for the marine relief on the stone vases. The second relief piece is a fragmentary stone cup from Phaistos, decorated with highly naturalistic relief pectin shells (Levi 1976, 504). Made of a green stone, probably chlorite, the cup is represented by two rim fragments each carved with a pectin shell immediately below the rim (Table 11: **St.6**; Fig. 193). This fragmentary cup provides evidence that shells were also carved on stone vases. Its find context just outside the Protopalatial Room LXXXVIII, the third phase floor of which was scattered with MM IIB pottery fragments, points to an early date for the

piece. Like the MM II Phaistos stand with dolphins which was found in an adjacent room, it seems to bridge the gap between the traditional form of marine relief, which largely consisted of relief shells, and the more elaborate carving on the marine stone vases.

Before leaving the tradition of marine relief work, it is important to note that there was also a long Minoan and Mycenaean tradition of making marine jewellery, pyxides, furniture inlays, combs and cut-outs in materials such as gold, ivory, faience, and glass paste. Examples of these are listed and described in Tables 12 and 17-20.[26] They were produced from the LM/LH I period into LM/LH III. In particular, the later Mycenaean ivory workshops produced numerous marine pyxides and furniture inlays, including stunning examples decorated with argonauts, dolphins and the tricurved arch pattern (Table 12), some of which were discussed earlier. A Linear B reference to an ivory footstool decorated with octopi provides further evidence for this interest in marine-decorated furniture and furnishings (Ventris and Chadwick 1973, 345, no. 246/Ta722). The argonaut was also a consistently popular motif for jewellery (Tables 17a-b; Figs. 240-41), as were shell types such as the cockleshell and the trochus (topshell), which were often reproduced as beads. A number of moulds for making marine jewellery have been found (Table 16), some featuring the trochus shell, argonaut and octopus. These pieces attest to the enduring popularity of the marine world in both Minoan and Mycenaean art and its widespread use in both personal and household decoration.

[26] That an overlap in artistic influence occurred between the different media is suggested by the shared repertoire of motifs and similarities in the way in which they are depicted. An example is the close stylistic similarity between the LH II-IIIB stone argonaut pyxis from Achaia and a similar pyxis in ivory from the Athenian agora, dated to LH IIIA (Table 11: **St.1** and Table 12: **Iv.1**; Vermeule 1960, 13), discussed earlier in this chapter.

Section C. The Relationship between the Marine Stone Vases and the Wider Class of Minoan Relief Stone Vessels

In the previous section, I highlighted the wide range of marine motifs used in traditional Minoan relief work and the equally wide range of vessel types on which they were depicted. In contrast, the marine subject matter on the stone vases is limited to a few set motifs and vessel types. It was suggested above that this limited range of marine subjects may point to a different function for these stone relief vases. In order to explore this function and the specific role of the marine imagery it is necessary at this point to examine the marine vases in relation to the wider class of relief stone vases and to consider how the stone vases were actually used.

There is considerable evidence to suggest that the stone vases with relief carving were important elite objects. The first indication of the importance of the group comes from the materials from which they were made. Although the stone itself may not have had great intrinsic value, the difficulty of its extraction and the technical skills needed to carve it would have added to the value of these vessels as unusual, if not unique, pieces. Moreover, there is evidence that some, if not all, of the vases were originally covered in gold plate. Two non-marine pieces, the Peak Sanctuary Rhyton from Zakro and a fragment with a charging boar from Palaikastro, retain traces of their original gold covering (Warren 1969, 163; Fig. 195). The marine pieces may have been similarly covered in gold. In this regard, we should note that smaller scale marine imagery carved in stone was sometimes covered in gold: for example, the stone seal with dolphins from Palaikastro (discussed above) was coated with a thin layer of gold plate (Fig. 159), as was a Cretan seal decorated with octopi (CS no. 195). Artistic parallels for the practice of covering objects with a thin outer coating of precious metal are also provided by the gold leaf applied to the ivory and serpentine 'kouros' from Palaikastro (MacGillivray *et al.* 2000) and by Aegean ceramic vessels covered with tin (Gillis and Bohm 1994). Warren suggests that the function of the gold plate on the stone vases may have been to enhance the decoration or to provide a cheaper substitute for an all-metal vase (Warren 1969, 163). We must also consider

Gillis' suggestion that the colour of particular metals may have had symbolic value in the Aegean, as in Egypt, where gold, for example, was associated with the sun-god Ra and the divine realm (Gillis 1999, especially 297-99). Whatever the intended function, the use of gold on some of the Minoan relief-carved stone vases suggests that they were important and valuable objects.

With regard to value, the stone vessels therefore fit Sherratt's categories of 'preciosity' and 'added' value, as described in Chapter 1 (Sherratt 1994, 62-63). Preciosity value applies to materials which gain their main value from their status and perception as rare or exotic. In addition to the use of gold, the shape of some of the vessels may have also been important in this regard. At least six of the relief vases were ostrich-egg shaped rhyta, a form which imitates rhyta made from real ostrich-egg shells. The latter were rare and exotic commodities in the Bronze Age Aegean, to which only the elite would have had access (Sakellarakis 1990, 286-89). Indeed, Helms (1988) has shown that access to exotic imports and its implied knowledge of geographical distance is among the realms of esoteric knowledge used by elites in the legitimation of their power. Thus, exotic vessels made from real ostrich-egg shells would have had both preciosity and ideological value. It follows that the stone rhyta shaped like ostrich-egg shells may have had similar exotic and exclusive associations. In addition to preciosity value, the high level of workmanship invested in the production of the stone vases confers 'added' value to them, added value being the value added to an object by the craft or manufacturing process. These factors suggest that the stone vases with relief imagery were highly valued objects produced exclusively for the Minoan elite.

The combination of expensive materials and highly skilled labour required to produce such pieces suggests that they were produced by palatial workshops, and this is confirmed by the find contexts of the vessels. Although the precise context is not always known, most of those found in excavations seem to come from elite centres: the palaces of Knossos, Zakro and Malia, the Little Palace and Unexplored Mansion at Knossos and the rich Minoan villa at Ayia Triadha (Tables 10a-b). Of the 37 stone

vases with elaborate relief imagery, no less than 23 were found in the Knossos area. This distribution pattern coupled with the stylistic unity of the relief scenes led Warren (1969, 174, 178) to propose a single centre of production for the whole group: the palace of Knossos, with a few pieces sent out to other major sites.

i. The Iconography of the Wider Group of Relief-Carved Stone Vessels

As the relief-carved stone vessels were probably produced for the Minoan elite it seems likely that the imagery selected for their decoration was actively employed in relation to elite interests. While many of the vases are known only from a single fragment and while there is some disagreement about the interpretation of specific scenes and images, nevertheless, when the 37 relief pieces are examined as a body the restricted range of imagery used is striking. Logue (2004, 153) has argued that the imagery falls into three thematic groups: religious, martial and economic scenes. While she recognises that many of the pieces may operate on more than one level, I have problems with her attribution of the 13 marine vessels to the 'category' of religious imagery. While the vessels with marine scenes may indeed have had a religious element to their imagery and perhaps had a religious use (as I will argue later), in terms of iconography they form a distinct thematic group. With the exception of one vessel, that from Epidaurus, which seems to have thematic links with two non-marine fragments from Knossos (**SV28-29**),[27] the marine vases stand apart from the remaining relief vessels as a unique group. Of all the relief-carved vessels, they are the only pieces on which the world of nature is celebrated as the primary motif. Furthermore, only marine scenes are found on the triton shell shaped vessel, pointing to an exclusive association of marine imagery with the shell shape.[28] In terms of imagery, the 13 marine pieces in fact form the largest thematic group.

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[27] As discussed above, all three appear to feature the 'Shipwreck and Warrior' genre.

[28] While the scene of the Minoan genii on the Malia triton shell cannot be classed as marine, it is, however, framed by marine rockwork and the fact that one of the genii appears to be pouring liquid from a ewer adds a watery dimension to the scene.

Of the non-marine vases (Table 10b) however, Logue's themes of religious, economic, and martial imagery apply to most of the scenes and overlap on some pieces. Five pieces have imagery which seems to have a strong ritual frame of reference, while many more have scenes which may have had a religious dimension. The five pieces which seem to show religious imagery are: the Peak Sanctuary Rhyton from Zakro (**SV14**; Fig. 195), three fragments from Knossos showing male figures before a shrine or altar, and a fragment showing a 'sacral knot' (**SV15-18**). The horns of consecration above the buildings on the first four rhyta seem to confirm that they are sacred structures. The Zakro rhyton and one of the Knossos pieces (**SV15**) appear to show tripartite shrines; in both cases, the location of the buildings in a rocky landscape suggests a ritualised setting at a peak sanctuary (Logue 2004, 155-56; Marinatos 1993, 12). On three of the fragments, men seem to be shown engaged in ritual action, bending over a basket of offerings, crouching before an altar or carrying bowls in a procession. In each case, the action takes place before a tripartite shrine or built altar, and on one piece (**SV17**) a tree positioned behind a wall may also indicate a sacred enclosure. The fifth piece (**SV18**) does not show ritual action but rather a possible ritual symbol: the Minoan 'sacral knot'. The knot appears on various scenes thought to show religious activity, such as the Campstool fresco from the palace at Knossos (PM IV, 381-96), and a gold ring from Vapheio (CMS I, 219). Both Evans (PM I, 430) and Persson (1942, 38, 92) hailed it as a sacred symbol. Nilsson, however, discounted the religious associations of sacral knots arguing that 'they may be nothing but a detail of contemporary fashion...even when worn by goddesses and votaries' (Nilsson 1968, 163). While this is a valid point, the fact that the stone fragment from Knossos bearing this motif had been identified by Rehak (1995, 438) as the back plate of a bull's head rhyton, an item of cult equipment, strongly suggests that the symbol had religious associations here (Logue 2004, 158). The presence of scenes of ritual action plus ritual symbols on these stone vases is highly suggestive of a ritual frame of reference for these five scenes.

In addition, many of the other relief scenes seem to have had a 'ritual' dimension. Various interpretations have been proposed for the imagery on the Chieftain Cup

from Ayia Triadha (**SV19**; Fig. 197), largely centring on military and ritual explanations. The martial nature of the scene is suggested by the presence of a sword and by the stance of the chieftain, who stands erect and holds a staff or spear out towards the figure in front of him. The stance is clearly a gesture of authority and a popular explanation for the scene is that it shows a military officer reporting to his superior (Demargne 1964, 149; Sakellarakis 1999, 66).[29] However, Logue (2004, 158) has observed that the stance of the chieftain is repeated in other scenes of a clearly ritual nature, including the 'Mother of the Mountains' sealing, where it is adopted by a female figure flanked by lions and receiving worship from accompanying male figures, in the manner of a deity. The stance is also found on the Master Impression sealing from Chania where it is adopted by a male figure standing on top of a built construction by the sea (Hallager 1985, figs. 10-11). Hallager has discussed the religious elements of this scene and suggests that the figure may represent the epiphany of a god, or alternatively, a mortal ruler with a significant religious role (1985, 22-25, 31-33). This iconographic association of the stance suggests that there may have been a religious dimension to the scene on the vase. The same can be said for the imagery on the Harvester Vase from the same site (**SV20**; Fig. 198), which depicts a series of male figures in a procession, some of whom are clearly singing in time with a musician who shakes a sistrum. They carry long poles with curved blades and some figures carry bags at their thighs. The scene is often interpreted as a joyous return from a harvest or sowing festival (Hutchinson 1962, 281; Forsdyke 1954), but various religious elements suggest that the scene also had a ritual aspect. Marinatos (1993, 137) notes that the hair, physiognomy and robes of the leader suggest that he is a priest, and that music is often an important element in religious proceedings. She also draws attention to the religious gestures of the participants, who hold their right hands to their chests - a gesture which is found on bronze figurines from Minoan ritual contexts.[30] Given the importance of fertility and fertility rituals in both ancient and traditional societies, and the combination of both

[29] For an alternative view of the scene as a Minoan male initiation rite, see Koehl 1986b.
[30] For an exploration of the role of gesture in Minoan religion, with particular focus on figurines, see Morris (2001); for a study of gesture on seals and gold rings, see Wedde (1999).

agricultural and religious elements on the vase, the scene is perhaps best interpreted as an agricultural ritual to ensure a good harvest.

Seven of the relief vases depict scenes of either boxing or bull leaping (**SV21-27**), which arguably depict ritualised martial activities. A ritualised setting for the boxing scenes has been suggested on the basis of the upright architectural structures topped by rectangular features on the Boxer Rhyton (**SV21**; Fig. 196), which have been variously interpreted as freestanding architectural columns, flagstaffs, or poles. These architectural features were clearly meant to indicate the venue in which the games were held. Evans argued that they may have supported an awning for outdoor events, providing shade for the spectators, like that on the Grandstand Fresco, and he suggests that they indicate the 'ceremonial and religious aspects' of the activities taking place there (PM III, 62-65). Warren (1969, 175) notes that the same architectural features can also be seen on the stone vases depicting peak sanctuaries, suggesting that the activities depicted on the Boxer Rhyton took place within a religious setting. The case is even stronger for the scenes of bull leaping (**SV25-27**). This dangerous sport seems to have had a special significance to the Minoans, particularly at Knossos. Marinatos (1993, 214) has argued that bull leaping was connected with the ruling elite and was controlled by it, while Hallager and Hallager (1994) have suggested that it was the official insignia of the palace of Knossos. Morgan (1995, 171) also suggests that bull leaping had ideological value through its symbolic message of the dominance of man over nature. Its religious associations are suggested by the use of zoomorphic bull vases with attached leapers in EM tombs, at Koumasa, for example (Koehl 2006, Pl. 1, no. 2). That the bull had wider religious associations is clear from its use as a sacrificial animal (Marinatos 1986, especially 11-12), from the deposition of bull figurines in shrines (Gesell 1985, 3, with numerous examples cited in the text), from the use of bull horns as a religious symbol, and from the production of rhyta in the shape of bulls and bulls' heads (Rehak 1995; Koehl 2006, 33-36, 71-75).

The imagery on the eight remaining non-marine stone vessels is less unified in theme (**SV30-37**). One piece depicts a charging boar and was probably part of a hunting scene. Three further fragments have architectural imagery. As elaborate architectural imagery is only found on the stone vases depicting peak sanctuaries or coastal raids, it is possible that these vases depicted religious scenes or perhaps the 'Shipwreck and Warrior Genre'. Two pieces show raised bands which Warren (1969, 181) interprets as grain. If this interpretation is correct, they may have been related in theme to the Harvester Vase and perhaps had an economic frame of reference. Another fragment has a figure-of-eight shield, perhaps from a martial scene, while the last fragment is too poorly preserved to distinguish more than a curved line. From this overview, a number of points emerge as significant: the restricted range of imagery, the relative importance of marine imagery, and the strong religious element to many of the scenes. The restricted repertoire suggests that the vases had a specific use or conveyed a specific message, perhaps related to Minoan religious belief.

Section D. The Function of the Relief-Carved Stone Vessels

To better understand the significance of the imagery, particularly the marine imagery, we must consider how these objects were used. It is noteworthy that almost all of the relief stone vases were rhyta,[31] a vessel type which has close associations with Minoan religious ritual. Of the three imitation triton shells, the only intact piece, the Malia triton, was also cut to function as a rhyton.[32] A rhyton can be described as a vessel with a single opening at the top and smaller hole at the bottom, through which liquid could drain out. Rhyta have been found in both secular and cult contexts, suggesting that they were used in both domestic and cult activities (Koehl 1981, 179; 2006, 279-342). From an analysis of the artefacts regularly found with rhyta, Koehl

[31] According to Logue (2004, 70), at least 26 of the 33 vessels found on Crete were rhyta, triton shells, or possible rhyta or triton shells.

[32] The triton shell is pierced close to the apex (Baurain and Darque 1983, fig. 8). Although Baurain and Darque have not completely dismissed the possibility that it was used as a trumpet, they noted that it produced no audible sound when blown (1983, 56); however, see Chapter 2 for the problems with this interpretation.

has shown that from the first, rhyta were used in communal drinking and dining ceremonies and also as libation vessels (Koehl 2006, 279). The ritual use of rhyta is known from their frequent appearance in shrines, where they often occur within assemblages of cult equipment. Hoards of rhyta, often made of stone, have been found in palatial shrines and cult repositories. For example, at the treasury of the shrine in the palace of Zakro, a set of 23 stone rhyta of the conical and ovoid types were found together with other cult equipment, including animal head rhyta, a libation jug, the faience imitation argonaut shell and two bronze double axes (Platon 1985, 138-48). Rhyta have also been found in house and town repositories suggesting that they were a frequent and important piece of cult equipment (Gesell 1985, 33; Koehl 2006, 299). The cult use of rhyta is also confirmed on a LM III sealing from Naxos (Fig. 40) where a conical rhyton is shown with an offering table, a beak-spouted libation jug and a basket-shaped vase, all known cult equipment (Koehl 2006, 255-56, 339).

The functions of the stone relief rhyta may be ascertained by analogy with what is known of how the ceramic rhyta were used. The main types of ceramic rhyta are conical, piriform, ostrich-egg shaped and ovoid. Zoomorphic rhyta in the shape of animals and bull- or lion-heads are also known (Koehl 2006, 16-20, 32-37, 39-42). The exact rhyton shapes represented by the marine stone relief vases have not all been identified, but conical and ostrich-egg types are represented, as is the triton shell rhyton. Through a series of experiments, Koehl (1981, 182-83; 2006, 259-76) has identified variations in how the different types of rhyta were used. The most important distinction is between the use of wide and narrow-necked vessels. Due to their tapering profile, the wide-necked types such as the conical and wide-necked piriform rhyta are often assumed to have served as simple funnels. However, Koehl (2006, 269-70) argues against this use on the basis that the secondary hole would have become clogged very quickly, particularly if the liquids used contained added flavouring agents. Instead, he suggests that they were used as strainers and filters, citing an example of a comparable rhyton from Ras Shamra, which was found with a clay strainer attached to the rim (Koehl 1981, 183; 2006, 271). The impure liquid

would have been poured into the wide hole at the top and filtered through a removable strainer (of clay or of a suitable perishable material) placed inside the body of the rhyton. The impurities would remain in the strainer and the pure liquid would flow out of the small hole at the bottom. In experiments using wine, Koehl (2006, 271) found that a small tuft of wool lodged in the tip of the rhyton proved the most effective filter. By adding spices to the wool, it served the dual purpose of purifier and flavour enhancer, trapping the additives and the lees of the wine while allowing the scented and flavoured beverage to pour out in a thin but steady stream.

In contrast, the narrow-necked types were used in a different way. Experiment has shown that if these are held by the neck or handle and immersed in a jar filled with liquid, the liquid enters the vessel through the bottom hole (Koehl 2006, 264; Fig. 194). Once filled, the top opening can be sealed using the thumb, thus creating a vacuum. The vessel can then be lifted from the liquid, the contents remaining in the jar as long as the top opening remains sealed. When the thumb is lifted, the liquid then pours from the bottom hole in a steady stream which can be easily controlled or manipulated by the bearer (Koehl 2006, 263-65). Koehl notes that this method of filling is ideal for liquids which require straining or filtering, such as oil or wine, because when the rhyton is immersed the pressure causes any floating particles to disperse away from the secondary opening, allowing only a clear stream of liquid to enter (2006, 265). According to Koehl, the main value of these rhyta 'lay in their ability to strain and transfer a liquid from a larger vessel to a smaller one with minimum spillage and labor' (Koehl 2006, 265). Because it has three openings, the Malia triton shell cannot have functioned in this way, as it is impossible to create a vacuum (Koehl 2006, 269). It is therefore thought to have been filled via the primary opening (the aperture of the shell), and emptied from either the apex or siphonal canal (if the hole by the apex is kept closed).

These variations in the way the different types of rhyta were used suggest that they had different functions (Koehl 1990, 354). Moreover, their function may have differed in different contexts. In domestic contexts the wide-necked rhyta may have

been used as filters and flavour-enhancers, while the narrow-necked types may have been used to transfer liquids from one vessel to another, sometimes with the aim of pouring only a controlled amount, for example, of sweet wine at a banquet. As cult equipment, rhyta would have been used to pour libations of liquid offerings. Peatfield (1995, 224-25) has highlighted the importance of rituals involving the manipulation of liquids in Minoan cult, noting that some Minoan shrines even had built installations for the receipt of liquid offerings. Important in this regard is the architectural form known as the 'Lustral Basin', a sunken room approached by steps which Evans thought was used for washing or lustration (purification with liquid). Although there is some controversy over Evans' interpretation, approximately half of the known examples do appear to have been used for cult and many have finds or architectural features which suggest that they were used in the manipulation of liquids (Peatfield 1995, 224-25). The rhyton shape would have been especially appropriate for rituals involving liquids. As Koehl (1981, 179) notes, the form of rhyta suggests that their main function lay in channelling the flow of a liquid rather than containing it. Given the different practical uses of the different types of rhyta, the wide-mouthed types were probably used for rituals in which liquids were simply poured, or perhaps flavoured, filtered and poured. On the other hand, the narrow-necked rhyta would have allowed the bearer to manipulate the flow of liquid, controlling the amount poured by a simple movement of the thumb or hand. In this respect, they would have made excellent cult implements, and the fact that the liquid could be made to stop or flow at will may have added a theatrical or supernatural element to their use, especially if those witnessing the libation were unaware of how the flow of liquid was being controlled.

In addition to their use as libation vessels and in communal drinking ceremonies, another related function for rhyta has been suggested by Sakellarakis (1990, 299-300). He argues that the main function of rhyta was for ostentatious display, on the basis that the vessels are not freestanding but designed to be held or carried. The intricate detail with which the stone relief rhyta are carved suggests that the intended audience was limited to a select few, although gold plating may have enhanced the

visibility of the imagery somewhat. That rhyta were carried in processions is attested by the 'Rhyton Bearer' figure in the Procession Fresco from Knossos, who carries a conical rhyton (Fig. 38). Koehl (2006, 246, 331) has suggested that rhyta found in matching pairs may have been carried in processions formed by two lines. Processions are a recognised part of Minoan religious ritual (Marinatos 1986, 32-35; Peatfield 1995, 218) and matching sets of rhyta, including at least six LM IB Marine Style sets, have been found in shrines and repositories on Crete (Mountjoy 1985, 237-39; Koehl 2006, 331, Table 14).[33] Interestingly, Rehak has argued for the exclusive use of the stone relief rhyta in processions rather than libations, on the basis that they were too heavy and cumbersome for use in libations: he notes that some bull's head rhyta, for example, may have weighed as much as 6kg when filled (Rehak 1995, 443). However, if solely carried in processions, we may question why these objects were pierced, as the piercing of the base would surely have been an unnecessary yet labour-intensive exercise. Moreover, Koehl argues that Rehak's scepticism is misplaced – the vessels would not have been sufficiently heavy to preclude them from being lifted when full, especially by the muscular young men often shown in Minoan art (Koehl 2006, 267). Rather than being mutually exclusive, two functions of display and actual use in drinking ceremonies and libations seem to me to be complimentary. Thus, the stone vases may have been carried in processions *immediately prior to* being used as rhyta. Alternatively, they may have been used primarily as rhyta and occasionally paraded in special ceremonies.

Given that rhyta were used in both ritual contexts and contexts with no obvious ritual connections, is there any evidence to suggest that the stone relief rhyta were used as cult equipment? Koehl reasonably argues that a rhyton can be considered cult equipment: 'when found in association with other cult symbols or equipment or, in architectural contexts with religious associations' (Koehl 1981, 183). Two of the marine pieces are known to have come from ritual contexts. The Epidaurus piece was found at the sanctuary of Apollo Maleatas, while the 'Ambushed Octopus' fragment

[33] The matching sets of LM IB Marine Style rhyta come from Pseira, Zakro and Palaikastro; for these and a further possible set deposited in two different geographical areas (Pseira and Palaikastro), see Chapter 1, n.23.

was found above the floor of the Throne Room at the palace of Knossos. Evans suggested that the latter fragment may be from the same original context as a ritual stone triton shell from the Room of the Stone Vases, and that both may have originally come from the Treasury of the restored palace (PM II, 502). That it was found close to a Lustral Basin strongly suggests that this marine stone rhyton was used in rituals involving the manipulation of liquids. Unfortunately, the majority of the relief stone vases lack secure contexts or records of associated finds with which to distinguish their use. However, as many of the relief vases appear to show religious imagery or imagery which had a ritual dimension, we may suggest a ritual use for these rhyta by the principle of iconographic reinforcement,[34] whereby the religious iconography served to promote and reinforce the cult use of the vase.

The ritual use of the relief triton shells, particularly the Malia triton (**Sh.6**), can also be argued through iconographic reinforcement. The shell is carved with a scene of Minoan genii engaged in an act of ritual purification (Fig. 138). The larger genius pours liquid over the paws of the other using a double-spouted ewer. The ewer seems to have had an exclusive association with the Minoan genius and is often used by them in libation scenes (Baurain and Darque 1983, 46). The genius with ewer is often shown in association with vegetation (Fig. 41), suggesting that one role of the Minoan genius was to water vegetation in fertility rituals. A second role in cult has been suggested by Marinatos, who notes that Minoan genii are often shown engaged in human activities, where they seem to have fulfilled the functions of sacrificial priests (Marinatos 1986, 46-48). Baurain and Darque (1983, 42) also argue that the Minoan genius acts as an intermediary between the human and divine realms. The association of the Minoan genius with fertility can be traced back to the origin of the motif. The genius was adopted from the Egyptian Ta'Urt figure, among whose functions was the protection of pregnant women. During its transformation into the Minoan genius, this association with fertility was retained through its new role in rites involving liquids – purification and libation rites.

[34] The term 'iconographic reinforcement' comes from Morris 1995.

The Malia shell has a whole range of associations which suggest that it was used in cult rites involving liquids. First, it is carved with supernatural creatures engaged in a ritual act involving the manipulation of liquids. The marine rockwork which frames the scene reinforces the role of liquids in this rite.[35] Equally, the scene would have called to mind the wider associations of the Minoan genii: their role as priests and their involvement in acts of libation. The imagery is closely tied to the object on which it is carved; indeed the image and object are mutually referential, each reinforcing the cult use of the vessel. The object is an imitation triton shell cut to function as a rhyton. The use of triton shells as Minoan cult equipment is well established and has been discussed in Chapter 2. These religious connotations would have reinforced the sanctity of the vessel, while the shape of the shell, with its marine connotations, would have recalled the use of liquids. The fact that it was cut to function as a rhyton suggests that the vessel was to be used in a rite involving liquids, perhaps in a purification rite like that depicted. It seems that this whole range of associations connecting the vessel with rites involving the manipulation of liquids was intended to be recalled by the viewer and/or bearer during its cult use. This is confirmed by the positioning of the imagery on the shell in relation to the lower hole. The hole cut at the bottom of the Malia triton is not at the apex as might be expected but to the side (Fig. 139). Baurain and Darque (1983, 58) have observed that when the object is positioned so as to function as a rhyton, that is, when it is held horizontally and turned so that the lower hole faces the ground, the viewer is afforded the best possible view of the imagery (Fig. 137). During a ritual in which it was used as a rhyton, the object could thus be held with the imagery facing out towards an audience, or alternatively, facing inwards towards the important bearer, as a visual reminder of its sanctity and special use in rites involving liquids. Clearly, the Malia triton was an exquisite and important cult object imbued with complex symbolic meaning.

[35] The same association of marine creatures (octopi), Minoan genii, and ewers is also found on the bronze amphora from Cyprus, discussed earlier, which may have also had a religious use (Table 14: **MV4**).

While the two other relief triton shells are too fragmentary to confirm their use as rhyta, the cult associations of the triton shell and the inherent associations of the marine world with liquids suggest that they too were cult vessels. For the remaining marine pieces, which do not appear to have obviously religious iconography, we may cite the frequent association of marine imagery with Minoan cult as evidence that these too were ritual vessels. As discussed in Chapter 1, there seems to have been a marine element to Minoan cult since the Protopalatial period. This is attested by the frequent occurrence of items such as marine shells, water-worn pebbles and marine models in shrines and ritual deposits, and by the use of triton shells as ritual trumpets and libation vessels. It is also confirmed by the painted shells and faience models of marine creatures found in the Temple Repositories at Knossos and the faience argonaut shell in the Lustral Basin complex at Zakro, all of which are thought to have been used in palace cult. The cult use of the marine stone rhyta is also suggested by the comparative use of marine imagery on ceramic rhyta used as cult equipment. A large number of the LM IB Marine Style vessels listed in Mountjoy's corpus are rhyta and many of these were found in ritual contexts (Mountjoy 1984; 1985). On some of these examples, marine motifs such as the triton are combined with the double axe, a well-known Minoan cult symbol (Table 4; Fig. 44).[36] Thus, the ritual use of these Marine Style rhyta is clear not only from the contexts in which they are found and the associated cult finds, but also from iconographic association. Some of the Marine Style rhyta bear similar representations to those found on the relief stone vases. Given these similarities and the well established marine element in Minoan ritual, it is not unreasonable to suggest that all of the marine carved stone rhyta were ritual objects, like the 'Ambushed Octopus' vase and the Epidaurus rhyton.

While the imagery on the relief stone vases seems to have served to reinforce their use in cult, it may have had other functions too. As these vessels may have been displayed before use and were elite objects, the imagery may have conveyed an ideological message. Rehak (1995) has suggested that the fragmentary condition in

[36] Marine Style rhyta from ritual contexts showing the triton and star motif in association with the double axe were discussed in Chapter 1. They include a set of three identical conical rhyta from Zakro and a conical rhyton from Palaikastro (Mountjoy 1984: Zakro 6-8, Palaikastro 13).

which most of the relief stone and bull's head rhyta were found suggests that they were used in an elite ceremony of great social power where they were ritually smashed, and the pieces then distributed among the elite participants as '*symbola*'. As support, he argues that the upper part of the muzzle is consistently missing on bull's head rhyta suggesting that this area received the brunt of the blow (Rehak 1995, 442). Of the stone relief rhyta, only the Malia triton was found intact, while the Peak Sanctuary rhyton from Zakro was found in four separate pieces, each distributed in four separate rooms of the palace. While this lends some support to Rehak's theory, it is generally difficult to prove. Moreover, the late contexts of some of the stylistically early pieces, such as the 'Ambushed Octopus' fragment, suggest that they were used for a long period of time, rather than simply used and ritually destroyed. An alternative explanation for the fragmentary condition of the pieces and their scattered find-spots is that they were smashed by plunderers to facilitate the removal of their gold foil (Koehl 2006, 53). Logue has argued that the limited iconographic themes on the relief stone vases reflect the means by which the Minoan elite exercised their power: through military prowess and economic and religious control. She argues that the vases were part of a wider iconographic cycle, the function of which was to advertise and reinforce the inaccessible power of the elite (Logue 2003, 33-58; 2004). While Logue does not develop this line of argument for the marine imagery, it could have functioned in multi-layered ways: for example, in addition to its ritual dimension, the marine imagery may have also had an economic frame of reference, referring to elite dominance of the marine aspect of cult and elite control of marine resources and overseas trade.

We must also consider the possibility that the imagery on each vessel relates to the type of ritual in which it was used - that is, that the imagery on the relief stone vases was cult specific. Thus, for example, the stone rhyta with marine imagery may have been used in rites related to the marine aspect of cult; the Harvester Vase used in rites related to agriculture and fertility; and so forth. In this regard, it is worth considering the possibility that these rhyta were destined to receive a specific liquid. The most obvious choice of liquid for the marine relief rhyta is seawater, as has been suggested

for the Malia triton (Baurain and Darque 1983, 46). The possible use of seawater in Minoan rituals was explored in Chapter 1, where I observed ethnographic examples of the use of seawater in fertility rituals and discussed its frequent use in purification rituals in the Greek historical period, where it was believed to have cathartic qualities. The possibility that seawater was used with the marine relief rhyta in libations or purification rites is particularly compelling when one reconsiders Koehl's explanation of how the narrow-necked rhyta types were used. To be filled they were immersed in liquid; thus, sea-creatures painted or carved on such rhyta would have been symbolically returned to their natural element as part of the cult rite.

Conclusion

The marine imagery on the stone vases in many ways marks a highpoint in the longer tradition of marine relief work, which began in the MM IA period and encompassed materials such as ceramics, faience, ivory and metalwork. However, the stone vases can be distinguished from the wider tradition of marine relief work; united by their medium (stone) and their restricted range of imagery and vessel forms (rhyta or triton shells), they form part of a distinct group of stone vases with elaborate relief carving. This specialised group of vessels was probably produced for Minoan elite use in the Neopalatial period. The stone vases with relief carving seem to have had a number of functions, mostly relating to Minoan cult. The evidence suggests that they were displayed or paraded in processions and used as cult vessels in ritual dining and religious rites involving libations or purification rituals. The relief imagery on the stone vases seems to have worked on a number of levels. On one level, it may have had an ideological message, emphasising and reinforcing elite control. On another level, the imagery directly related to the active employment of these vessels in Minoan religious ritual. It is my contention that the imagery was deliberately selected to reinforce the type of religious rites in which the vessels were used, following Morris' principle of 'iconographic reinforcement' (1995). I have suggested that the vessels with marine relief carving were used in rites involving the manipulation of

liquids, perhaps seawater, although other liquids, such as wine and oil, may have been used too. These rites were surely connected to the marine aspect of Minoan cult and may have been performed to invoke divine protection against the destructive power of the sea and success in maritime trade and fishing.

Before leaving the marine stone vases, I wish to raise a final point relating to the relief imagery and its connection with the ritual use of these vessels. While discussing the stone vases with relief carving, I referred to the high level of craftsmanship required to make the vessels and the accuracy and skill with which the imagery was executed. By modern standards, the surviving vessels and fragments are considered masterpieces of Minoan art and are frequently described as 'beautiful' and 'exquisite' pieces. Subjective assignations of beauty aside, the technical achievements attained in the production of these pieces would have been just as obvious to the Minoan beholder as to the modern viewer. Anthropologists have observed that in traditional societies great power is often ascribed to objects considered beautiful and of a high technical quality of craftsmanship. Gell, for example, has argued for the power of aesthetics to 'enchant' and he has shown that technical and artistic virtuosity can lend tremendous power to an object and, by extension, to its owner or user (Gell 1999, 159-86). Among the Abelam society of New Guinea, Forge has observed that the objects considered the most 'effective' in ritual are those which are perceived as beautiful; beauty is therefore equated with ritual power (Forge 1967, 82-83). With this in mind, it is possible that fine craftsmanship of the stone vases and the technical virtuosity of their design and imagery may have imparted potency to these vessels, making them more 'effective' cult objects. In their use as cult equipment, the stone rhyta with marine relief decoration add another dimension to the story of marine-oriented cult practice, providing a fascinating case study of an object whose design and decoration may have been deliberately orchestrated to provide maximum effectiveness in ritual.

Chapter 4

Death, Burial and the Sea: Marine Imagery on the Minoan Painted Larnax

This final chapter will examine the role of marine imagery in funerary contexts, through an analysis of its use on the painted clay coffin, or larnax, of the Late Minoan III period. For the scholar of marine imagery the LM III larnax forms a fascinating category of evidence, both for the sheer volume of surviving material and for the intriguing question it raises about the relationship, if any, between the marine imagery and Minoan funerary beliefs. In the modern age when marine imagery is seldom encountered outside a functional context of bathing, the decision to paint marine motifs on coffins requires some explanation. The standard interpretation has long been that the imagery had a funerary resonance. Specifically, it has been argued that the marine motifs signify a Minoan belief in a voyage across the sea to the Afterworld (for example, by Nilsson 1968, 622-30; Grumach 1968, 24-25; Rutkowski 1968, 226; and Watrous 1991, 302). This interpretation needs to be re-assessed for two main reasons: first, because it fails to relate the imagery to that used on contemporary pottery; and second, because the interpretation is strongly influenced by what is known of contemporary Egyptian beliefs, which may not be relevant in a Minoan context. The present scholar hopes to address these issues by analysing the material in a more holistic way than has hitherto been attempted.

My aim in this chapter is to examine how marine imagery was used on the LM III larnax and to re-assess current interpretations of its assumed meaning. I will begin by examining the range of marine motifs used, noting their relationship with the associated imagery and comparing the iconography with that used on contemporary Minoan pottery. I will then assess the current interpretations of the imagery, evaluating the possibility of an artistic transfer of ideas from Egypt. Finally, an alternative hypothesis will be suggested. However, before embarking on an iconographic voyage, some background information on larnakes and a discussion of the previous research on the subject is required.

Section A. Background Information, Bibliography and Research Problems

The earliest surviving Minoan larnakes date from the EM II period but they are quite rare at this time with only 22 known examples, of which few are complete (Rutkowski 1968, 220; Sakellarakis and Sapouna-Sakellaraki 1997, 474). They became more common in the following MM period but were still used alongside other burial methods (Rutkowski 1968, 220). No clay larnakes have been found for the LM IB-II period (Preston 2004, 180-82, Table 1). This absence may in part be explained by the fact that few graves of this period have been excavated in Crete. Yet the same absence is apparent at well-excavated cemetery sites such as Phourni, Archanes, where larnakes were used continuously from EM II-MM II followed by a complete absence until the LM III period (Sakellarakis and Sapouna-Sakellaraki 1997, 473-74), suggesting that coffin use, if practised at all, was rare in the LM IB-II period. It seems that a different burial practice was en vogue at this time. Both Marinatos (1993, 231) and Vermeule (1979, 228, n.51) have suggested that perhaps the Minoans practised burial at sea during this phase; a tempting hypothesis but one which cannot be proved either way. However, it may be that in some instances wooden coffins or biers were used instead, as these new burial receptacles appear exactly when clay larnakes become conspicuously absent.

So far, 24 Minoan tombs with traces of wooden coffins or funerary beds have been identified. They date from LM II-IIIA2 and most come from the vicinity of Knossos (Muhly 1996, 208-10).[1] As wood is less likely to survive than clay, the practice may have been more common than the archaeological evidence suggests. However, there is some evidence that the practice of burial on biers or in wooden coffins was restricted to elite burials. Most of the graves with wooden coffins were richly equipped (Rutkowski 1966, 131) and as wood was less readily available than clay, the wooden coffin seems to have provided a more expensive and exclusive alternative. A restricted elite use is also supported by Muhly's observation that the wooden bed or bier could be used as a mechanism for status display (1996, 210-11). If the use of

[1] Traces of wooden coffins have been found in tombs on the Mainland (Muhly 1996, 207-209).

wooden coffins or biers was restricted to elite groups the practice only partly accounts for the general lack of larnakes in LM I-II contexts. It is possible that the less fortunate dead were simply placed directly on the earth floor; indeed, this form of burial was practised concurrently with larnax use on Crete in the following LM III period (Preston 2004, fig. 4) and was probably the standard practice on the Mainland at that time (Vermeule 1965, 124).

In the LM IIIA period the clay larnax reappeared in Crete and became the standard form of burial vessel. The issue of why the clay larnax became popular again has been explored by Preston, who argues that the practice was revived as a deliberate appeal to tradition at a time of great change in burial norms across the island (Preston 2004, 179, 185-87). While she argues that the reintroduction was strategic: 'a cultural anchor in a sweeping tide of mortuary change', she notes that tradition was being partly reinvented, with new standardised forms and new decoration (Preston 2004, 187). The decoration of the earlier larnakes had consisted of simple relief patterns or painted linear designs (Sakellarakis and Sapouna-Sakellaraki 1997, 476).[2] In contrast, many of the LM III larnakes were richly painted and marine creatures such as the octopus, argonaut and fish became popular subjects. By virtue of its marine imagery, it is this LM III painted larnax which forms the subject of this chapter.

The clay larnakes of the earlier periods had a fairly eclectic range of shapes (Rutkowski 1968, fig. 1) but in the LM III period only two standard forms were used, the chest and the tub larnax, and marine imagery is found on both types. The chest was essentially a rectangular lidded box standing on four or six feet, often with carved panels (Fig. 199). The tub was shaped like a domestic bath, from which the type seems to have developed (Fig. 200). They are usually constructed of coarse clay, and have monochrome decoration in red or brown paint, although some polychrome

[2] Although the wooden coffins were also painted, very little is known about their decoration. Fragments of coloured pigments and carved details have been reported by excavators: for example, the well-preserved wooden coffin from Katsamba bore traces of blue paint on a white base (Hägg and Sieurin 1982, 181).

examples are known (**L18-19**, **29**).[3] The size of both types can vary considerably, the largest being over 1 metre in length,[4] and the corpse was placed inside in a contracted position with the knees raised. Many larnakes seem to have been reused for successive burials. A larnax in Funerary Building 18 at Phourni, Archanes was found to contain two perfectly preserved skeletons, with one individual simply placed on top of the other, presumably at a later date (Sakellarakis and Sakellarakis 2002, 122). In other cases the bones of earlier interments were swept aside to make way for the new. An example is provided by another larnax from Funerary Building 18 which was clearly used as an ossuary: 17 skulls were found in or around the broken larnax, many of which are thought to have been stored within (Soles 1992, 246). The grave goods accompanying larnakes are usually simple, consisting of a few vases and personal possessions.

Examples of LM III larnakes have been found throughout Crete, although regional variations in uptake can be seen. Preston examined spatial variations in choices of larnax type on Crete and found that differences in uptake may highlight patterns of regional cultural diversity (Preston 2004, 187-93). She notes that while the chest larnax was the more popular form overall, it was not equally popular everywhere. The chest was the predominant larnax form in central and mid-western Crete; in east Crete, however, the tub form is also frequently attested and the two forms were often used side by side (Preston 2004, 189-92 and figs. 7-8). The popularity of the tub larnax in the eastern regions of the island suggests that it was mainly an east Cretan phenomenon (Preston 2004, 190). In contrast, in the far west of Crete the use of clay larnakes seems to have been extremely rare, a fact that Preston (2004, 189-91) attributes to the distinct regional identity of the communities in this region and their lack of a strong tradition of coffin use. Specific regional distinctions do not seem to apply to the marine iconography however, as larnakes with marine imagery have been found throughout the island (see Appendix 3).

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[3] The catalogue numbers provided in this chapter refer to the entries in Appendix 3: a catalogue of larnakes with marine imagery.

[4] A list of larnakes with published measurements can be found in Long (1974, 74-77). The chests average about 1m in length and 0.6m in width. Tiny examples of both chests and tubs have also been found, used either for infant burials or as ossuaries.

Although the clay larnax was used until the LM IIIC period, most of the surviving examples date from LM IIIA2 or LM IIIB. Its use seems to have spread to the Mainland where examples have been found in the Argolid, Attica, Boeotia and Thessaly (Rutkowski 1966, 129; Vermeule 1965, 124; Immerwahr 1995). As marine imagery is not popular on Mainland larnakes, this chapter shall largely focus on the Minoan examples. The difference in subject matter between the two regions has been examined by Marinatos (1997). While the Mycenaeans show a marked preference for concrete funerary imagery such as scenes of mourning or *prothesis*,[5] the Minoans painted their coffins with motifs drawn largely from their existing artistic repertoire, in which the marine world featured prominently. That is not to say that the Minoan larnax imagery did not have a funerary frame of reference, an issue to which we shall return later, but it is important to note from the outset that the motifs painted on Minoan larnakes are largely paralleled on contemporary pottery.

The scholar of marine imagery on larnakes is hindered by a number of practical research problems. First, few LM III larnakes have been published in great detail. Where detailed publications exist, interest has often focused on well-preserved individual examples (Baxevani 1995; Morgan 1987) or on identifying workshop groups (Mavriyannaki 1972; Tsipopoulou and Vagnetti 1997). An exception is the excellent publication of the material from the Minoan cemetery at Phourni, Archanes (Sakellarakis and Sapouna-Sakellaraki 1997). As these larnakes form one of the largest known groups from a single LM III site, the publication is an invaluable resource. The second major obstacle is that there is no complete catalogue of all the known painted larnakes. While Rutkowski (1966) attempted the first catalogue in the 1960s, many more have been found since but remain unpublished. A complete and updated catalogue has long been promised by Greek scholars but remains, frustratingly, out of reach. The most pertinent problem for the present study, however, is the fact that since the turn of the 19th century traditional interest in the larnax has focused on the issue of its origin and development. The result is that while the origin

[5] For a discussion of mourning scenes on Mainland larnakes from Tanagra, see Cavanagh and Mee 1995.

of the Minoan coffin has been discussed at great length (Rutkowski 1966; 1968; Watrous 1991, 287-89; Preston 2004, 183-87), the iconography has not. The most complete study of the iconography to date is that of Watrous (1991), who in fact only discusses the imagery found on the chest types. A comprehensive analysis of the decoration on both the chest and tub type is urgently needed. In this respect, Sakellarakis and Sakellarakis are correct in asserting that larnakes 'form possibly the least studied group of objects in Minoan Crete' (1997, 473). In view of this gap in the existing bibliography, this study will examine marine imagery on both larnax types.

In the absence of a complete catalogue, it is impossible to assess the number of LM III painted larnakes found in Crete and therefore the proportion painted with marine imagery. A lack of interest in all but the best preserved examples in early excavations meant that many were neither recorded nor kept. In 1966 Rutkowski estimated that approximately 200 examples were in storage in the various museums of Crete and the Mainland (Rutkowski 1966, 130).[6] Preston has significantly updated these figures to 476 chests and 58 tubs for the LM II-IIIB period on Crete (2004, 189, fig. 6), however it is not clear how many of these examples are painted and of a LM III date, and her figures do not include examples from the LM IIIC period or larnakes from the Mycenaean Mainland. In collating the examples published or on current display in the Museums of Crete and Mainland Greece, I have catalogued 125 Minoan and 5 Mainland larnakes with marine imagery, the majority of which have marine imagery as the main motif. These consist of 87 chests, 37 tubs, and 6 larnakes of unspecified type. A complete catalogue of these larnakes is provided in Appendix 3, where the imagery of each piece is fully described.[7] This catalogue should be consulted by the reader whenever further details of a particular larnax are required. I have identified an

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[6] More recent discoveries which should be added to this estimate include nine more examples with preserved decoration from Phourni, Archanes and the neighbouring sites of Karnari and Ontades (Sakellarakis and Sapouna-Sakellaraki 1997, 473-87), at least seven more from the Minoan cemetery at Armenoi (Tzedakis 1971), and three fragmentary larnakes from a chamber tomb at Pankalochori (Baxevani-Kouzioni and Markoulaki 1996).

[7] In Appendix 3, Minoan larnakes are listed first, followed by the five Mainland examples. In the Minoan catalogue, **L1-90** have representational marine imagery, whereas **L91-124** have abstract marine imagery only. Note that on **L120-25**, the abstract marine imagery appears only as a secondary motif.

additional 37 well-preserved Minoan larnakes which do not feature any marine imagery (not included in the Catalogue). While these numbers reflect only those located by the present author and consist largely of whole or almost whole examples, nonetheless the predominance of marine imagery is striking. It is clear that marine imagery was one of the most popular types of motif used on the Minoan larnax. The other motifs found are: flora (especially the papyrus, date palm and 'Minoan flower'), religious symbols (such as the horns of consecration and double axe), animals (birds, bulls, cows and goats), hunting scenes, and occasionally human figures. For the purpose of the present study, these non-marine motifs will be discussed only when found in direct association with marine imagery.

Section B. Decoration: Marine Motifs

i. Representational Motifs

The kingdom of the sea was represented on larnakes through the use of sea creatures, such as the octopus, argonaut and fish, and through abstract patterns which are thought to represent the water itself. I shall begin with the sea creatures.

The most popular creature is the octopus, which is represented on over 50 known larnakes, of both types. The species of octopus depicted is surely the common octopus, *octopus vulgaris*, which inhabits the rocky areas of the Aegean coastline (Figs. 7-8). As a motif on larnakes, the octopus is usually found in a panel by itself without other associated imagery. The most common arrangement on tubs was to show a single huge octopus on each long side, in fact, 13 of the 20 catalogued octopus tubs have this arrangement. An example is provided by a tub from Petras Papoura, where the tentacles are shown extending around the short ends of the vessel (**L27**; Fig. 200). A single huge octopus could also be shown on the chest types, as can be seen on an example from the Chania Museum (**L3**; Fig. 201). Another example in the same museum shows a variation of this composition: it has three facing octopi linked

by waves of communal tentacles (**L4**; Fig. 202). However, as the long sides of many chests were divided into two panels, the octopus is usually found on a smaller scale on chests than on tubs and may occupy single or double panels on one or both sides. The double arrangement seems to have been more common.[8] A particularly fine chest in the Rethymnon Museum has double octopus panels on each long side (**L11**; Fig. 199). Its four octopi are identical and clearly painted with great skill, as can be seen if we compare them with the two schematic or badly drawn octopi on the ship chest from Gazi (**L25**; Fig. 234). Only a small number of surviving tubs have this arrangement (**L52**, **62**, **76**), probably because the larger panel of the tub shape was more suited to a single monumental motif.

The octopus motif could also be painted on the short ends of the chest or on the lid panels. Internal octopus decoration is extremely rare. A tub from Prosymna on the Mainland is said to have had an octopus painted on its internal walls (**L129**; French 1961, 89) and the tentacles preserved on the inside of tub fragment from Mycenae may have originally been part of a similar octopus panel (**L126**; French 1961, 89). Only one example with an octopus on the interior is known from Crete: a tub from Vonni which reportedly had an octopus, two fish and a bird painted on the inside (**L20**). An interesting chest from Siteia has an octopus painted on every available external panel, including those of the lid; eight in total (**L29**). The issue of why an artist should repeat an image so often is of interest. If the motif had a particular significance, the repetition may have served to increase the effectiveness of the imagery, perhaps giving it added potency (if talismanic) or reinforcing its meaning and importance (if symbolic).

Two interesting compositions have the octopus as a smaller motif. On a chest from Adele (**L14**; Fig. 203) an octopus panel is combined with an unusual panel showing two heraldic fish in a marine environment, indicated by the seaweed fronds below. The unusual element comes from the appearance of five cartoon-like octopus heads

[8] Six chests in the catalogue have double octopus panels on one or both long sides (**L8**, **11**, **14**, **25**, **43**, **47**) compared to only three with a single small panel, all thought to be from the same workshop (**L9**, **10**, **13**; Mavriyannaki 1972).

which peep into view on each side of the fish. The desired effect was perhaps to suggest a marine pool teeming with sea life but the result is, perhaps unintentionally, comical. The strangest positioning of an octopus, however, is on the famous Episkopi larnax, where an octopus is painted under the wheels of a chariot in the front left panel (**L48**; Fig. 204). The octopus and chariot composition recurs on a tub fragment from Mycenae (**L126**; French 1961) and on a chariot krater from Enkomi, Cyprus (Vermeule and Karageorghis 1982, fig. III. 2).

Although the octopus is often associated with abstract marine motifs, such as the spiral or wavy line, it is rarely painted in direct association with other sea creatures, the Adele larnax panel being an exception rather than the norm. This corresponds to its use on pottery where the octopus is usually found as a motif by itself.[9] Of the non-marine motifs painted with octopi, a number recur often enough to suggest a meaningful association. The first association is with religious symbols. A workshop based in the Petras-Achladia region seems to have specialised in combining octopi with both the horns of consecration and double axe; six of these larnakes survive (**L36-41**; Tsipopoulou and Vagnetti 1997, 473). The same combination of motifs is repeated on a number of other chests, including one from Pankalochori (**L73**; Fig. 205) on which octopus and fish panels are associated with a series of religious symbols all thought to refer to bull sacrifice: horns of consecration, double axes and bucrania (Baxevani-Kouzioni and Markoulaki 1996, 661-64).[10]

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[9] While octopi are sometimes combined with the triton shell and sea-urchin motifs on pottery, they are rarely painted in direct association with other sea creatures. Exceptions include a LM IB jug from Phylakopi, Melos, which had octopi as the main motif combined with small argonauts as fillers (Mountjoy 1984, Pl. 16f) and some LM IIIC island stirrup jars which show fish or other creatures caught between the tentacles of the octopus; examples of these octopus stirrup jars are listed in Vermeule and Karageorghis 1982, Pls. XII.19 (Ialysos, Rhodes: with birds and fish), XII.39 (Kos, Langadha: with birds, fish and 'anenome'), and especially XII.23 (Kalymnos, Rhodes: with crabs, birds, goats, scorpions and hedgehogs).

[10] Further examples with this association are known, including a number from Episkopi in Ierapetra which combine octopus or tentacle motifs with horns of consecration or double axes, and which may have come from the same workshop (**L49, 51, 55**). A chest in the Chania Museum has an octopus and tentacle motifs on the long side panels and rows of stacked horns of consecration and double axes on the short ends (**L4**). Another from Giofyrakia has a huge set of horns of consecration and double axe as the main motif, with a small octopus-palm hybrid motif positioned above the legs (**L79**).

The horns of consecration and double axe were used as Minoan religious symbols from the Protopalatial period onwards (Gesell 1985, 3, 8). Double axes, often of bronze and ranging in size from miniature to gigantic, have been found in many cult contexts and Marinatos (1986, 22, 26-27) has highlighted the iconographic association between the double axe and bull sacrifice. Horns of consecration were often placed on top of buildings or altars and are thought to have served to mark the sanctity of the structure. Their exact meaning is not certain but they have also been linked to sacrifice through their association with the double axe (Gesell 1985, 3). Both the horns and double axe occasionally appear as motifs on pottery although there is no consensus about whether or not they retain their cult symbolism in this medium.[11] Their association with the triton shell, a cult implement, on LM IB Marine Style rhyta (Table 4) suggests to me that they do. This same association of religious symbols and triton shells can also be seen on the sealstone from the Idaean Cave, which shows a votary holding a triton shell aloft before an altar topped with horns of consecration and sacred branches (Fig. 102f). Watrous (1991, 293) proposes that when used on larnakes such cult symbols may have marked the sanctity of the coffin and protected it. Equally, through their association with sacrifice, the horns of consecration and double axe may have served as symbols of regeneration on larnakes, a theme to which we shall return later. The frequent association of these cult symbols with marine imagery may indicate that the marine motifs also had symbolic meaning on larnakes.

A second iconographic association is between the octopus and water-bird and/or papyrus plant. On a chest in the Rethymnon Museum an octopus is juxtaposed with two sets of antithetical water birds facing a palm motif (**L9**; Fig. 206). Such water-birds, often in antithetical compositions, are painted on a number of larnakes, including two from Armenoi (**L18-19**), one from Dramia thought to be from the same workshop as the Armenoi examples (Kanta 1980, 214), and another from Prevelianon (Watrous 1991, Pl. 84e). Plump water-birds and papyrus plants also decorate a chest from Ontades, Archanes which has an octopus and papyrus fronds on one short end

[11] On this issue, see also Chapter 1.

(**L46**). On other larnakes octopi and papyrus plants are combined without birds. For example, a stylised papyrus chain decorates the main body of the chest from Pankalochori, below the octopus panel referred to earlier (**L73**; Fig. 205), while the same juxtaposition of octopus and papyrus is repeated on at least four other larnakes (**L11, 13, 61, 67**; Figs. 199, 208-209).[12] The combination of motifs is striking. While it is possible that these three motifs were linked simply because of their association with water, they may have had a symbolic significance. As we shall see later, the water-bird and papyrus motifs are also associated with other sea creatures: the argonaut and fish.

Before leaving the octopus, it is worth considering aspects of style. The octopus, like the other marine motifs, is painted in the current vase painting style. Although it was shown in a highly realistic manner in the LM IB period when the ceramic Marine Style was popular (Fig. 3), by the LM III period naturalism has been replaced by symmetry. The octopus is usually depicted upright and facing; its tentacles are arranged symmetrically and the suckers are not shown. The main stylistic difference between the chronological periods is in the treatment of the tentacles, which in the early examples are shown close to the body and curling. Such LM IIIA examples include the single octopus a narrow panel on a tub from Pachyammos (**L61**; Fig. 208) and that in a rocky pool on a tub from Palaikastro (**L68**). In both cases the octopus tentacles follow the flowing contours of its body and each tentacle ends in a tight spiral coil. Note also that the head of each octopus is joined to the body in a relatively naturalistic manner whereas in the later examples the head and body are often linked by a fine line. In the LM IIIB period the tentacles become elongated into horizontal rows of waves. The octopus usually has a heart-shaped head, large eyes and a pendulous body (Fig. 206). Most of the octopi on larnakes conform to this LM IIIB type and good examples can be seen on the octopus tubs from Episkopi and

[12] A tub in the Ayios Nikolaos Museum has a huge octopus on one side and two gigantic papyrus fronds on the other (**L67**). Another tub larnax, from Pachyammos, has compact panels of octopus and papyrus plants (**L61**; Fig. 208). On a chest from Maroulas (**L13**; Fig. 209) one of the panels on each long side has an octopus, while the remaining panels and lid are filled with papyrus plants. Another chest in the Rethymnon Museum has double octopus panels on each long side with papyrus plants on the short ends (**L11**; Fig. 199).

Pachyammos (**L53**, **60**). In the following LM IIIC period the Octopus Close Style emerged and the upper tier of wavy tentacles is replaced by one or more thick, raised sets which are sometimes fringed (Figs. 200-201). The fringed octopi shown on a series of tubs from the Siteia region, all from the same workshop and possibly even painted by the same hand, show that the artists were drawing on the very latest vase painting styles (**L26-27**, **30**; Tsipopoulou and Vagnetti 1997, 474-75). Moreover, an octopus stirrup jar found at Ialysos, Rhodes, has also been attributed to the same individual (Tsipopoulou and Vagnetti 1997, 475), suggesting that a single artist could paint both larnax and vase. In this LM IIIC period, the octopus motif was sometimes debased almost beyond recognition: on a tub in the Siteia Museum, for example, the body of the octopus has become a pillar and the eyes and tentacles float in space, completely disassociated from the body (**L33**).

Occasionally, the octopus depiction breaks slightly from the traditional compositional framework. Take, for example, the ghostly looking schematic octopi on the chest from Milatos, inverted in a swimming pose, with eyeless triangular heads and whirling tentacles (**L43**). Despite the heavy use of filling ornament, the artist successfully evoked the whirling and graceful motion of the creature at sea. The two octopi painted sideways as if swimming around the tub from Episkopi Ierapetra also break from the mould (**L52**; Fig. 207). This unusual composition, unique among the surviving larnakes, is however paralleled on painted kylikes,[13] again highlighting the shared artistic repertoire of vase and larnax painters (Kanta 1980, 150). Despite the set artistic conventions the artist could leave his individual mark through the addition of unique details, such as the 'spiky hairdo' on the Rethymnon octopi (**L11**; Fig. 199) or the spiral 'moustache' on those of the Maroulas chest (**L13**; Fig. 209). The artist who painted the chest from Siteia which is completely covered with octopi broke from the monochrome tradition of larnax painting by adding finer details in white paint (**L29**). The large staring eyes of each octopus are made up of concentric rings which have been overlaid with white dots, producing a striking and somewhat

[13] An example of a kylix with an octopus swimming horizontally is illustrated in PM IV, 326, fig. 302b.

psychedelic effect. It is possible that the artist was attempting to depict the 'white-spotted octopus' (*octopus macropus*), instead of the more common *octopus vulgaris*, although the dots seem to be restricted to the eye area here. Alternatively, the white paint may have been employed in order to emphasise the octopus' most striking feature - its prominent and ever-watchful eyes.[14]

The octopus motif could also be abbreviated to show merely the tentacles.[15] Rows of isolated wavy tentacles were a popular motif on the lids of chests (**L13**, **15**, **47**, **49**, **51**, **54**). As the motif could be expanded or contracted according to spatial requirements, it was also used to fill the narrow borders between panels (**L117**). Tentacles were used as the main motif on a tub from Piskokephalo, where they are arranged in two neat wavy rows (**L28**; Fig. 210). One tub even has them on the inside (**L31**). Again, these larnakes follow the prevailing pottery trends - in the LM IIIB period such tentacles were extremely popular, especially on large storage stirrup jars (for example, Kanta 1980, 249, figs. 20.1,3 and 13.6). In both contexts, the abstracted symbol may have suggested water or liquid, rather than the octopus itself.

Another popular sea creature on larnakes is the argonaut (Figs. 211-14). Like the octopus, it was consistently used as an artistic motif from the MM II period onward and was one of the four main motifs on pottery of the LM IB Marine Style. On LM III larnakes it is more commonly found on the chest type than the tub, appearing on nine known chests compared to only one tub.[16] It is often the main motif and is sometimes gigantic, as for example, on the Vathianos Kampos chest, where a huge argonaut moves to the right of a large papyrus plant (**L17**; Fig. 211).[17] On a chest

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[14] The use of white paint to pick out details of an octopus can also be seen on a chest from Pankalochori (**L73**) where it has been identified as a Mainland characteristic (Baxevani-Kouzioni and Markoulaki 1996, 665).

[15] Furumark (1941, FM 53.14) refers to this motif as the 'curtailed cuttlefish' but it is clearly derived from the octopus, as the cuttlefish is not found usually on ceramics, although it was engraved on sealstones.

[16] The argonaut also features on three further larnakes for which the shape is not specified in the published descriptions (**L86**, **89**, **90**).

[17] Gigantic argonauts also featured on a chest larnax from the Mavro Spelio cemetery: the preserved long side was decorated with two huge argonauts each with three raised tentacles (**L70**; Forsdyke

from Tzigounas a row of four argonauts crawl along the ground line while four more crawl upside-down above (**L16**; Fig. 212). The overall effect is highly symmetrical and watery. This gravity defying feat is repeated on another chest from Kavrochori where argonauts crawl up the sides of the main panels (**L24**). Water-birds also feature prominently on this larnax: there is a large bird on a palm tree in the front panel and more birds on the lid, one of which is about to alight on the back of an argonaut. A similar composition is also found in vase painting, but with a fish as the marine prey, as illustrated on contemporary alabastra from Phaistos (PM IV, 337, figs. 280a-b).[18]

The combination of water-birds and argonauts is also found on two more chests. The first, in the Chania Museum, has a row of water-birds in its front panel with four argonauts below (**L2**). This chest is particularly interesting because it has a total of 27 preserved argonauts, while religious symbols (horns of consecration with sacred branches) feature prominently among the other motifs. The second chest with this association is in the Rethymnon Museum (**L12**; Fig. 213). Each long side features two facing argonauts of gigantic proportions which have been hybridised into argonaut/birds. This hybridization was achieved through skilful rendering of the usual three upward curving tentacles so that the front tentacle became a swanlike neck while the second and third became curving wings (Mavriyannaki 1972, 75). The eye at the tip of the first tentacle leaves no doubt that the creature is part bird, while the circle marking the opening of the shell and the seaweed fronds which shoot from the back confirm that it is also part argonaut. There is no surviving artistic parallel for this hybrid composition and it seems to take the association between water-bird and octopus or argonaut to a new level; one which may point to a symbolic meaning.

One final composition deserves attention. On two polychrome chests from Armenoi, thought to have been painted by the same hand, a small argonaut appears in otherwise terrestrial panels (**L18-19**; Fig. 214; Kanta 1980, 214). On both chests a single

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1926-1927, 271-72, fig. 26). According to Kanta, two further larnakes, from Khoumeri and Stavromenos, have similar decoration to the Mavro Spelio chest (**L89-90**; Kanta 1980, 202).

[18] The iconographic association of water-bird and argonaut is also repeated in other media; it can be seen, for example, on an Aegean sealstone from an unknown provenance now in New York (CMS XII 246).

argonaut crawls along the ground line under the belly of a larger animal, whether goat, deer or bull, in compositions which include hunting scenes and sacrificial imagery (horns of consecration and double axe). Fish also appear on the end panels. This strange mixture of terrestrial and marine imagery has been interpreted as evidence that the hunting scenes take place in the Afterworld, with the deceased continuing to enjoy earthly pleasures there in the same manner as in Egyptian tomb paintings (Watrous 1991, 299). While this is debatable, what is clear is that the boundary between land and sea is intentionally blurred, and perhaps such clear-cut distinctions between the realms of water and land are not to be applied here.

The way in which the argonaut is depicted on larnakes deviates slightly from the usual depiction on pots. From the time of the LM IB Marine Style when the argonaut came into fashion as a vase painting motif it was depicted in a conventionalised way, with its eight tentacles reduced to three and arranged in upward coils which emerge from the wrong, closed end of the shell (Fig. 11). Evans outlined the development (and degradation as he saw it) of the argonaut motif, showing that as time passed the tentacles and even the body could be reduced to mere spirals (PM IV, 128-30, fig. 98; PM II, 512). Yet the number of tentacles usually remained the same: merely three. Some of the argonauts painted on the larnakes have the traditional number of tentacles (Tzigounas, Armenoi and Rethymnon Museum) while others have more (the Kavrochori argonauts have five while those on the Vathianos Kampos larnax have six). Cousteau, who studied the argonaut in its natural habitat, states that the female usually swims using six of her arms, using the other two to secrete the 'nacelle' (or shell) used to hold her eggs and protect her body (Cousteau and Diolé 1973, 275). It is possible then that some of these artists had seen or heard tell of the creature in its natural environment and broke slightly from the artistic tradition. This may have been the case for the painter of the Vathianos Kampos larnax on which the tentacles of the argonauts (like those of the hybrid type on the Rethymnon larnax) also emerge from the correct or open end of the shell. For the most part though, it seems that the artists were again drawing on the standard marine motifs which were most popular on vase painting. The larger surface area provided by the larnax shape allowed for an increase

in size. Variation in size had also occurred on earlier Marine Style pottery where both large and small argonauts could even be shown together in the same scene,[19] but limitations of space prevented the depiction of monumental examples. Interestingly, the 27 argonauts on the Chania Museum chest are painted in four completely different styles, and have either three, four or five tentacles, which are sometimes webbed or fringed. The shells are either cross-hatched or striped, and on one type the shell ends in a raised curl, like the tail of a scorpion, a depiction which has no basis in nature or in the standard artistic repertoire, but which recalls the 'ears' on the earlier MM II relief argonaut from Kouloura 2 of the palace of Knossos (Fig. 176). The many different styles of depiction on this single chest may point to more than one hand at work, or perhaps an attempt by the artist to create a more varied composition.

The other sea creature commonly found on larnakes is the fish. Although fish were extremely rare on earlier LM IB Marine Style vessels,[20] they were fairly common in late Minoan and Mycenaean pictorial pottery. On most larnax depictions the emphasis seems to be more on a generic 'fishiness' than on naturalism, preventing any identification of species. An exception is provided by the huge fanged fish painted with great detail on the inside of four tubs from the same workshop in the Siteia region (**L26-28**, **30**; Figs. 200 and 216; Tsipopoulou and Vagnetti 1997, 474-75).[21] Tsipopoulou and Vagnetti (1997, 475) suggest they represent mackerels, but their scale in fact suggests that they represent the large seasonal tunny fish (tuna) (Fig. 16). Fish are in fact the most popular motif for the inside of tubs, where smaller examples are also found (**L61**; Fig. 215) and where fish sometimes appear as part of larger marinescapes – a tub from Milatos, for example, has a row of fish swimming below a line of shellfish (**L44**; see also **L20**, **63**). On chest larnakes fish also appear as both primary and secondary motifs. On the larnax from Adele mentioned above (**L14**; Fig.

[19] See, for example, the Marine Style bridge-spouted jar from Knossos with large and small argonauts (Mountjoy 1984, 173 and Pl. 16: Kn. 12).

[20] Only three LM IB Marine Style pots with fish are known (Mountjoy 1984: Knossos 6, 46 and Varkiza) and Mountjoy argues that these may in fact date to later periods and that the fish motif was actually alien to this style (1984, 167).

[21] A huge fanged fish also appears on the interior walls of a tub from Kritsa (**L31**), which has stylistic links to the Siteia workshop pieces, but has been placed in another workshop group by Tsipopoulou and Vagnetti (1997, 475-76) on the basis that it has a different shape.

203), two fish are painted in a heraldic position, crossing each other diagonally, in a panel bordered by octopods and seaweed. On the end panel a single fish feeds from the sea bottom amid seaweed fronds. Such compositions of diving fish are found in both Minoan and Mycenaean vase painting. For example, the artist identified by Morris as 'the Knossos Fish Painter' painted diving fish on an amphoroid krater from Knossos and on the Varkiza Basket rhyton (Morris 1995, 188-90). He also painted a tub larnax from Knossos, fragments of which reveal a similar heraldic fish composition to that on the Adele larnax (**L72**; Morris 1995, 188). Three other chests feature a large diving fish in a panel on the short end, one in the Chania Museum and the two Armenoi examples (**L3**, **18-19**). More unusual compositions are also found. On a chest from Milatos, for example, a disproportionately large fish swims below a human figure on the short end (**L42**).

On a number of larnakes fish are combined with papyrus plants or aquatic birds in what Watrous (1991, 298) interprets as 'abbreviated Nilotic scenes'. These consist of a chest larnax from Vasiliki Anoghia on which fish and ducks cluster around a clump of papyrus plants (**L23**; Fig. 217) and a tub from Milatos showing a leaping fish and an ascending bird in papyrus landscapes (**L45**). The large diving fish on the chest from Palaikastro can also be added to this genre, as the adjacent panel has a plump water-bird, while the panel of the opposite side features papyrus (**L21**; Fig. 218). A chest from Pankalochori also has a panel of fish and large water-birds, while papyrus features on the long sides in association with the tricurved arch, a water motif (**L74**). Another chest in the Ayios Nikolaos Museum features fish of various sizes swimming around exotic date palms and can probably be added to this genre too (**L66**). The interpretation of such scenes as Nilotic will be discussed later.

The remaining marine motifs are found in isolated examples only. None of the creatures identified as dolphins or as having dolphin-like characteristics fully correspond with conventional artistic renderings of that creature. For example, those painted on the lid recovered from Mesi have dolphin-like heads with a long snout but lack flippers or a dorsal fin (**L7**). Conversely, the fish on the fragmentary tub from

Knossos have dolphin-like flippers and reserved stripes but their heads are clearly those of fish (**L72**). Morris (1995, 191) has shown that the latter type is, in fact, a hybrid form peculiar to the Knossos Fish Painter. They can not be termed 'dolphins' in the strictest sense although it has been suggested that the hybridised form arose out of increasingly conventionalised depictions of the dolphin (Morris 1995, 191). The fish on the Palaikastro larnax has a slightly dolphin-like head but the lack of dorsal fin and flippers and the fact that it is painted with a fan tail rather than a forked one suggests that a fish was intended (**L21**; Fig. 218).[22] As discussed in Chapter 3, the dolphin motif was sometimes used by MM III and LM IB Marine Style vase painters and was the subject of a number of frescoes but it was never used as commonly as the octopus or argonaut.[23] It was not popular on vases of the LM III period which perhaps explains why artists seldom painted it on larnakes and when they did they conflated it with the fish motif for which prototypes existed.

Perhaps the most unusual marine image on a larnax is that of the turtles shown swimming around the inside of a tub from the Siteia region (**L34**; Figs. 219-20). Their rounded heads, legs held back in swimming position and patterned shell make the identification certain, yet this is the only known representation of turtles from Minoan Crete. Another unique representation is found on the inside of a tub from Kritsa, possibly from the same innovative workshop (**L32**; Fig. 221). It shows five swimming marine creatures with hour-glass bodies, triangular flippers, fan-tails and dog-like heads. Tsipopoulou and Vagnetti (1997, 476) identify them as highly unrealistic fish but I suggest that they represent seals, perhaps the native

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[22] The forked tail with a vertical axis was a well-established convention in depictions of dolphin despite the fact that it was anatomically incorrect; the tail should, in fact, have a horizontal axis. The convention seems to have arisen through conflation with the standard fish tail and was used even in otherwise realistic depictions, as on the dolphins of the Theran Ship Fresco. A rare example of a dolphin whose tail is depicted in a naturalistic manner is the small terracotta dolphin found at the 'temple' at Ayia Irini, Keos (Caskey 1962, 280 and Pl. 101e).

[23] An exception to this was at the Mycenaean palaces of Pylos and Tiryns where both dolphins and octopi were combined as the favorite motifs on the LM IIIB fresco floors (Hirsch 1977, 24, 32-41, figs. 20-22, 24, 26-27). Other frescoes with dolphins are as follows: the LM IB-II Dolphin fresco from Ayia Irini, Keos (Coleman 1973 and Pl. 56b); the LC I Ship Fresco from the West House, Thera (Morgan 1988); the dolphin fresco floor at Knossos which has now been re-dated from LM I to LM IIIA (Koehl 1986a); and the fresco floor from the LM III shrine at Ayia Triadha decorated with dolphins, fish and an octopus (Hirsch 1977, 10-11).

Mediterranean Monk Seal, an identification which would explain their dog-like heads and shimmering sinuous bodies. If my identification is correct, it is one of the few known representations of a seal in either prehistoric or later Greek art.[24] The irregular flippers and tail suggest that the artist was only superficially familiar with the subject matter; as the head of the seal is often all that can be seen from the surface of the sea perhaps the artist merely conjectured the rest. Like the turtle, the seal is without a surviving parallel in the Minoan artistic repertoire so perhaps there were no artistic guidelines for the artist to follow.

A number of larnakes also show seaweed which was conventionally depicted by a multiple wavy line topped by an arrow. It is usually found in compositions with diving fish where it evokes a marine environment (**L3**, **14**; Fig. 203). Similar scenes of fish diving between fronds of seaweed are known from vase painting, and can be seen for example, on the Varkiza Basket Rhyton (Mountjoy 1984, Pl.16e). On a Mycenaean jug the seaweed and fish motifs are actually conflated: by adding an 'eye' the artist transformed the plant into an arrow-headed fish (Vermeule and Karageorghis 1982, Pl. IX 122). A more unusual larnax composition can be seen on a chest from Tanagra on the Mainland where huge seaweed shoots separate two male figures and a gigantic water-bird (**L127**; Fig. 222). Vermeule (1965, 130-31) has identified the figures as warriors walking through a field of flowers, but the disproportionately large bird, gigantic seaweed fronds and the watery tendril spirals at the base of the scene suggest that the warriors walk in an 'other-worldly' zone. This setting is perhaps confirmed by the use of a Minoan religious symbol, the horns of consecration, in the end panels.

Two shellfish motifs are depicted on larnakes, the bivalve shell (FM 25) which is painted on the inside of a tub from Milatos (**L44**) and on chests from Pankalochori and Giofyrakia (**L75**, **78**), and the linked whorl shell (FM 24) which is painted on the

[24] There is no other clearly identifiable representation of a seal in prehistoric Aegean art. In later Greek art, the seal is also extremely rare: aside from its depiction on the coinage of Phokia, it is represented only on a single vase, a Caeretan hydria dated c. 520-510 BC which depicts a naked hero fighting a sea-monster (*Ketos*). There, the seal is shown in the background behind the sea-monster along with an octopus and dolphins (Papadopoulos and Ruscillo 2002, 218, fig. 28 and n.163).

lid of a chest from Armenoi (**L19**). The crab appears in a single instance on the inside of a tub from Mouliana where it is found in a marine composition with fish (**L63**). Although the crab was often depicted on Talismanic sealstones, it appears only rarely on pottery and was not part of the usual LM III marine repertoire.[25] Variants of the 'sea anemone' (FM 27) appear on a fragment of the tub from Knossos (**L72**) and on the Vasiliki Anoghia larnax (**L23**; Fig. 217). The motif can consist of a circle fringed with radiating arcs or a circle ringed by dots. While conventionally called the 'sea anemone', it bears little real resemblance to the sea creature of that name and could equally represent an urchin. The 'starfish' or 'star' motif, which consists of a star surrounded by dots, can be seen in the marine scene on the Palaikastro larnax (**L21**; Fig. 218). Like the 'anemone' the star motif bears no close physical resemblance to the starfish but rather seems to have had symbolic associations with ships and the sea, as discussed in Chapter 1. It occurs on LM IB Marine Style pottery (Fig. 45) and as a nautical emblem on the Theran Ship Fresco (Figs. 65-66), where it is attached to the prow of every ship and also decorates the hull of the flagship.[26] Morgan has suggested that it was the insignia for the fleet (1984, 171) but it may have had a more general nautical association, signifying navigation by the stars. As a symbol on the larnax it is therefore interesting. If there is any basis to the idea that the Minoans believed in an Afterlife located beyond the sea (discussed below), perhaps this symbol served as a navigational aid to the Afterworld or referred more generally to the nautical journey of the deceased. However, as it appears only on a single larnax it should not be taken as supporting evidence for such a belief.

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[25] For an example of a crab painted between the tentacles of an octopus on a LM IIIC stirrup jar, see n.9 above.

[26] Vases painted with the star motif are listed in Mountjoy's corpus of Marine Style vases (1984). The motif is found on a number of rhyta including three from Palaikastro (PK 13, 16 and 40) and four from Zakro (Zakro 6, 9, 10 and 11). It is also found on sherds from different vessel types, such as a tall alabastron sherd from Malia (Malia 1). For a full discussion of this motif and its probable ritual symbolism on Marine Style pottery, see Chapter 1.

ii. Abstract Marine Motifs

A number of abstract motifs come under the heading of marine imagery. Abstract motifs are extremely common on larnakes. Some are thought to have been purely decorative and perhaps imitate finer materials such as stonework or precious inlays; such motifs include concentric arcs, wavy striations, the checkerboard pattern and lozenges. However, Watrous (1991, 289) notes that other motifs appear to be shorthand renderings of naturalistic images, specifically, of water or the sea. He identifies five abstract motifs which are thought to represent the sea: the wavy line, wavy border, spiral, zigzag and tricurved arch; and to these we may add a sixth, the scale pattern. They appear most commonly in the narrow border zones of larnakes but could also be used as the main motif. All of these motifs can be found in association with sea creatures, but as they are also found in isolation their identification as water signs is not always immediately obvious. The motifs were also painted on vases and for this reason they have sometimes been dismissed as decorative by scholars.[27] However, a close comparison of their use in various media reveals their symbolic role.

Let us begin with the wavy line (FM 53). The wavy line had a long history as a ceramic motif and seems to have signified water or the sea from an early date. On a Kamares Piriform Jar from Phaistos, dated to MM IIB, four large tunny fish leap from the sea, which is represented by three wavy lines with spirals marking the crest of the waves above (Fig. 223). The turning spirals, wavy lines and arching backs of the fish create a vibrant sense of movement; the sea and its marine life are caught in a whirling watery world which perpetually splashes around the vase. In the LM IA period the wavy line with bifid stalks was used as a convention for rivers on Theran frescoes and pottery (Morgan 1984, 172-73). In later periods the horizontal wavy line became a popular motif on the neck of large jars where it also seems to signify water. On a LM IB Palace Style jar from Knossos the double wavy line on the neck of the jar seems to mark the surface of the water beneath which a Marine Style octopus

[27] See, for example, Baxevani (1995, 25), who argues this in relation to the wavy line motif.

swims (Fig. 224).[28] In the LM IIIA period the Palace Style jar gave way to the amphoroid krater where again the wavy line could decorate the neck of the vase with an octopus below, as can be seen on an example from Ligortino (Fig. 225).

These examples in which the wavy line is combined with marine imagery illustrate that the motif was used to signify the sea for a long period of time. Some Palace Style jars, however, had the same wavy line with abstract marine motifs below. An example from Knossos had a wavy line on the neck above bands of spirals and wavy lines enclosing rosettes (Betancourt 1985, Pl. 24c). Others had floral motifs where the wavy line above was perhaps suggestive of the water which rendered the plant so lush and fertile (Betancourt 1985, Pl. 24b; Watrous 1991, Pl. 82e). In all cases the wavy line seems to have signified water, either salt or fresh water, the associative imagery providing the context by which to determine this. The type of vase and the position of the motif on the vase are significant. Both the Palace Style jar and amphoroid krater were vessels for mixing and storing liquids and the position of the watery motif on the neck of the vase was surely intended to provide an external visual marker mirroring the waterline of the liquid contained within.

On the larnakes the wavy line may be single, double or triple. It is sometimes found in direct association with sea creatures, indicating their marine habitat. An example can be seen on the inside of a tub from Milatos, where fish swim on either side of a wavy line, below a line of shell-fish (**L44**). The wavy line is also found beneath an octopus on a chest in the Rethymnon Museum (**L10**). More commonly the motif is shown in isolation. Chests from Phourni, Katsambas, Knossos and Kamilari are completely decorated with groups of wavy lines (**L95-98**; Fig. 226). The motif is also extremely popular in the narrow border zones of chests where it can frame marine or non-marine panels (**L21**, **23**, **99**, **121-22**, **124**; Figs. 217-18). On tubs it is often found on or below the rim above octopus panels in a similar composition to those on the large jars described above (**L52-53**; Fig. 207). A related motif, known as the wavy

[28] Numerous other examples combine the wavy line and octopus in the same way (see, for example, PM IV, 306, fig 240 and 308, fig. 242).

border, seems to have had the same watery association, and is also found both with and without associated marine imagery (**L4**, **91-94**; Figs. 202 and 227).

The next motif is the spiral (FM 46, 52). There is some iconographic evidence that at least in early times the spiral was connected with the sea. We have already seen how spirals indicated waves on the fish jar from Phaistos (Fig. 223). The running spirals shown behind ships on EC 'frying pans' also seem to represent waves (Fig. 228). Although these examples date to a much earlier period than the larnakes, the association of spirals with the sea does seem to have been retained on a number of LM III larnakes. On the ship chest from Gazi two spirals painted below the ship surely represent waves (**L25**; Fig. 233). Large watery spirals framed by wavy lines were often painted on the lids of chests and on an example from Rethymnon (**L11**; Fig. 199) their position on the lid above octopus panels suggests that they represent waves, as on the Phaistos jar. However, it is not clear that spirals *only* indicated the sea. Morgan has distinguished between two types of spiral compositions used on larnakes: the finite 'running spiral' and the less common and potentially infinite 'retorted spiral' (Morgan 1987, 189). She suggests that when the spiral is shown in the retorted pattern, that is, in an everlasting chain where each spiral turns back upon itself to form the next one, the motif may also symbolise continuity, appropriate to a funerary context (Morgan 1987, 190). In the multi-referential world of symbols both 'readings' of the imagery may have been valid.[29]

The fourth abstract marine motif is the zigzag (FM 61). Watrous (1991, 289) associated the zigzag motif with water on the basis of its use as a water symbol in Egyptian wall-paintings. River scenes were among the earliest subjects of Egyptian tomb painting where images of the deceased fishing, fowling or hunting in the marshes were popular subjects from the 6th Dynasty onwards. In such scenes, the river is represented by close-set parallel zigzag lines drawn as a band at the base of the scene. The zigzag lines often fill an area of blue making the sign more easily readable. Examples include a fowling scene from the Tomb of Nebamun, Thebes,

[29] The issue of the polysemic nature of symbols is discussed below in Section C.

c.1400 BC (Fig. 229), and a scene of hunting in the marshes from the Tomb of Menna at Thebes (Crowley 1991, Pl. LIX, 2), on both of which the watery setting is made clear by the zigzag lines below. That the zigzag was a standard and easily 'readable' artistic convention for water is confirmed by the fact that it was also the sign for water in Egyptian hieroglyphics.

It is methodologically unsound, however, to attribute a specific meaning to a motif in the Aegean context solely on the basis of its meaning in another culture. The discussion of meaning must be informed by a holistic analysis of the role of the motif in an Aegean context. An analysis of its use in Aegean art supports the idea that the zigzag referred to water, but suggests that in the Aegean context it had a more specific association with the open sea (Morgan 1988, 35). This association can be clearly seen on a number of seals and sealings where single or double zigzag lines are shown below ships as a shorthand formula for the sea (Fig. 78a-b, d). Single zigzag lines are also shown beneath the boat on the sealing from Ayia Triadha which is thought to show a deity traversing the sea (Fig. 81). The zigzag even appears on the hull of a ship on a gold ring where it surely indicated waves lapping against the sides of the ship (Morgan 1988, fig. 89).[30] Morgan notes that formulae to indicate water are especially necessary in glyptic art due to the confinements of space (1988, 35), however the same symbolism also seems to apply to the zigzag in other media, particularly vase painting. This is suggested by its frequent use on cups, bowls and stirrup jars; all shapes associated with liquids (Furumark 1941, 386-89; Kanta 1980, figs. 8.2, 9.1 and 13.1).

On the larnakes the zigzag is almost exclusively found on the narrow border zones where it usually frames marine panels (**L8-10**, **38**, **45**, **60**, **67**, **120**). Its association with the sea is confirmed by its occurrence on chests solely decorated with abstract marine motifs, such as the chest from Phourni, Archanes painted with spirals, the scale pattern and zigzags (**L113**). On an unusual chest from Pigi, Rethymnon, the

[30] Similar zigzags are also painted on the exterior of the hull of a clay model boat from Ayia Irini, Keos (Wedde 2000, 309, no. 309).

zigzag is juxtaposed with religious symbols, the horns of consecration and sacred branch (**L120**). Nilsson (1968, 263, 403) noted that the sacred branch was closely associated with libation and suggested that it was linked with fertility or a vegetation cycle. A gem from Vapheio showing two Minoan genii watering sacred branches between horns of consecration is indeed suggestive of fertility rites (Fig. 41), as has been noted by both Peatfield (1995, 225) and Nilsson (1968, 146). In this regard, the juxtaposition of the zigzag (a water symbol) with a religious symbol associated with water rites on the Pigi larnax is interesting; the combination of imagery may had a funerary resonance, perhaps suggesting fertility and regeneration, a theme which will be explored in more detail later.

The final abstract marine motif mentioned by Watrous (1991, 289) is the tricurved arch (FM 62; Fig. 231), not to be confused with the simpler scale pattern, discussed below. The pattern consists of a series of overlapping triangles with wavy sides, often with insets which perhaps represent bivalve shells. That the motif signified the sea is clear from its use on the silver 'Siege Rhyton' from Mycenae (Fig. 170), where it occurs below a scene depicting the siege of a coastal town. Its signification is clear from the drowning or swimming figures shown within it. The motif recurs on the lower fragment of the comparable stone rhyton from Epidaurus, which seems to show part of a boat with a figure falling overboard into a tricurved arch sea (Fig. 168). As discussed in Chapter 3, both of these scenes belong to a category of iconography identified by Morgan (1988, 150-54) as 'the shipwreck and warrior genre' and date to the LH I period. The tricurved arch is also shown on fresco fragments from the Pillar Room at Phylakopi, on Melos; the same room which produced the famous Flying Fish fresco. The fragments show the pattern painted in brownish-black paint against a blue background, and the background colour and associated marine fresco confirm that the motif formed part of a seascape (Bosanquet 1904b, 72, fig. 60). On the marine fresco floors of the Mycenaean palace of Tiryns, the tricurved arch motif was consistently used in an alternating arrangement with panels of octopi and dolphins (Hirsch 1977, 36-37, Pl.12: fig. 24), suggesting that the motif still signified the sea in the LM III period. The tricurved arch pattern also seems to have retained its marine

connotation when used as a vase painting motif. A variation of the pattern, with dot fill, provides a marine background for dolphins on the pair of LM IB Marine Style rhyta from Pseira (Fig. 14). The motif recurs below a line of argonauts on a Palace Style Jar from Knossos (Watrous 1991, Pl. 82d), where the position of the argonauts on the shoulder of the vase above the tricurved arch provides a nice artistic conceit, as the argonauts appear to bob along the surface of the sea.[31]

On many of these pieces the signification of the tricurved arch motif is understood partly because of the associated imagery (dolphin, octopus, argonaut or boat) and partly because of the viewer or 'reader's' experience. Although at first glance the pattern seems to bear no visual relation to water, Crowley (1991, 221-24) has shown that it is in fact based on real observations of light and water movement. She argues that the motif is the result of an attempt to create a visual image based on all human experience of the sea, one which reflects its many visual forms and its constant moving qualities (Crowley 1991, 223). Far from being an obscure pattern, the tricurved arch represents the myriad natural forms of the sea. While I agree that the pattern is based on light and movement, I think the origin of the motif may be more exclusive. Rather than originating in all the visual forms of the sea, it seems in fact to be based on the image of the calm light-dappled surface. As the light reflects off the still sea surface it creates shimmering patterns which resemble the tricurved arch in shape (Fig. 232). As the pattern constantly moves and shifts it is extremely difficult to capture. The Minoan artists found a solution, selecting the core element of the pattern, the tricurved arch shape, and abstracting it as a sea symbol. As the pattern is best seen when looking down on the sea from the deck of a boat, its selection and use as a popular marine motif is a testament to how the seafaring Minoans translated their everyday experience of the marine world into their artistic repertoire.

On larnakes the tricurved arch is shown both with and without associative marine imagery. Seven of the catalogued chests have the pattern as the main motif. A

[31] The tricurved arch pattern is also used to indicate the sea on the Master Impression sealing from Chania (Hallager 1985, 16, figs. 10-11, 12b) and it provides a marine backdrop for a boat on the 'Ring of Minos', although the authenticity of this piece has been questioned (Fig. 80).

particularly fine example can be seen on a chest from Ligortino (**L104**; Fig. 231). The motif is also found on a chest from Phourni, Archanes (**L103**), and on three more from Tylissos where it occurs on a much larger scale (**L100-102**). On other examples the motif is simplified into a chain pattern to fit the narrow border zones or lid area. An example can be seen on a chest from Knossos where the tricurved arch fills the left border, framing a panel of spirals (**L118**). Morgan notes that the filling motif inside the lower tricurved arch on this chest, a curved line with bifurcating end, is related to the sign for water used in the Theran wall-paintings and transmitted to LM IB pottery (1987, 189). Thus a water symbol is appropriately inserted inside a symbol for the sea. However, while Morgan accepts that the tricurved arch had early associations with the sea, she questions whether it retained this association in the LM III period (Morgan 1987, 189). That it did is evident from its continued association with marine creatures not just on the larnakes but also in other media, such as on the contemporary Mycenaean fresco floor at the palace of Tiryns, where tricurved arch panels alternated with those of dolphins and octopi evoking their marine habitat (Hirsch 1977, fig. 24).

One further motif had marine associations yet was not mentioned by Watrous: the scale pattern (FM 70). Like the other motifs it was used both on larnakes and in other media, such as sealstones and vases. It is interesting that the scale pattern, with its obvious marine associations, was seldom used to indicate fish scales.[32] Instead, the pattern seems to have been used to symbolise the sea. It appears on a sealing from Knossos which shows a female figure lying against a dotted scale background (Fig. 84), interpreted by Evans as a goddess reclining on the waves (PM IV, 956). The marine use of the pattern is also clear on an amphoroid krater from Palaikastro, which is painted with scales and spirals with a wavy line on the neck, the combined motifs creating a watery composition (Kanta 1980, fig. 77.1, 4). On the few larnakes where the scale pattern was used, the marine symbolism seems to have been retained, as the

[32] A rare example of such use can be seen on a LH IIIB fish rhyton from Tiryns, which is almost completely covered with scales (Fig. 37).

pattern was juxtaposed with other marine motifs, both abstract and representational (**L61**, **45**, **73**; Figs. 205, 208 and 215).[33]

Section C. Interpretation

i. Methodological Issues

Having examined the various sea creatures and abstract sea symbols we now come to the all-important question of why marine imagery was used on larnakes. Are the motifs merely decorative, snapshots of marine life, or do they have a funerary meaning? In order to answer this question we must consider the wider role of the imagery, examining how imagery works, whether multiple readings of an image were possible, and what factors determined how an image should be read.

Any interpretation of the larnax imagery must take into account the fact that the marine motifs used were mostly paralleled on contemporary pottery. In describing the sea creatures and abstract marine patterns I have highlighted the fact that the subject matter, style and composition of the imagery generally follow current vase painting trends. Not only were larnakes and vases painted with the same motifs, but research has shown that some (if not all) were painted by the same artists (Morris 1995; Tsipopoulou and Vagnetti 1997, 475). This raises an important question. Can we interpret the imagery on larnakes as funerary when the same motifs are found on pottery, much of which is from non-funerary contexts? Must the imagery have the same significance, if any, in all contexts? In his study of the iconography of the Minoan painted larnax, Watrous (1991, 303-304) acknowledged the shared repertoire of motifs between vases and larnakes, but while he argued that the motifs had a complex funerary meaning on the chest larnax, he dismissed them as merely

[33] On a tub from Pachyammos panels of scale motif are combined with an octopus and fish (**L61**; Figs. 208 and 215). On another from Milatos the interior panels of dotted scale, zigzag and papyrus suggest a watery environment (**L45**). On a chest from Pankalochori a single octopus panel is juxtaposed with panels of dotted scale on the lid (**L73**; Fig. 205).

decorative on vases and tub larnakes. Morris has argued that the idea that a motif can have a specific meaning in one context but a totally different meaning, or none at all, in another context is at odds with how symbols work (Morris 1995, 192-93). She notes that anthropological research shows that visual symbols are multi-referential, that is, that they can have many co-existing meanings, and that particular elements of meaning can be emphasised or activated through context.

If we apply this idea of motifs as fluid and multi-referential it becomes clear that the marine motifs had different yet related meanings on vases and larnakes. Two contemporary vase shapes shared many of the marine motifs with the larnakes: the amphoroid krater and stirrup jar. Both shapes are associated with liquids: the stirrup jar with the storage of liquids, the krater with mixing and display. The marine motifs are therefore contextually appropriate to the function of each vase type. Far from being merely decorative, the motifs act as meaningful symbols providing the viewer with a tantalising sense of the liquid substance contained within the vase. This phenomenon can also be seen on the earlier LM IB Marine Style pottery where a significant proportion of the shapes painted in this style are associated with liquids (Mountjoy 1984, 162-66). On such vases the meaning of the marine motifs which is activated relates to their inherent 'wateriness'. When the same marine motifs were applied to a funerary object (larnax) and funerary context another aspect of meaning may have been activated. The motifs may have acquired what Morris (1995, 193) has termed 'a funerary dimension', related to the original meaning of 'wateriness' but harnessed to specific funerary beliefs. Thus, although the artists who painted larnakes drew on the existing marine repertoire used in vase painting, through application of the marine motifs to a different medium and context they may have added a funerary element to their meaning.

Having established that the motifs *may* have had a funerary dimension on larnakes despite the fact that they were also used in non-funerary media, it remains to show supporting evidence that they *did* have symbolic meaning. Most scholars in fact agree that the larnax imagery has a funerary frame of reference. Both Marinatos (1993, 230-

32) and Watrous (1991, 302) note that the restricted repertoire suggests that the imagery on larnakes conveyed a specific Minoan belief about life after death. Betancourt (1985, 162) has also argued that the repetition of sets of images and the inclusion of religious symbols suggest that the imagery is far from casual. Although concrete 'funerary' imagery rarely appears on the Minoan larnax,[34] unlike its Mainland counterpart, we do get complex associations of imagery which may have had symbolic meaning. In the previous discussion of the multi-referential nature of symbols, context was recognised as a primary means of activating meaning. However, I am of the opinion that the various elements of meaning can also be activated by association, an idea which is well expressed in the anthropological research of Turner (1967, especially 50-57), for example. If the associated imagery with which a motif is found can help to activate its meaning, the sets of imagery noted in my discussion of motifs may be significant: the association of 'sea creature, water-bird and papyrus plant'; the juxtapositions of octopus and chariot, or marine and terrestrial imagery; and the frequent association of marine motifs and religious symbols. Such associations recur with sufficient frequency to suggest meaningful relationships. In particular, the close association with religious symbols (double axe, horns of consecration and sacred branch) suggests that the marine imagery should also be 'read' in a symbolic way. Further support for a symbolic larnax iconography can be found in Marinatos' observation that many of the plants shown, including the papyrus and palm, had sacred associations during the earlier palatial periods which may have been retained on LM III larnakes (Marinatos 1993, 231-32). In addition to the symbolic sets of imagery, we must consider the cultural biography of the object on which the imagery occurs: the larnax, an object made expressly for the tomb. The combined factors of intentional iconographic associations, funerary object and context strongly suggest that the marine imagery has a funerary frame of reference.

Before proceeding to discuss interpretation, a word must be said about the problematic issue of the tub larnax. We have seen that tub larnakes were painted with

[34] An exception is provided by the unusual *prothesis* scene on the larnax from Pigi, Rethymnon described in detail by Baxevani (1995) and listed in the catalogue (**L120**).

many of the same marine motifs as the chest type. Despite this, Watrous omitted the imagery on tubs from his discussion of larnax iconography, arguing that it may not have a funerary meaning on that larnax type (Watrous 1991, 285, n.2). His reason for doing so relates to an unfounded assumption that some tub larnakes may have originally functioned as household baths. It is thought that the shape of the tub larnax originated in the domestic tub (Rutkowski 1966, 139) and because of this point of origin, some scholars have assumed that tub larnakes are reused domestic baths (Watrous 1991, 285; Davaras 1976, 175). As this assumption has clouded interpretations of tub larnax imagery it is necessary to assess the validity of the argument for reuse.

One reason cited to support the idea is the supposed 'plug-hole'. Tub larnakes usually have a small hole near the base of one of the short sides. On the basis of analogy with modern baths this has been interpreted as a plug-hole, used to drain the tub of water during its supposed 'original' domestic use (Davaras 1976, 175). While the idea is tempting, another interpretation is possible. Chest larnakes usually have a series of holes along their base, which are thought to have served the rather gruesome function of allowing bodily fluids to drain away (Long 1974, 16). It is possible that the holes on tub larnakes also served this funerary purpose and therefore, that the tubs were made as funerary objects.

Watrous states another reason for his dismissal of the tub imagery as relating to a primary domestic use: he argues that the tubs 'lacked the elaborate funerary imagery of the chests' (Watrous 1991, 285, n.2). As the Minoan painted larnax generally did not have explicit funerary imagery, we must assume that Watrous is referring to the lack of figural scenes and religious symbols on tubs. There are no known examples of a tub with either image, to the best of my knowledge. The question is whether such motifs are necessary in order to assume a funerary meaning for the imagery. Watrous seems to think that they are a necessary determinant on tubs, but not on chests. The majority of chests do not have figural or religious imagery either, yet Watrous argues that the imagery on these chests is still meaningful, unlike that of the tubs. His

primary argument is that the imagery on chests is part of a larger funerary concept of life-after-death. This concept involves a sacrificial element represented by religious symbols, but when these religious symbols are absent (for example, on chests painted solely with marine motifs), the artist has made a conscious decision to represent *a different part* of the funerary concept (Watrous 1991, 302). Thus, the absence of figural or religious imagery on a chest is ascribed by Watrous to a conscious decision of the artist, while its absence generally on tubs is taken as evidence that tub larnakes were originally household baths and that their imagery originated in a primary domestic use. It is clear that this argument is fundamentally flawed; the absence of religious or figural imagery on tubs is evidently not a valid criterion by which to dismiss their imagery as non-funerary.

Internal marine decoration on tub larnakes may be another factor which has led to assumptions about their reuse. Internal decoration was extremely popular on tubs; as we have seen, many were painted with internal fish or other marine motifs. Such imagery would, of course, have been contextually appropriate to bathing. Take, for example, the tub from Milatos with internal bivalve shells and fish: if filled with water the fish would seem to swim around the bather (**L44**). However, the fact that the imagery is contextually appropriate to a domestic use does not mean that it was used in that way. The imagery may have been just as appropriate to a funerary context, whereby the deceased was to be symbolically enveloped by the sea in death. Indeed, the scale of much of the marine imagery inside tubs is an argument against domestic use: while a bather might feel comfortable splashing about with the fish and shellfish of the Milatos tub, bathing with the giant fanged fish on the tubs from the Petras-Piskokephalo workshop (**L26-28**, **30**; Figs. 200 and 216), might not have been so pleasurable.

An examination of the imagery on painted tubs found in clear domestic contexts shows that there are no examples with comparable imagery to the tub larnakes. While some have motifs associated with water, the representational motifs (the octopus, argonaut and fish), are not attested. The domestic baths with painted decoration are

few in number but examples have been found on Crete, at Phylakopi on Melos, and on the Mainland. The Cretan examples are all from Knossos and two come from the palace. The earliest is from the South-East Bathroom, which adjoined the Magazine of the Lily Vases. It was dated by Evans to MM IIIB and its modelled panels are decorated with sprays of reeds or grass (PM I, 579 and fig. 424). The second, from the bathroom of the Queen's Megaron, dates to LM II and was decorated with a papyriform motif framed by a horizontal row of wavy striations. Inside it had traces of a design with tufts of reeds (PM III, 385, fig. 256). At the House of the Fallen Blocks at Knossos fragments of another bath were found, with traces of a spiraliform pattern (PM II, 305). The spiral recurs on a tub from Phylakopi in the Athens National Museum and on the two painted tubs from domestic contexts on the Mainland. That from the palace of Tiryns had a running spiral pattern on the inside; the outer decoration was preserved only in traces of paint (Schliemann 1885, Pl. 24 d, e). The tub known as 'Nestor's Bath' from the palace of Pylos had a similar running spiral pattern painted in white on its interior; the tub was built into a stuccoed clay container with a step in front for easy access (Blegen and Rawson 1966, 187-88). While all of these painted tubs from domestic contexts have watery imagery, often painted inside the tub, none have the expressly marine imagery found on tubs used for burial.

I know of two examples of tub fragments with representational marine motifs which are possibly from domestic contexts, but in both cases their use in burial cannot be excluded. The first is from Mycenae, an unusual example of a chariot larnax with octopus tentacles painted on the inside (**L126**). Unfortunately it survives only in two fragments. While the context is non-funerary (it was found just east of the Cyclopean Terrace Building Area), neither is it expressly domestic. Rather, the fragment was probably discarded. French (1961, 89) was reluctant to connect this tub larnax with a burial on the grounds that the use of larnakes in Mainland tombs was rare. However, in the years since her discussion more Mainland larnakes have come to light

suggesting that the practice was not as rare as previously thought.[35] While the only burials nearby were in the fill of a well, the fact that chariots are found on Cretan chest-shaped larnakes supports the suggestion that it was a funerary rather than domestic tub.[36] The second example is the tub represented by fragments from the Royal Villa at Knossos and painted with fish (**L72**; Morris 1995). While the fact that it was found at a villa suggests a domestic function, no further details of its provenance remain so it is not possible to assess whether it had a domestic function or not.

In short, there are no certain examples of domestic baths with marine imagery to support the argument that the marine imagery on funerary tubs relates to a domestic function. Nor is there any convincing evidence that the tubs found in funerary contexts were previously used as household baths. Furthermore, the question of how such reuse would have worked on a practical level has never been discussed; upon the death of a loved one, was the household tub uprooted for burial? The argument seems unlikely and impractical. It was perhaps merely the shape of the domestic tub that was appropriated for burial use. While I argue against the idea of the reuse of tub larnakes, it is important to point out that even if some tubs had a primary domestic function and their imagery was merely reused in a secondary burial context, the motifs may have *acquired* a funerary meaning through the act of transference to a new context. There is therefore little ground for interpreting the marine motifs on tub and chest larnakes in different ways. The tub type was painted with the same marine imagery as the chests and must, at the very least, have acquired the same meaning or funerary dimension when used in a funerary context.

[35] See, for example, Vermeule 1965 who discusses the painted larnakes from Tanagra, Boeotia; further examples are discussed in Immerwahr 1995 and Marinatos 1997.
[36] Chariots recur with marine motifs on the famous Episkopi larnax (**L48**) and on a larnax from Kavrochori (**L24**).

ii. Current Interpretations

Given the likelihood that the marine imagery on both types of larnax had a funerary frame of reference, how has it been interpreted? The traditional interpretation is that the marine scenes refer to a Minoan belief in a voyage overseas to the Afterworld (Nilsson 1968, 622-30; Grumach 1968, 24-25). The idea is that the image of the octopus or argonaut would have been understood by the Minoans as a reference to the final voyage of the deceased. Watrous develops this idea further arguing for an elaborate iconography of death, the central concept of which involves sacrifice to ensure divine protection for the deceased on an overseas journey to the Afterworld (Watrous 1991, 305). Like other scholars before him, he argues that the marine motifs represent the final voyage, although he interprets some of the imagery, such as the Armenoi argonauts and the so-called 'Nilotic scenes', as representing the Afterworld itself.

The interpretation of the imagery as signifying a Minoan belief in a grand voyage to the Afterworld is strongly influenced by what is known of contemporary Egyptian belief. From the Old Kingdom onwards, the Egyptians believed that the deceased joined the sun-god Ra on his bark, which travelled across the sky by day and through the Underworld by night. A section of this journey was spent receiving sustenance in The Field of Reeds and The Field of Offerings (secket-iaru and secket-hetepu), both of which were thought of as marshy inundated areas (van Dijk 2001, 26). These were places of great abundance, where, according to the Book of the Dead, the barley and emmer grew to heights of 5 cubits, and the deceased continued to enjoy earthly pleasures, eating, drinking and making love there (Faulkner 1985, Spells 109, 110 and 149). The belief is illustrated on a scene from the Tomb of Sennedjum, at Deir el Medina, which illustrates Spell 110 (Fig. 230). Here the deceased and his wife are shown sowing and harvesting in this paradise surrounded by water. In the Old and Middle Kingdoms model boats were also deposited in tombs for the journey (Taylor 2001, 103). The Egyptian concept of water as a liminal zone between the world of the

living and the dead may have been influenced by the real journey of the mummified body across the waters of the Nile to the cemetery on the West bank.

Some scholars suggest that the Minoans partially adopted this Egyptian concept of Paradise, and that being an island people, they naturally altered its location placing it beyond the sea rather than across fresh-water. Grumach, for example, categorically states that the Minoans adopted this concept from the Egyptians (1968, 24). Long disagrees, arguing that there was a fundamental difference between the Minoan and Egyptian view of the Afterworld, as the Egyptians stressed the preservation of the body in the tomb while the Minoans did not (Long 1974, 52, n.41). Watrous, however, agrees with Grumach and as supporting evidence he argues that the larnax iconography shows Egyptian influence (Watrous 1991, 298). Since Evans first excavated at Knossos in the early 1900s it has been held that Egyptian culture exerted a strong influence on the Minoans. With the discrediting of Diffusionism as a blanket explanation for perceived similarities between cultures, the idea of local development has gained respect, but as Wedde notes 'the spectre of Egypt continues to cast its shadow over Aegeanists' (1997, 67). In order to assess the validity of the argument that the Minoans adopted the concept of a final voyage from the Egyptians, we must therefore evaluate the degree to which the imagery on larnakes is Minoan in origin and assess when and where Egyptian influence is found.

First it must be stated that the use of marine imagery is distinctly Minoan rather than Egyptian. The Minoans had developed a rich and complex 'vocabulary' of marine imagery which was quite distinct from Egypt. While the Egyptians often depicted Nilotic fish in tomb paintings, marine creatures were seldom if ever depicted; the Minoan use of marine imagery in funerary contexts was clearly not adopted from this source. Rather, the larnax painter drew from the Minoan artistic repertoire, where marine motifs had been used for centuries and were invested with complex symbolism which could be adapted to a funerary context.

However, Watrous argues that elements of the larnax imagery show Egyptian influence. He identifies scenes which show the papyrus plant with water-birds and/or fish, such as those on the chest from Vasiliki Anogeia (**L23**; Fig. 217), as 'abbreviated Nilotic' scenes (1991, 298). Yet these larnax scenes show clear iconographic differences from Egyptian papyrus scenes. In Egypt the papyrus thicket is shown as dense and lush, and is often a backdrop in scenes of fowling and fishing (Fig. 229). The scenes have a special function, emphasising fertility and the establishment of order over chaos (Miller and Parkinson 2001, 50; Kamrin 1999, 107-108). On the larnakes the papyrus scenes are very different. Human activity is not included. The papyrus appears in isolated stalks and is found with marine fish, argonauts and aquatic birds, all motifs drawn from the Minoan artistic repertoire. Egyptian influence thus seems to be limited to the inclusion of the papyrus plant. Here we must raise the important issue of whether or not the papyrus plant grew in the Aegean in the Bronze Age. In his investigation of this matter, Warren concluded that it did. He argues that variations in the renderings of the papyrus suggest that it was a known Aegean plant, painted from direct and frequent observation of living specimens (Warren 1976, 92-93). Moreover, the fact that Aegean artists were familiar with the whole plant, not just the part which produces paper, is an argument against the importation of dead specimens (Warren 1976, 92). While Warren admits the possibility that the motif was introduced as an iconographical convention from Egypt, he notes that all of the other plants painted by the Minoan and Theran artists are native to the Aegean, and that it seems unlikely that this single plant motif was adopted from abroad (Warren 1976, 92-93). His argument is convincing and it appears therefore likely that the papyrus did grow in the Aegean. It is not clear, however, whether the plant was indigenous or introduced from abroad. If introduced, Egypt is the obvious source. As a freshwater reed, the papyrus requires large amounts of still water to grow successfully and it is ideally suited to a marshy landscape. Whether such marshes existed in the Aegean at this time is unclear, but it may be that the papyrus was purposefully cultivated as a garden plant, perhaps in the gardens of the Minoan palaces and villas, as postulated by Morgan (1988, 21).

As the evidence suggests that the papyrus plant, rather than just the motif, was either native to the Aegean or introduced in an earlier period, the larnax scenes may in fact have developed independently from the Egyptian iconography and should not be interpreted as a sign of Egyptian cultural influence. Furthermore, the introduction of Egyptian imagery does not point to the introduction of their beliefs. In his analysis of the Minoan adoption and adaptation of the Egyptian 'Barque of Soker' motif, Wedde (1997, 75) makes the point that the transfer of an iconographic idea does not imply a wholesale adoption of whatever concepts were attached to it in the country of origin. He notes that a motif may be borrowed as a more adequate medium with which to vehicle a native concept; in the process there may be some 'seepage' of the original intellectual concept associated with the motif, but equally, the original message may be lost in translation as the motif is adapted to local needs and concepts (Wedde 1997, 72-73). While the papyrus may have retained some of its original associations, its new juxtaposition with marine motifs on larnakes suggests that it was adapted to specifically Minoan beliefs. The Minoan larnax imagery, particularly the marine scenes, seems to have developed within the Minoan culture, while allowing for the adoption of outside motifs such as the papyrus. Furthermore, the Egyptian funerary beliefs linking the Afterworld to water are intimately related to their own mythology and geographical experience. It seems more likely that if the Minoans did believe in an overseas journey they would have developed the idea independently on the basis of their own experience.

In support of a Minoan 'voyage of the dead' scholars also look to Homer and later Greek texts, arguing for continuity from the Bronze Age period (Delivorrias 1987, 29; Watrous 1991, 298-99). Grumach, for example, argued that the Minoans passed on the belief in a final voyage to the Afterworld to the later Greeks (1968, 24). Continuity is assumed on the basis of a passage in the Odyssey (IV.563), where Menelaus is told that upon his death the God's will carry him 'to the Elysian Fields at the ends of the earth', where the Cretan Rhadymanthus rules. Scholars associate the term 'Elysian fields' with the later Greek 'Islands of the Blessed', the standard archaic and classical expression for Paradise, but as Vermeule (1979, 229, n.58)

points out, the two may have been quite separate in concept. In fact the notion of an Afterworld beyond the sea is not found in literature until Hesiod's *Works and Days* (170f), where the poet describes how the dead live:

> untouched by sorrow in the Islands of the Blessed along the shore of (the) deep swirling ocean, happy heroes for whom the grain-giving earth bears honey-sweet fruit.

Given the time lapse, we cannot use Hesiod as evidence for Bronze Age funerary beliefs. Thus the literary evidence relies on a single Homeric passage which makes no mention of a journey overseas. Furthermore, if one argues that the Homeric epic reflects Bronze Age society it surely relates to the Mycenaean rather than Minoan culture; any information gleaned about the beliefs of the people in question cannot automatically be projected back onto the Minoans. Although the idea of a watery journey does resurface in the figure of Charon, the ferryman who takes the dead across the river Styx, Vermeule (1979, 212, n.7) notes that the fact that he is not mentioned before the 5th century BC is a strong argument against continuity from the Bronze Age.

The iconographic and archaeological evidence cited in support of an overseas journey is also insubstantial. While all marine scenes on larnakes can be argued as referring to this journey, four scenes are thought to make the idea clear. The first is the image of a large sailing ship on a chest from Gazi (**L25**; Fig. 233). It has long been held as evidence for a grand voyage to the Afterworld, the octopi on the back of the chest serving to reinforce this idea of an overseas journey (Alexiou 1972, 90-98). Watrous goes a step further: he identifies the objects in the end panels as representations of incurved altars and claims that they allude to sacrifice to ensure divine protection on the voyage (Watrous 1991, 293, 302). Boulotis (1987, 34), however, has argued that the objects may represent copper oxhide ingots and that together with the ship, they relate more plausibly to the deceased's occupation in maritime trade. Although such biographical allusions are rare, the fact that the same type of ship is also represented in non-funerary contexts, as noted by Wedde (2000, 198), undermines its identification as a funerary boat.

A boat of quite a different type is painted on a larnax from Tomb 47, Tanagra on the Mainland (**L130**; Fig. 235). The boat seems to have two or three passengers and is oared, with one upswept and one flat extremity. The raised bow appears to be anthropomorphised and in this respect it seems to resemble a class of boat often depicted on Minoan gems which Wedde (1997, 70-71) argues developed from the Egyptian 'Barque of Soker', a type of divine boat thought to transport the dead Pharoah to the heavens. The rest of the scene is too poorly preserved to make out more detail but is seems to be filled with shapes which Immerwahr (1995, 117) describes as resembling Mycenaean psi and phi figurines. She notes that the shapes are plant-like but interprets them as 'shades' and suggests that the scene may represent a boat of the dead travelling through the Underworld.[37] The imagery is intriguing. If Wedde's identification is correct and the similar Minoan boat type is derived from the barque of Soker, it is possible that the boat on the Tanagra larnax was funereal and that the motif retained some of its original meaning despite its transformation. However, too little of the scene can be clearly distinguished to be certain and as the larnax is from a Mainland context it is difficult to say whether its iconography has any bearing on the significance of the more general marine imagery found on the Minoan larnakes, or for that matter, on Minoan funerary beliefs.

The second Minoan scene is on the Episkopi larnax, which shows three figures travelling in a chariot with an octopus painted below the wheels (**L48**; Fig. 204). The standard explanation for the strange positioning of the octopus is that it symbolises the sea which the chariot must cross to reach the Afterworld (Rutkowski 1968, 226 and n.41). The obvious question, however, is why the dead are shown in a chariot and not a boat? Watrous (1991, 301) says that the chariot points to a Mycenaean influence, but does not explain how it was thought of as a plausible means of water transport. Vermeule (1979, 67) avoids the issue by describing the chariot as 'boat-shaped'. An interesting comparison can be made between this scene and that on a stele from Shaft Grave V, Mycenae, on display in the Athens National Museum. The

[37] Cavanagh and Mee (1995, 50) suggest the same interpretation: that the scene shows a funerary boat in the Underworld, although they interpret the shapes as 'a thicket of plants' rather than shades.

latter shows a horse-drawn chariot travelling over a field of spirals (Fig. 236). Although much earlier in date (LH I) it does have a similar juxtaposition of chariot and sea imagery in a funerary context. However, there is no indication that either image represents the deceased travelling across the sea to the Afterworld. While the positioning of the octopus on the Episkopi larnax is indeed strange and somewhat difficult to interpret, it does not provide clear evidence of an overseas voyage. The possibility that the motif is merely a filling ornament must be considered, although the repetition of the octopus on both the short end and lid suggests that the motif was intentionally selected for this position.

The famous presentation scene on the painted stone sarcophagus from Ayia Triadha (Figs. 237-38) is no more helpful. On the right half of the front panel the deceased is shown before his tomb, receiving gifts which include a white crescent shaped object, generally identified as a model boat. Long (1974, 48) notes that if the Minoans believed in an Afterworld beyond the sea, a model boat would be a very practical gift and one would expect such boats to be common in Aegean tombs. Instead, they are extremely rare (Long 1974, 48; Wedde 2000, 198). Model boats seem to have been deposited in tombs only sporadically. Long (1974, 48) lists examples, most of which date to the Prepalatial period.[38] The only later examples of model boats in tombs are the Protopalatial boat from Moni (discussed further below), three LC I-II terracotta models from Cypriot tombs at Maroni and Kazaphani, and a terracotta rowboat from a chamber tomb at Mycenae - although it has been suggested that the latter is actually a child's toy (Long 1974, 48).[39] These examples all predate the LM III period. Moreover, Long (1974, 48 and fig. 69) notes that the closest comparison for the Ayia Triadha boat, the model boat from Ayia Irini, Keos, was found in a ritual, rather than funerary, context.[40]

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[38] Long's examples include a limestone model of a dugout boat from an EM tomb at Christos and three lead boats from the same EC cist grave on Naxos which resemble the boats depicted on EC II 'frying-pans' (Long 1974, 48). To these we can add the clay boat with two benches from an EM II tomb at Palaikastro (Delivorrias 1987, 132, cat. no. 23).

[39] The ivory boat from Zafer-Papoura Tomb 7 has since been re-identified as a boat-shaped pyxis with a duck's head (Long 1974, 48).

[40] Model boats found in ritual contexts were discussed above in Chapter 1; examples from domestic contexts are listed in Gesell (1985, 35).

The practice of dedicating boats in tombs was no more common in Egypt at this time. In the Old and Middle Kingdoms model boats were often deposited in tombs. Taylor (2001, 103-105) distinguishes three broad categories of boat models deposited: boats made for everyday use (a necessary precaution for the dead, as boats were essential for daily life in Egypt); the solar bark (in which the sun god was believed to travel); and the funerary bark (the boat used in funerals and on pilgrimage to the Holy City of Abydos). Full-sized solar barks, intended to allow the king to traverse the heavens with Ra, are also attested from the 1st Dynasty onward. Examples include the full-sized ship buried next to the pyramid of Khufu at Giza (Taylor 2001, 105) and the remarkable set of fourteen full-sized vessels recently discovered at the burial enclosure of the 1st Dynasty King Aha, at Abydos (Galvin 2005, 114-19). However, by the 18th Dynasty, the period contemporary with the Minoan painted larnax, the practice was no longer common, although it was still sometimes used for royal burials, as at the tomb of Tutankhamun (Carter 1972, 241-45). Long's (1974, 49) suggestion that perhaps model boats were occasionally also given to Aegean rulers is plausible, but the argument that such boats would have provided transportation to the Afterworld is, again, based solely on the Egyptian parallel. The fact remains that model boats offered in Aegean tombs are too rare to represent a coherent practice. Moreover, scholars tend to overlook the possibility that the few model boats deposited in Aegean tombs were intended for daily use in the afterlife, rather than as a means of arriving there.

Before leaving model boats, one particular example - that from Moni in the Mitsotakis Collection of the Chania Museum (Fig. 239) - deserves further mention as it has been singled out as supporting evidence for the belief in an Afterworld located overseas (Boulotis 1987, fig.14). The reason is due to its strange interior - its entire hull has been filled with a pattern which has been described as 'honeycombed'. It has been suggested that the pattern represents honey which was placed inside the boat to provide nourishment on the final voyage (Boulotis 1987, 33). However, Laffineur (1991, 235) has pointed out that the cells are not hexagonal, a detail which may be due to the nature of the material, but one which casts sufficient doubt over the

interpretation. He also discounts other arguments put forward in support of the transmarine journey. For example, suggestions that Aegean tombs were deliberately located close to the seashore have been discounted on the basis that this is by no means a general rule and in reality, most are located inland. The further suggestion that even the form of the tub larnax was a symbolic allusion to the funerary boat can be dismissed as highly subjective (Laffineur 1991, 233-34).

The 'Ring of Nestor' has also been cited as evidence for a belief in an Afterworld located overseas. Evans noted that the division of the ring into four decorative zones by undulating bands seems at first sight to recall the water-courses which separate the Iaru Fields in Egyptian depictions (PM III, 147). Evans actually went on to suggest that in fact the bands also seem to resemble the Scandinavian 'Tree of the World' motif, yet his initial comments seem to have had more impact, for despite the fact that the ring shows no marine imagery, no boat or waves to suggest a journey, romantic hypotheses locating the scenes beyond the sea have since been propounded as fact. Thus Baurain states with certainty that to arrive at this Minoan Elysium it was necessary to travel in the Egyptian manner on a 'grand regenerative voyage across a liquid plain' (Baurain 1995, 114). The idea is simply fanciful and the ring provides no evidence for this belief.

Wedde (2000, 198) notes that while the idea of a Minoan belief in an Afterworld located overseas may be argued in hypothetical terms, 'it is not supported by archaeological facts'. Model boats in tombs are simply too rare to suggest a coherent practice or belief, and there is no established or well-documented imagery depicting an overseas journey. We simply cannot be certain that marine imagery on larnakes should be interpreted in this way, as it has been in the past.

iii. An Alternative Interpretation

The lack of supporting evidence suggests that the belief in an Afterlife located beyond the sea was perhaps a scholarly fancy based on later literary texts and on Egyptian beliefs, rather than an actual Minoan funerary concept. As an interesting alternative, Marinatos (1993, 231) has suggested that the marine motifs on larnakes may have served as a symbolic reference to an earlier practice of burial at sea, a practice which has been suggested to account for the lack of burial evidence in the LM I-II period, as discussed earlier (Marinatos 1993, 231; Vermeule 1979, 228, n.51). As supporting evidence she cites the lid of a larnax from Pigi where a *prothesis* scene is over-painted with wavy lines, a sea motif (**L120**; Marinatos 1997, 282). Her interpretation has been dismissed by Baxevani (1995, 25-26) however, who notes that although the idea of burial at sea is attractive it is not based on analysed fact or argued through a convincing theoretical framework. There is no convincing evidence either that burial at sea was practised or that the marine scenes on larnakes allude to it.

Instead, I propose a different interpretation, one which contextualises the marine imagery both in relation to marine biology and in relation to the other imagery found on the larnakes: that the motifs symbolise fertility and a funerary concept of regeneration. There is a marine biological argument which suggests that the octopus and argonaut were regenerative symbols. Both of these creatures have a natural ability to regenerate – if either loses a tentacle it can grow it back (Lange 2005).[41] Marinatos (1993, 195-96) has suggested that the Minoans and Mycenaeans observed this ability and therefore invested these creatures with funerary symbolism. But what is the likelihood that the Minoans were aware of this regenerative process? Marinatos does not consider the matter, but the evidence suggests that it was in fact, highly

[41] Lange (2005, 13) notes that the arms of the decapods (the cuttlefish and squid) can also regenerate, but as they are considerably shorter than the arms of the octopus these creatures suffer such injuries less often. Neither of these creatures is found on Minoan painted larnakes. In contrast, starfish, like octopi, are quite prone to losing an arm. Unlike octopi, which replace the severed tentacle only, another whole starfish can regenerate from a severed starfish arm (Wood 2003). However, while a 'star' motif is found on larnakes, it probably symbolises a celestial star rather than a starfish, as argued earlier.

likely. Octopi with partly regenerated tentacles are actually fairly common in nature and are frequently encountered by fishermen and divers (Wood 2003; Lange 2005, 5). Moreover, experiments show that during the lengthy regeneration process the new section of the arm is quite distinguishable from the stump of the old tentacle from which it grows (Lange 2005, 10-13).[42] Thus, it is very likely that Minoan fishermen would have encountered octopi with partly regenerated tentacles and recognised them as such.[43]

Supporting evidence that the octopus and argonaut were used as regenerative symbols is perhaps provided by the frequent occurrence of argonaut jewellery in tombs and the use of octopus cut-outs on funeral shrouds. Numerous argonaut necklaces have been found in tombs on both Crete and the Mainland, dating from LM II-III (Tables 17a-b).[44] These necklaces consist of multiple beads or plaques depicting either single or double argonauts all threaded together in a row (Fig. 240). While it is not certain that these items were made specifically for the grave, the fact that they were so common in tombs suggests that they had a funerary dimension. The same funerary significance can be applied to the double argonaut gold diadem worn by the woman buried in Tholos Tomb D at Phourni, Archanes (Fig. 241). A stronger case can be argued for the gold octopus cut-outs found in Shaft Grave IV at Mycenae (Table 18b: **J31**). As these ornaments would have been pinned to the clothing of the deceased they were clearly made exclusively for the grave. At least 53 of these were found in Shaft Grave IV, each showing an octopus with only seven tentacles (Fig. 242). Although the octopus is often shown with less than its full eight tentacles it is extremely rare to

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[42] In the early stages of regeneration, the new arm is considerably thinner than the old and the emerging suckers appear singly rather than in the usual double rows. Even in advanced stages the newly regenerated section can be easily distinguished, as the chromatophores of the old and new parts vary in thickness and colour, while the base of the newly regenerated arm has at least one sucker arranged singly, marking the point of growth between the old stump and regenerated end (Lange 2005, 10-13, figs. 13-16).

[43] The Romans, for example, were aware of this regenerative ability, as mentioned by Pliny, *Nat.Hist.* IX 87.

[44] Tables 17a-b describe argonaut jewellery in gold or glass paste found in tombs on Crete and the Mainland respectively. On Crete, double-argonaut necklaces or diadems have been found in tombs at Zafer Papoura, Phaistos, Isopata, Phourni Archanes, Pankalochori and Sellopoulou. On the Mainland single or double argonaut jewellery or cut-outs have been found in tombs at Dendra, Midea, Prosymna, Pylos, Dimini, Volo, Spata in Attica, and Mycenae. For examples of other marine ornaments from funerary contexts, see Tables 18a-b.

show an uneven number. The decision to do so here in a funerary context suggests that the octopus cut-outs were pinned to the deceased as talismans to ensure his regeneration. The octopi and argonauts on larnakes may have had a similar regenerative function.

This regenerative explanation may explain the use of octopus and argonaut, two of the most common marine creatures found on larnakes; the sceptic, however, might well ask how the other marine motifs relate to this concept? In many ancient cultures fish were associated with fertility and/or regeneration on the basis of observed biological behaviour. In China the ancient symbol of two goldfish shown head-to-head represents fertility, based on the observation that these fish produce many offspring. Today, fish are also a symbol of wealth as the word for fish in Chinese sounds like the word for 'abundance and affluence'. In ancient Egypt, observed behaviour of certain Nilotic fish led to their being attributed special symbolic or magical powers. The *Tilapia* fish, in particular, was associated with regeneration - as a result it was one of the most frequently portrayed fish in Egyptian tomb painting (Brewer and Friedman 1989, 77). Most members of the tilapia family are mouth brooders – that is, the females shelter their eggs and young in their mouths which are enlarged during the breeding season. Even when the young are free-swimming the female takes them back into her mouth at the first sign of danger so that the young seem to emerge from the mouth fully-grown (Brewer and Friedman 1989, 76). Because of this perceived autogenesis the tilapia fish was linked with the creator-god Atum who took his seed into his mouth and spat out the world. The tilapia therefore became a popular symbol of fertility and rebirth in the next life (Brewer and Friedman 1989, 2).[45] Another link between fish and fertility can be seen in the myth of Osiris where, according to the version recorded later by Plutarch, the dismembered body of Osiris was scattered about the land and his phallus swallowed by three species of Nilotic fish: the lepidotus, phagrus and oxyrhynchus (*De Iside et Osiride* 358). Given that many ancient societies linked fish with fertility and rebirth, often due

[45] Kamrin (1999, 113) notes that the tilapia fish also had sexual connotations, as illustrated by a New Kingdom love poem where a woman offers a tilapia as a signal that she wishes to make love.

to observed biological behaviour, it seems likely that the seafaring Minoans would have also made a connection between certain marine species and regeneration and recognised their symbolic potential in the funerary sphere.

Further support for a symbolic marine iconography lies in the fact that much of the other larnax imagery can be linked to ideas of fertility and rebirth. Floral motifs are popular larnax subjects and the use of seasonal flowers such as the lily may have been linked to a concept of cyclical renewal. Cult symbols such as the horns of consecration and double axe seem to have been associated with sacrifice (Gesell 1985, 3; Marinatos 1986, 22, 26-29); on larnakes these symbols may allude to sacrifice to ensure regeneration. The same association can be argued for terracotta lid attachments of animal heads and bucrania found on some larnakes and which seem to have had an emblematic function (Marinatos 1993, 234). In Aegean iconography, insects and butterflies seem to have been linked with rebirth on the basis of their transformative life-cycles (PM III, 149-51; Marinatos 1993, 195). A butterfly is reported on a larnax from Ligortino (PM III, 115; PM IV, 338) while further possible butterflies are found juxtaposed with marine imagery on larnakes from Adele and Maroulas (**L15**, **47**, **121**). Butterflies are also depicted on some of the gold ornaments found with the octopus roundels in Shaft Grave III at Mycenae (Schliemann 1878, 165-67, fig. 241), suggesting that both motifs had interchangeable regenerative symbolism. On larnakes the idea of death and rebirth is clearest, however, in scenes of ritual hunting in which animals are shown suckling their young. On a chest from Armenoi, for example, a goat and two horned cows have been speared by hunters while a kid and calf are shown in suckling position (**L122**; Fig. 243). There is a clear emphasis on continuity and the cycle of life and death. Suckling scenes are also shown on the famous Episkopi larnax with the chariot (**L48**; Fig. 204) and on the back of an octopus tub from Pachyammos, where a cow suckles her calf (**L58**; Fig. 244). Such scenes seem to draw a comparison between the world of man and that of plants and animals, positioning the death of the individual within the wider natural cycle.

In considering regenerative imagery, we may now return to the troublesome papyrus plant. I have argued that its use on larnakes cannot be taken as evidence that the Minoans imagined the Afterlife along Egyptian models. However, it is possible that the Minoans, like the Egyptians, associated the papyrus with fertility and regeneration. In Egyptian mythology the papyrus thicket was 'the land of birth and rebirth *par excellence*' (Germond and Livet 2001, 100). In Egyptian creation myths the marshlands were the primordial sea from which all life sprang. The papyrus thicket was also the place where the God Horus - the symbol of the rebirth of all plant-life - was born and spent his childhood, protected from Seth, the embodiment of sterility (Germond and Livet 2001, 100). Through its association with Hathor the papyrus thicket became an erotic location (Miller and Parkinson 2001, 50-51) and the image of a cow emerging from the papyrus thicket became a symbol of prosperity for the living and of rebirth for the dead (Germond and Livet 2001, 100). In Egyptian tomb painting, scenes of fishing or fowling in the marshes are highly charged with allusions to rebirth: both the fish and papyrus landscape suggest fertility, while the presence of the wife of the deceased, dressed in fine linen and highly adorned with jewellery, suggests procreation and by implication rebirth (Miller and Parkinson 2001, 50-51). Clearly, the deceased who fishes or hunts in the papyrus thicket will overcome death and be reborn, like the infant Horus (Altenmüller 1998, 90-91).

On the Aegean larnakes the papyrus is found with water symbols - aquatic birds and marine creatures - suggesting that if and when the Minoans introduced the papyrus plant from Egypt they may have retained this association with fertility and rebirth. Indeed, Marinatos (1984, 94-96) argues that the papyrus motif was used as a religious symbol of fertility in the Aegean, as it is consistently associated with water imagery and appears as part of a religious landscape in the wall-paintings of the House of the Frescoes on Thera. In view of the possible association between the papyrus and regeneration, it is interesting that the woman with the argonaut diadem in the Phourni tholos tomb was also buried with a necklace of papyrus beads (Sakellarakis and Sakellarakis 2002, fig. 128). A chest from Pankalochori provides a good illustration of this regenerative symbolism at work (**L73**; Fig. 205): the long sides of the chest

have a chain of papyrus heads suggesting fertility, a theme picked up in the sacrificial imagery (horns of consecration, double axe and bucrania) which adorns the borders, end panel and metope of the lid, while the concept of regeneration is further reinforced by panels of octopus and dotted scale on the lid. An interesting, and somewhat poignant, point to note is that this chest was found to contain the bones of a young woman with her unborn foetus (Baxevani-Kouzioni and Markoulaki 1996, 646), a fact which may have given added meaning to the use of such strong regenerative imagery on this example.

In a more general way the marine motifs also seem to suggest the fertility of the sea: the idea of the sea as a source of life (Laffineur 1991, 235-37; Marinatos 1993, 231). By painting marine imagery on coffins the Minoans symbolically placed the deceased within the fertile water. The motifs provide a marine counterpart to terrestrial scenes of fertility, represented by flowers, plants and animals (Marinatos 1997, 288). In this way the strange mixture of terrestrial and marine imagery on the Armenoi larnakes may be explained (**L18-19**; Fig. 214): the images of the fertile land and sea allude to the rebirth of the deceased and were perhaps thought to help ensure his regeneration. Another explanation for these juxtapositions of marine and non-marine imagery may be that such surreal images were intended to evoke an 'otherworldly' landscape. Both Watrous and Marinatos have suggested that some of the larnax imagery may depict the Afterworld (Watrous 1991, 296-301; Marinatos 1997, 290-91), particularly the exotic plants, such as the date palm,[46] or fantastic creatures such as the griffin which appears on the Palaikastro larnax (**L21**). It was argued earlier that symbols can have more than one co-existing meaning; it is therefore possible that some of the more complex marine scenes signified the Afterworld and that both this and the regenerative symbolism existed concurrently. Such a reading would help explain the scenes, for example, on the Tanagra larnax with its warriors walking in an 'otherworldly zone' filled with giant birds and watery spirals (**L127**; Fig. 222), and on the Rethymnon chest where argonaut and bird are one and the same creature (**L12**;

[46] For examples with date palms from Gazi, see Watrous 1991, Pl. 92 c-d, f-i.

Fig. 213). However, if the Minoans did believe in an Afterworld, its location is quite another matter - as we have seen, it cannot automatically be assumed as overseas.

Conclusion

In conclusion, the marine motifs which were so popular on larnakes seem to have had a special connection with Minoan funerary beliefs. Yet, in the absence of textual evidence the exact nature of that connection will always remain somewhat uncertain. Immerwahr has noted that without a complete catalogue of known larnakes, scholars of the painted larnax can only raise suggestions (1995, 118, n.7). For a suggestion to be valid, however, it must be based on close observation of the iconography. The way in which the traditional Egypto-centric interpretation of the larnax imagery has been perpetuated highlights the need for a hermeneutical approach to the iconography, in which the origin of ideas and methodologies used are closely re-examined. In this chapter, I have tried to re-contextualise the marine imagery in terms of its relationship to the associated imagery, to the wider use of marine motifs within the Aegean, and to Egyptian funerary iconography. The observations and suggestions made here highlight the complexity of the role assigned to marine imagery by the Minoans, a role which traditional interpretations do not satisfactorily explain. It is hoped that the alternative explanation put forward will help to explain the symbolic importance of the marine motifs in this funerary context and offer a new avenue with which to approach the imagery. Irrespective of whether the motifs symbolise a belief in an Afterworld beyond the sea or in the cyclical rebirth of the deceased, as argued here, the prominent role of marine imagery on the Late Minoan III larnax shows that the kingdom of the sea had a powerful impact on the Minoan worldview. Just as life in Crete revolved around the sea, so death was influenced by it too.

Final Conclusions

This thesis set out to examine the reasons for the popularity of the marine world in Minoan art by exploring the social and religious functions of marine imagery and artefacts in the Aegean Bronze Age. It also set out to examine how marine motifs developed over time and the cultural associations attached to marine motifs in the ancient Aegean. The first thing that emerges from my study is the longevity of the use of marine imagery, a factor which has not been emphasised in previous works on the subject. In tracing the early development of the motifs, I have shown that marine imagery was consistently popular from at least the MM III period until the final days of the Bronze Age in LM IIIC. While the first depictions of fish are found as early as EM III, the wider repertoire of marine motifs emerged in the MM II-III period when creatures such as octopi, argonauts and dolphins begin to appear on sealstones and pottery and when small-scale models of marine shells and sea creatures begin to appear in ceramic relief work. This early work paved the way for the LM IB ceramic Marine Style which is, in fact, the highpoint of a *longer* Minoan tradition of depicting the marine world in art. The early development of marine imagery in art coincides chronologically with the emergence of the first Minoan palaces. It is surely no coincidence that this interest in marine creatures came about at a time of increased interaction with the sea and that it coincides with the development of an elite palatial system propped up by the riches acquired from external trade and overseas contacts.

From the very beginning of their use in art, that is, from the Protopalatial period onward, marine imagery and objects began to be used in cult contexts, a use which continued right up to the end of the Aegean Bronze Age. This trend suggests that marine imagery had symbolic associations from the very start and that marine issues were a part of the everyday religious concerns of this island people. In the course of this thesis, it was demonstrated that many of the most beautiful marine artefacts from Minoan Crete, the stone vases with marine imagery carved in relief, the imitation triton shells, and many marine sealstones, frescoes and LM IB Marine Style vessels, can all be linked with Minoan religious ritual. In Chapter 1, I have shown that the

practice of dedicating and using marine items or imagery in cult contexts was, in fact, more extensive than had previously been recognised. While Vandenabeele (1991, 250) argued that the marine world is little present in Aegean shrines, this was clearly not the case. While the most dramatic evidence for marine-oriented cult practice comes from the Temple Repositories at Knossos, where a large collection of shells and miniature marine models were deposited for cult use, evidence for marine-oriented cult practice has in fact been found at sites all over Crete, pointing to a wider, well-established practice. Marine offerings and shrine furnishings ranged from simple shells, water-worn pebbles and water-borne pumice, to clay and faience models of fish, shells, argonauts, flying fish, dolphins and model boats. Marine imagery also decorated cult equipment - from the Theran offering tables decorated with polychrome seascapes of leaping dolphins, to the stone offering table with an incised ship from the Patsos cave on Crete. Perhaps the most striking evidence for the marine aspect to cult, however, is the use of marine frescoes to decorate the interior walls or floors of shrines. This is attested most clearly in the LM III shrine at Ayia Triadha where the entire floor was decorated with a seascape incorporating dolphins, fish and a large staring octopus. It is perhaps also attested in Rooms 4 and 5 of the earlier (LC I) West House on Thera, where cult activity may have taken place. The decoration of these rooms was strongly marine-themed, from the large-scale *ikria* or ship's cabins painted on the walls of Room 4 to the marine scenes decorating the walls of Room 5: the miniature ships fresco, celebrating and perhaps perpetuating a maritime festival, the shipwreck scene on the north wall, and the wonderful fishermen frescoes, positioned so as to lead the viewer to the marine offering table in the northwest corner of the room. As I have shown, the decoration of these rooms may represent a religious celebration of the sea and a warning against its destructive power. Such evidence is a testament to how the sea played an active role in the religious concerns of both the Minoan and Cycladic islanders.

The intervisibility of sea and shrine was found to be an important factor governing the locations in which marine cult practice took place, while the evidence suggests that further cult practice took place *in situ* at harbours and on boats. While examining the

social role of marine-oriented rituals, I observed that in the Neopalatial period there was a dramatic increase in the range and quality of marine imagery and iconography used in cult. The evidence points to a broadening of participation in marine-oriented rituals at that time. This broad trend seems to relate directly to patterns of Minoan-marine interaction as the Neopalatial period saw an expansion of overseas trade and foreign contact, and the growth of Minoan influence throughout the Aegean. As interaction with the sea intensified, so it seems did interaction with the spiritual forces thought to govern the sea. I also argued that the increased evidence for marine ritual practice in the Neopalatial period may have arisen as a direct response to first-hand experiences of the destructive power of the sea, in the form of devastating tsunami coupled with marine environmental catastrophes in the wake of the Theran eruption. Such factors may have led to increased concerns with the safety of travel by sea and with the protection of its resources.

In the methodology section I established that religious ritual involves *communication* with transcendental forces. With this in mind, I explored the issue of with whom the Minoans were trying to communicate. When Evans first identified the association between Minoan religion and the marine world, he postulated that the Minoans believed in a single great goddess with a marine aspect (PM I, 517-22; PM IV 109-10). While the issue of 'one or many' Minoan deities has yet to be resolved, I have shown that a close examination of the iconographic evidence, particularly on finger-rings and sealstones, suggests that the Minoans made a specific connection between a female figure, possibly of divine status, and the marine world. It is possible that the domain of this figure was the world of the sea and that she was the recipient of the offerings and prayers left by sailors, fishermen and maritime traders in cult contexts on Minoan Crete.

In Chapter 1, I observed that shells were among the objects used by the Minoans as offerings and shrine decoration, the most striking examples being the painted shells from the Temple Repositories at Knossos. I also highlighted the range of cultural and symbolic associations ascribed to shells worldwide, observing that they are often

presented as offerings on the basis of generalised associations with fertility and because of specific symbolic or mythological associations often sparked by the qualities of the shell itself, particularly by its colour and shape. One particular shell type seems to have had strong cultural and religious associations in Minoan Crete: the triton shell. In Chapter 2, I critically examined the evidence for the use of triton shells in the ancient Aegean, assessing the case for their use in religious ritual. My findings show that while there is strong evidence that triton shells were used as cult equipment, they were also used consistently in funerary contexts and in settlement contexts with no evidence of ritual use. This discovery highlights an important methodological error in the previous scholarship: Minoan archaeologists have often used the presence of a triton shell to support an identification of a particular context as 'cultic'; however, as the shell was in fact used in a range of social contexts, it should not be used to identify cult contexts without support from associated architecture and artefacts.

In considering how triton shells were used in antiquity, I examined the structure of shells found in Minoan archaeological contexts looking for evidence of modifications. While scholars such as Evans (PM I, 581) assumed that all Aegean tritons served as trumpets, I found that most triton shells were in fact used *unmodified* as scoops or containers, although examples worked to form trumpets or vessels were also used. My research revealed that modified or unmodified triton shells were not exclusive to any one type of context, suggesting that they had a range of uses in a variety of different social contexts. In this regard, a good parallel for Aegean triton shell use is provided by the use of the chank shell in India. The chank shell is sacred to Hindus and chank shell trumpets and vessels are widely used in Hindu religious rituals. However, like the Aegean triton, the chank also has a variety of domestic uses including use as a funnel, vessel and trumpet. In some areas of India, such as Bengal, it is ubiquitous in every aspect of daily life, as the triton shell may have been in the ancient Aegean.

Previously, the wealth of ethnographic and historical evidence for the use of conch shells worldwide had not been explored in relation to Aegean material. I have shown that comparative studies can provide an insight into how and why shells were used in the Aegean. In particular, they throw light on the ways in which conch shells were used in religious ritual. From an examination of conch shell use worldwide, I found that they are usually used in a restricted number of ways. Shell trumpets are traditionally used to call the faithful to prayer, to indicate the changing moments of ritual action, to focus the attention of both worshipper and deity, and to induce epiphanies. When used in ritual, shell vessels are sometimes thought to impart a special quality to the liquid poured through them; in Hindu ritual, for example, ordinary water poured from a chank shell becomes holy water. Such shell vessels are traditionally used to offer libations, to bathe cult statues and to anoint the hands of participants in wedding and coronation ceremonies. Such considerations highlight some of the possible ways in which the Aegean triton shells were used in ritual.

The social and religious role of the triton shell led to its depiction in Minoan art where it featured on sealstones and as one of the four main motifs of the LM IB ceramic Marine Style. In the Neopalatial period, the group of large-scale imitation shells produced for the Minoan elite provides further evidence of the cultural value the shell had acquired by that time. I have argued that these imitation shells were highly valued objects. The finest pieces were made of precious and exotic materials with a high investment of skilled labour. Moreover, factors such as texture, colour, shininess and luminosity may have governed the choice of materials with which they were made. Of the shells made of clay, many were in fact painted originally and they were perhaps once richly decorated like the conch shells known from archaeological context in Mesoamerica, which also had a high cultural and religious value. While scholars have traditionally argued that the large-scale Aegean shells were used as vessels, I have shown that they may in fact have had a range of functions, mirroring the many social uses of real triton shells in Minoan Crete. From these considerations, it is clear that the triton shell had both cultural and religious importance and was widely used in Minoan Crete.

In Chapter 3, I examined the role of another type of item thought to have had a ritual use: the group of stone vases with marine relief carving. This small group of vessels includes some of the finest marine-work known from Crete, such as the famous 'Ambushed Octopus' fragment. The degree of naturalism shown in such scenes has led to comparisons between these stone vessels and the finest examples of the LM IB ceramic Marine Style. Yet, hitherto, these stone vessels have been viewed in isolation with no examination of the development of the imagery or how that relates to the developing ceramic Marine Style. The aim of this chapter was to determine the function of these stone vessels and to position their iconography within the wider tradition of marine relief work. My analysis shows that the tradition of creating marine scenes in relief began as early as MM IA and encompassed ceramics and stonework as well as metal, faience and ivory. The ceramic relief work ranged from simple 'Barnacle' work in which marine rockwork was indicated by prickles of clay, to vessels with realistic attachments of marine creatures and shells. The marine scenes on the stone relief-carved vessels emerged from this wider tradition of relief work. Moreover, an analysis of their iconography suggests that the stone vases may in fact have preceded the LM IB ceramic Marine Style, providing some of the inspiration for the strikingly naturalistic marine scenes on these pottery vessels.

On the other hand, while the stone vases are part of a longer tradition of marine relief work, their restricted range of imagery and vessel types suggests that they had a different, more specialised function. When the surviving stone vessels with elaborate relief imagery are examined as a group, it becomes clear that almost all examples were rhyta, an item of cult equipment, while three of the marine pieces take the form of triton shell vessels, another item used in Minoan cult. Moreover, it was shown that there is a religious element to much of the imagery used on these vessels. From an analysis of the types of imagery depicted on the stone vessels, together with a consideration of their shapes, find contexts and how they were used, I have argued that these stone vessels with relief imagery were used in ritual or ritualised activities where they were carried in processions and/or used in libations. I have shown that a detailed consideration of how the vessels were actually used, how they were held,

carried, filled and emptied, helps to explain how they functioned and the choice of subject matter depicted on them. The Malia triton shell, for example, with its elaborate relief carving, is designed to function as a rhyton and this use is deliberately reinforced by the iconography of its relief scene which depicts Minoan genii engaged in a purification ritual. Moreover, when held so as to function as a rhyton, the viewer is afforded the best possible view of the imagery. Based on the restricted range of imagery found on the vessels, I have suggested that the imagery carved on the stone vessels was deliberately selected to reinforce the type of cult rite in which each vessel was used; in other words, the imagery served as 'iconographic reinforcement' (a term taken from Morris 1995). On this basis, I have argued that the vessels with marine imagery may have been used specifically in marine-oriented rituals, involving the manipulation of liquids. The stone vases with marine relief carvings thus provide a remarkable case of an object on which the imagery was perhaps designed to give it maximum effectiveness in ritual. My analysis highlights how a phenomenological consideration of the relationship between image and object can help reveal the nuances of how it functioned.

When combined with the evidence presented in Chapter 1, these two case studies provide a more holistic view of the role of marine imagery and objects in Minoan society and religious ritual. The religious use of stone vases with marine relief imagery, as argued here, also highlights the investment of resources which went into marine-oriented ritual in the Neopalatial period. This fits with a wider trend observed by Moody (1987, 238) of an increased elite investment in religious paraphernalia in this period. As a final point, we should note that there is nothing unusual about the importance given to the marine world in Minoan religion. Cults and beliefs pertaining to the sea are extremely common worldwide, particularly among island communities with a strong tradition of marine interaction. In the Bronze Age, a time before the waters of the world had been fully mapped out, the sea must have been a place of mystery, a largely un-chartered territory leading to the Great Unknown. Aegean mariners and fishermen relied on local knowledge and past experience of the waters, harbours and bays. They looked to key landmarks and to the stars for navigation, and

they sailed at the whim of the wind and other elements. The sea was a place fraught with danger, but also a crucial source of livelihood, as both the source of marine products and the means by which overseas trade and contact were conducted. Given the prominent role of human/marine interaction in Minoan society and the danger and uncertainty inherent in seafaring, the importance assigned to the marine world within the Minoan religious sphere, as outlined here, is far from surprising. What is surprising, however, is how little attention has been paid to it in the previous scholarship.

In Chapter 4, I also examined the funerary connotations of marine imagery, taking as a case study the Minoan painted larnax of the LM III period. The iconography of larnakes is a subject that has been little studied, despite the fact that many examples are richly decorated. My research has shown that marine motifs were extremely popular subjects for larnakes. At least 130 surviving examples have representational or abstract marine imagery, and on many of these marine imagery featured as the primary motif. These larnakes were catalogued together here for the first time, along with detailed descriptions of their imagery. It was shown that while there is a direct correlation between the types of motifs found on coffins and those painted in contemporary pottery, there is strong evidence that the imagery on Minoan coffins was meaningful. Given the cultural biography of the larnax - an item made expressly for funerary use - it follows that its imagery may have had a funerary frame of reference. That it *did* is suggested by the use of religious symbols on many coffins, often in juxtaposition with marine imagery. As I have shown, the limited range of subject matter on the coffins, the use of religious symbols and the repetitive combination of 'sets' of imagery all suggest that the imagery had a funerary resonance.

Hitherto, the question of why marine imagery was painted on Minoan coffins had not been answered to any satisfaction. The traditional explanation that it symbolised a belief in the overseas journey of the deceased to the Afterlife is no longer convincing. As I have shown, it is dependent on the dangerous back-projection of the belief

system of the later Greeks onto the earlier Minoan civilisation. It is also based on assumptions that the Minoans were heavily influenced by Egyptian imagery and ideas. As I have demonstrated in this thesis, the Minoan use of marine imagery was a completely independent, internal development, and the depiction of marine imagery on coffins has more to do with culture-specific artistic trends and associations than with the wholesale adoption of ideas and beliefs from Egypt. A close examination of the iconography on larnakes suggests that the 'overseas journey' explanation is at best an interesting 'theory'. In its place, alternative suggestions were considered, including the idea that the marine imagery was a visual reminder of an earlier period in which the Minoans were buried at sea. The argument I have proposed however, is that the imagery was primarily regenerative in nature, part of a wider *iconographic programme* of depicting regenerative imagery. As I have shown, the cognitive association of marine motifs, particularly of octopi and argonauts, with regeneration has a marine biological basis. This association would have been well known to the seafaring Minoans and was a natural connection to make. That the people of the Bronze Age Aegean were aware of the regenerative abilities of cephalopods is supported by the funerary use of marine jewellery and cut-outs as diadems, necklaces and shroud ornaments for the deceased, and by the fact that on some examples, such as the octopus cut-outs from Shaft Grave IV at Mycenae, the octopi are provided with only seven limbs. The regenerative theory is also supported by the associated imagery on larnakes: the widespread use of seasonal flowers, the use of butterfly motifs, religious symbols alluding to sacrifice and scenes of animals suckling their young, and the recurrence of the papyrus motif, which is thought to have been associated with fertility in the ancient Aegean, as in contemporary Egypt. This new argument is the most convincing as it alone contextualises the marine imagery in terms of marine biology and in relation to the associated non-marine imagery found on larnakes.

In this thesis I have emphasised the role of the marine world in the ritual and funerary spheres of Minoan life whilst also highlighting the wider social use of marine imagery and objects. The Minoans were not only geographically surrounded by the sea but purposefully filled their world with artistic reminders of its presence amongst

them. I have shown that the art of the Minoans is saturated with the watery marine world. It is omnipresent in every medium, from everyday items such as pottery, jewellery and sealstones, to the fine frescoes and elite products of the Minoan palaces and villas. In the course of this thesis I have discussed the everyday importance of marine products and resources to the ancient islanders and the vital role of the sea as a link to the external world and its products and ideas. This practical dependence on the sea, along with an acute awareness of its devastatingly destructive power, are indeed important factors as to why this strong marine interest in art came about, but they do not represent the complete picture - economic factors alone do not explain the enduring Minoan fascination with the world of the sea. This thesis has tried to complete the picture by emphasising the integral role of the sea within the very fabric of Minoan life. As I have shown, the marine world permeated every aspect of daily life, from the artistic, ritual and social spheres, to the final and darkest sphere of death itself. The marine world came to have a cultural resonance of its own in Minoan Crete and the sea and its creatures acquired a place within the wider Minoan cosmology and belief systems. While we cannot be sure of the exact role it played in their beliefs or mythology, the evidence presented here suggests that marine imagery resonated with meaning for the Minoan viewer.

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