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The peak sanctuaries of the Cretan Bronze Age are well-known for having a healing dimension. These ritual sites, of which around 25 are known, are characterised by both their location – on or near mountain peaks – and their distinctive finds of clay figurines of animals, humans, and detached anatomical models, termed ‘votive limbs’ within Aegean archaeology. By analogy with anatomical offerings elsewhere, these votive limbs quickly suggested to the earliest excavators, such as Myres at Petsophas in Eastern Crete and Evans at Jouktas above Knossos, that issues of health and healing were a significant element of Minoan peak sanctuary cult. Alternative interpretations of the finds – that they are parts of puppets, dolls or sacrificial dismembered body parts – are not supported by the evidence. Relatively few of the figurines can be recognised as explicitly representing illnesses, but the large category of votive limbs, including legs, arms, torsos with incised genitalia, and vertically split bodies, resonate with offerings familiar from later and more fully documented healing cults in the Mediterranean area. Indeed, the offering of anatomical models is a tradition which also finds expression in the contemporary metal tamata and wax models found in Greek Orthodox churches. The Minoan votive limbs have, somewhat surprisingly, not been studied or published in any detail. In this paper we review the study of the anatomical offerings from peak sanctuaries, considering them within the wider context of the figurine assemblages. In addition, we will explore the evidence for the processes or mechanics of healing in relation to ritual action and embodied experience at the peak sanctuaries.

When Sir John Myres excavated the mountain-peak sanctuary of Petsophas in east Crete in 1903, he found a class of finds that are often cited in discussions of Minoan religion, but which are actually little-studied and less understood (Myres 1902–3). These are the clay anatomical models or body parts, which Minoan archaeologists call ‘votive limbs’ following Myres’ insightful interpretation that they are offerings concerned with healing (ibid., 381). This group of finds, therefore, represents some of the earliest evidence for healing concerns within Greek archaeology. This material has mostly been discussed in relation to its votive role, rather than as evidence for health concerns. In this paper, therefore, we review some of the interpretative debate around these ‘votive limbs’ and offer some more considered ways in which their deeper value as archaeological evidence may begin to be drawn out.

Peak sanctuaries in context
Since the excavation of Petsophas, more than 25 peak sanctuaries have been identified (Fig. 7.1). Their identification rests on conformity with two sets of characteristic features: location – a distinctive set of topographic features; and finds – a typical shared assemblage of artefacts (Peatfield 1983; 1990). In summary, the topographic features are:

1) Visibility: on or near mountain peaks, they appear to be the most prominent local high point, and they have good views of the surrounding valleys from which worshippers come;

2) Accessibility: they can be reached in less than two hours walk from the lowland settlements, and they are close to upland pastures and fields, familiar to the herders and farmers (Rutkowski 1972, 185; 1986, 94). As noted in earlier papers, they are not – in contrast to mountain
sanctuaries in many other cultures – sites of ‘remote and arduous pilgrimage’ (Peatfield 1990, 120; 1994, 23–5). Both of these features are well illustrated with the views between Petsofas and the town of Palaikastro (Figs 7.2–3; see also Nowicki 2007 for further examples);
3) They are also intervisible with other peak sanctuaries (Peatfield 1994, fig. 2.1).

These characteristics emphasise the local, popular nature of the sites as an expression of the Minoan sacred landscape.

The primary elements of the characteristic find assemblage are large numbers of clay figurines of three main types: animal figurines (mostly domestic – cattle, pigs, sheep, and goats); human figurines (male and female); and detached anatomical models, i.e. the votive limbs. Minoan clay figurines are, of course, found in a wide range of contexts other than peak sanctuaries, but it is not simply their presence, but their presence in large quantities that is particularly distinctive. Within the figurine assemblage the votive limbs stand out as unique to peak sanctuaries, making them of central importance to any discussion of the ritual roles of these sites.

Of these 25-plus sites, around 18 have been excavated, some fully, but many only superficially. Unfortunately, little of the material from these excavations has been published, which presents difficulties for the interpretation of peak sanctuaries. Petsophas is still the best known site, followed by Jouktas, extensively excavated and reported by Karetsou in the 1970s and 1980s, and Atsipadhes Korakias, excavated by us in 1989, and reported in various articles (Petsophas: Myres 1902–3; Rutkowski 1991; Jouktas: Karetsou 1974; 1975; 1976; 1980; 1981a; 1981b; 1984; Atsipadhes: Peatfield 1992; Morris and Peatfield 1995; Morris and Batten 2000).

In terms of distribution, peak sanctuaries are to be found over most of Crete, from Petsophas on the east coast, at least as far west as the Rethymnon district of west central Crete (Fig. 7.1). There is also a shared chronology. The available evidence suggests that the first peak sanctuaries were founded late in the Early Minoan/Prepalatial period, around 2200 BC, and spread all over the island, as a popular
cult during the Middle Minoan/Protopalatial period. At least two peak sanctuaries – Atsipadhes and Traostalos – are also reported as having even earlier material from Final Neolithic/Early Minoan I. In the case of Atsipadhes a case has been made for this being a deposit of ritual rather than domestic/mundane character. This opens up the possibility that mountain locations were perceived of as having a ritual significance at a much earlier date, but given the limited nature of the evidence (material from only two sites, and the lack of continuity), it would be unwise to press the point further (Atsipadhes: Morris and Batten 2000; Traostalos: Chryssoulaki 2001, 63).

In the following Neopalatial period, from about 1650 BC, there is confirmed evidence of use at only eight of the 25 peak sanctuaries. These sites are closely associated with Neopalatial palaces and regional power centres, strongly suggesting an elite appropriation and centralisation of what had been a popular, vernacular cult (Peatfield 1987; 1990). These ‘palatial’ peak sanctuaries also have evidence of built structures, rarely more than simple stone enclosures, but still stratigraphically late additions to the sites. Only the Jouktas peak sanctuary, associated with the palace of Knossos, has a more complex, multi-roomed building. Poor, Protopalatial peak sanctuaries, such as Atsipadhes, have no evidence for structures.

This is a simplified summary of the archaeology of peak sanctuaries, but it serves to set the scene for our discussion of the anatomical models, the ‘votive limbs’, and the healing dimension of the peak sanctuaries.

Votive limbs from Minoan peak sanctuaries

As noted above, the first peak sanctuary excavators, Myres at Petsophas, followed by Arthur Evans excavating at Jouktas near Knossos, were quick to suggest that issues of health and healing were a significant element of peak sanctuary cult (Myres 1902–3, 381; Evans 1928, 153). The obvious analogies to draw with the votive limbs were the detached anatomical offerings from elsewhere in the material record, notably the offerings at classical Asklepios temples, and the medical votive offerings offered in Christian churches (Rouse 1902, 210–6, 239; de Waele 1933; van Straten 1981, 100–1, 148–9; Simon 1986, 364; Teske 1980; Dubisch 1995, 88–90).

Beyond such simple comparisons, little more has been made of these analogies, though they offer enormous potential both for developing a better understanding of the Minoan votive limbs and, on a broader scale, for a cross-cultural study of the phenomenon of making and using votive body parts in the context of healing. A comparative study of this kind could bring into sharper relief the distinctive features in each specific context and culture within a diachronic perspective: for example, choices of materials and artefact form, attitudes to the body and fragmentation, and to ritual practice and performance.

For the present, limited publication of the Minoan votive limbs is a hindrance to such research ambitions. Remarkably, the finds from Petsophas, published in 1903, still remain the best known collection of these Minoan anatomical offerings. There is, therefore, currently no corpus of finds which would enable detailed comparison either between the Minoan sites or with similar artefacts from later Greek traditions, or indeed from other potentially comparable traditions. To cite only a few examples, these wider traditions include the vast number of ancient Italic anatomical offerings in terracotta, notable for the representation of internal organs as well as external body parts (Fenelli 1975; Lesk 2002; Potter and Wells 1985; Turfa 1994; 2006), as well as the modern milagros, made from metal and from wax, best known from the Hispanic Catholic tradition (Vidal 1974; Egan 1991; Nolan and Nolan 1989, 71–8; Oktavec 1995; Francis 2007).

We are far then from being able to establish a corpus of the full range and distribution of this material. But through years of study of peak sanctuaries and their finds, including our own from the Atsipadhes excavation, we are in a position to present an informed review of the material. Firstly, with the excavator’s perspective, it is important to be able to distinguish anatomical models from anatomical fragments, i.e., pieces broken off from fully made human figures. This is sometimes difficult when a piece is worn, but it is

Fig. 7.4 a–c. Votive limbs from Petsophas: arm, leg and split torso (photo: Alan Peatfield)
Fig. 7.5. Votive limbs from Petsophas as published by Myres (after Myres 1902–3, pl. xii)
the presence of finished edges around the piece, rather than a broken edge, that indicates the model. Many, but not all of the Minoan votive limb models, also have one or more pierced holes at one end or the corners of the piece. This suggests that a period of suspension formed part of the use or ‘life cycle’ of these anatomical models. We shall return to this feature later. The range of modelled body parts is quite consistent. Most obvious are the true limbs: arms, hands, legs and feet. There are also torso models, particularly of the lower torso, and vertically-split half-bodies, head to foot (Fig. 7.4).

Heads are usually included in the lists of ‘detached’ limbs alongside the arms, legs and partial torsos; they are, for example, illustrated on a plate showing votive limbs in the Petsofas report (Fig. 7.5; Myres 1902–3, pl. xii, 36–40). Comparisons can readily be made with the terracotta votives from the Corinth Asklepieion, or with the extensive Italic votive deposits, where separate heads are clearly present in the votive assemblages, but we urge a note of caution here in relation to the Minoan material. In his report Myres notes correctly that the ‘detached heads’ are separately modelled, and he specifically describes the different construction forms these take: from ‘mere peg’ and tapering ‘to a sort of wedge’ through to more elaborate ‘shouldered busts’ (Myres 1902–3, 375). This is not necessarily because they were intended as detached body parts, but because this is how Minoan clay figurines are made, i.e. in several pieces joined together. At Atsipadhes, heads with a variety of construction forms, including sharply angled pegs and squared neck/shoulders, have been found to attach to torsos to form part of complete figurines (Fig. 7.6). Whereas a limb with a pierced hole and clearly finished edges can be assigned to the anatomical offering category with confidence, the situation regarding heads is more ambiguous, making this an area which would repay more careful study.²

Before discussing the evidence in more detail, we should comment briefly on alternative interpretations, since some scholars have doubted the association of the Minoan votive limbs with healing. Rutter, for example, has suggested that they could be body parts belonging to complete figurines or ‘dolls’ (Rutter n.d.). The arms and legs do bear some resemblance to the jointed or articulated limbs of ‘dolls’ known from Archaic and Classical Greece (Elderkin 1930). There are, however, no preserved Minoan torsos perforated and socketed in such a way that they would fit together with limbs. Moreover, it is important to draw attention to the fact that the peak sanctuary torsos are deliberately formed as partial body torsos emphasising a particular body feature, and not as complete torsos, thus making the doll or puppet hypothesis untenable.

In the early years of Minoan discovery, that great scholar of Greek religion, Martin Nilsson noted the absence of body parts such as eyes and breasts, which are well represented at later healing sanctuaries, and he puzzled over the half-

Fig. 7.6a–c. Clay figurine heads from Atsipadhes, showing various forms of shaping and pegging for attachment to the figurine body (photos: Alan Peatfield)
bodies, ‘cloven from crown to groin’ (Nilsson 1950, 74). Nilsson tentatively suggested that the votive limbs were simulacra body-parts, associated with a sacrificial-like ritual, ‘in which living animals, human puppets and miscellaneous objects were thrown into the fire’ (ibid., 75). He does admit, however, that this is a ‘mere guess’, and that he finds the body parts ‘enigmatical’. Subsequent exploration of peak sanctuaries requires modification of the view that sacrificial bonfires were a consistent, central aspect of the cult, since evidence of burning is completely absent from some sites. Following Nilsson’s line of argument, Dietrich later suggested that the body parts should be interpreted as a ritual of dismemberment, suggesting that the limbs were remnants of a kind of proto-Dionysiac human sacrifice, the ‘savage worship performed for a great goddess, a worship which fell into disuse at a relatively early time’ (Dietrich 1969, 269; 1974, 302). Most recently, dismemberment has again resurfaced as an interpretation for the votive limbs at Petsophas, with the suggestion that they should be linked to the dismembering of the body of the Egyptian god, Osiris (MacGillivray, Driessen and Sackett 2000). Among the many reasons for rejecting this ‘Osiris hypothesis’, we mention only the presence of female body parts amongst the finds from Petsophas (Rutkowski 1991, pl. xlv.4, 10; also on display in Ayios Nikolaos museum from Davaras’ later excavation of the site).

The observation that the Minoan votive limbs appear less varied than the assemblages from later healing sanctuaries merits further comment. This presupposes that the Minoan offerings should exactly mirror the later votive assemblages or indeed that these are all closely similar to one another. As noted above, Nilsson found this problematic, and, in the absence of modelled eyes and breasts recorded in classical sanctuaries, wondered if ‘the people of Petsosfa suffered only in their legs, arms and heads’ (Nilsson 1950, 74). With respect to the focus on limbs, study of Etruscan and also Roman terracotta anatomical offerings shows that limbs can indeed have a high visibility, since ‘in rural or pre-industrial populations, walking and working are of prime importance, and healing of hands and feet is commonly sought’ (Turfa 2006, 105). It is easy also to overlook the point that the Minoan votive limbs are true figurines, that is, miniature offerings, whereas the comparable terracottas from the Asklepieion at Corinth or the numerous Italian sanctuaries are closer to life-size (Corinth: de Waele 1933; Italy: Lesk 2002; Turfa 2006). The pierced legs from Petsophas, for example, fall in the range of 8–11 cm in height (for comparison, complete standing figurines range around 11–17 cm). At this kind of scale, separately modelled elements such as eyes and breasts would be impractically tiny, and if we speculate for a moment that concerns for these parts of the body could be represented in the Minoan finds, then it might be as part of a head of torso (or even a complete figurine). This indeed seems to be the case with the lower torso models that explicitly depict the female genitalia. Finally, it is important to emphasise again that our knowledge of the Minoan material is based on a limited amount of data, and that only fuller study and publication of additional sites will help to clarify whether there are other, as yet, unidentified body parts within the material, and whether the votive limbs are more characteristic of some sites, regions or phases than others.

Fig. 7.7. Traostalos seated female figurine with swollen leg

Representing ailments?

Returning therefore with confidence to the healing interpretation, we can review and explore the material evidence in more detail. First, there are some unusual or exceptional finds (not known to earlier writers such as Nilsson) which offer further strong support for the role of healing on peak sanctuaries. Although few in number, these finds clearly show illness or pathology. In other anatomical offering traditions explicit representation of ailments is also relatively rare. At Corinth, de Waele notes a leg with swollen
arteries, a hand with a tumour, and hands with bent fingers, perhaps arthritic (1933, 443–4), but these seem to be the exception alongside large numbers of anatomical models without pathologies. There are a number of possible reasons for this. If the offering is in thanks for healing (ex-voto) as opposed to an offering making a request for healing (both are widely attested), then a representation of a healthy body part might be expected. The manufacturing process for many of these offerings was, and is, one which favoured standardised or ‘off-the-peg’ offerings – whether the Corinthian mouldmade terracottas or metal reliefs such as Greek tamata or Hispanic milagros – which show the relevant body part but not the specific ailment. More simply, representation of the ailment may have been considered unnecessary or even inappropriate since the offering would most probably be made in a wider ritual context involving prayers and performance.

The Minoan figurines were handmade, and therefore the manufacturing tradition was more permeable both to individualisation and to stylistic variation. A good example of a highly individualised offering is the well-known, seated female figurine from Traostalos that has one heavily swollen leg (Fig. 7.7; Davaras 1976, 246, fig. 138). Normally, female figurines are shown wearing a bell-skirt – hence, the figurine maker has departed from convention in order deliberately to emphasise the legs. Attempts to interpret the pathology of the leg have included suggestions that the larger left leg shows elephantiasis or lymphedaema (Peatfield 1990, 122, fig. 10; Arnott 1999, 4). Robert Arnott has more recently proposed that it is the right leg that shows the pathology, ‘possibly a necrosis’ (Arnott forthcoming, pers. comm. April 2009). These different diagnoses underline the difficulties in interpretation, but the unusual form of the figurine and the obvious differences in leg size make it clear that the intention is to show an ailment.

The current excavator at Traostalos reports another figurine, a male head which seems to show a ‘protruding thyroid gland’ (Chryssoulaki 2001, 62). Several of the Atsipadhes figurines also have unusual protruberances in the throat area created by an applied clay lozenge, but it is not clear to us whether this is an attempt to show an ailment or to represent a distinctive neck ornament, given that arm bands and bracelets are also added in clay. It has been observed too that some of the hand/arm models from Petsophas portray a distinct puffy or swollen quality, very different from the slender lines of arms attached to complete human figurines (Rutkowski 1991, pl. xlv, 14–15; Arnott 1999, 4). Similarly there is at least one arm model from Petsophas with an emphasised thumb. Also from Petsophas, there are several figurines which clearly portray pregnant women.

The quality of selectively emphasising anatomical features is one of the things which separates the votive limbs from the complete human figurines. The whole point of the votive limbs seems to be to emphasise certain body features. We have already observed enlarged leg, thumb, bellies, but this emphatic quality is nowhere more apparent than on the female lower torsos. These draw attention to the female genitalia by deeply incising the pubic triangle and vulva (Fig. 7.8; see also, Rutkowski 1991, pl. xliv, 4, 10; and numerous examples on display in Alos Nikolaos Museum). Another example from Zou Prinias shows a deeply incised vulva, bordered by incised pubic hair (Davaras n.d., fig. 42).
Such explicit depictions of female genital nudity are remarkable, because nowhere else is it portrayed in Minoan art. There are also comparable male torsos, similarly pierced for suspension. This strongly suggests that all these representations are purposefully made to indicate, if not the symptoms, then certainly the location of concern or affliction. They show concern both with healing from illness and with health or protection for the body (for example, in pregnancy). In this way the Minoan models truly are similar to the Asklepios anatomical models, and to the modern tamata, which explicitly portray the relevant body parts. Within this context the ‘enigmatical’ half-bodies, split vertically, are also understandable, when one considers how strokes or similar disorders can paralyse entire sides of the body.

As noted above, another distinctive feature of the Minoan votive limbs is their small size. This contrasts with the later terracotta models which are substantially larger, often lifesize. The small size relates to the general portability of the peak sanctuary figurines (Fig. 7.9). Many, though not all, of the votive limbs have one or sometimes two perforations, suggesting that they were intended to be hung. Modern traditions illustrate this vividly, whether with the tamata in Greek Orthodox churches, typically strung around icons, or Spanish milagros arranged for display on walls (Fig. 7.10). The Classical Corinthian terracotta models were pierced for suspension and display on the temple walls (De Waele 1933, 443; Lang 1977), and this practice is also illustrated by a Boiotian vase where two legs and a hand hang on a wall behind a ritual scene (Rouse 1902, 221, fig. 33; Lang 1977, 18, fig. 16). According to Pausanias’ description, votives at the Sikyon Asklepieion were also hung from the ceiling (2, 10, 3). Not all anatomical votives, however, were designed for hanging, a good example being the Italic terracottas which were not pierced (Lesk 2000; Turfa 2006).

In the Minoan case, suspension for display and as part of a ritual are likely, though in comparison to the later examples described above which occur within a built environment, such practices would have been constrained by the rocky nature of the peak sanctuaries, and the absence of buildings on many of them. The possibility that the anatomical offerings could also have been worn on the body prior to final deposition on the sites also deserves consideration. However, a more generalised life-use as protective charms or amulets would seem to be ruled out by the absence of these clay votive limbs from contexts other than peak sanctuaries. There may be some conceptual and functional overlap with the earlier amulets found in the Mesara tombs, particularly the foot amulets (Branigan 1970; Pini 1972; Watrous 1995). The meaning, however, is unlikely to be exactly the same as for the votive limbs, given the differences in materials, context and chronology.

When looking for evidence for illness and pathologies both on the anatomical body parts and on complete figurines, we stress the importance of being aware of the manufacturing process of the figurines and of their stylistic features. The figurines are usually modelled from several pieces of clay, which are joined more securely through the use of shaped clay pegs, for example at the neck or at the join between torso and skirt. Details of bodily form are rendered through moulding and simple pinching of the clay: rolled clay strips and pellets are used for eyes, ears, hair-locks, jewelry and belts, and details may also be pierced, impressed or painted. Lopsided or asymmetrical faces, and other lumpy or irregular features, have been interpreted by a number of scholars as evidence of specific pathologies. For example, medical specialists have suggested that a head fragment from Jouktas shows ‘abnormality which may be showing a bilateral congenital facial cleft’, though they note the view of the excavator, Alexandra Karetsou, that the features are due to the style of the figurine (Velegrakis et al. 1993, 880–1, fig. 4). The authors also suggest that the asymmetry of the face of a figurine fragment from the site of Piskokephalo may be attributed to ‘facial nerve weakness’ (ibid., 880–1, fig. 5). In this case the view of the excavator is not known. A fragmentary female figurine from Vrysinas in western Crete is described as having ‘a pointed base for
depositting at the sanctuary' and as having 'possible multiple pathologies' (Tzedakis and Martlew 1999, 263, fig. 263). The pointed bell base is the peg for attachment of the torso into the typical bell skirt worn by female figurines, and it also has the characteristic belt applied as a clay strip around the waist. While the figurine undoubtedly lacks elegance and has lopsided facial features, this is of itself not unusual within the stylistic range of peak sanctuary figurines. The divergent views of the excavator and the medical specialist concerning the Jouktas head fragment neatly illustrate the difficulties of interpretation and underline the importance of considering the manufacturing processes and stylistic range of the figurines in tandem with suggested pathologies.

In contrast to the well-known, elegant figurines which are repeatedly illustrated, many peak sanctuary figurines are lopsided, and others may seem barely human in their stylised forms to those not familiar with the material. Asymmetry of the face is quite common, and is in many cases the result of the way the head is formed from a rounded ball of clay with the eye sockets hollowed by the thumb and forefinger. In other, more fully documented, cultural contexts, anatomical offerings for healing more usually show a healthy representation of the relevant body part. This could provide an alternative model for thinking about the Minoan material – leaving explicit representation of illness in only some cases. The way forward here must be a closer collaboration between scholars with medical expertise and figurine specialists who are attuned to the formal characteristics and stylistic variants within the material. This, together with a clearer picture of the distribution and types of anatomical offerings across all the peak sanctuaries, will allow a deeper understanding of the healing dimension of Cretan Bronze Age religion.

Notes
1 This map reproduces the distribution of sites for which there is broad agreement in the literature. It is mostly the same as we have published elsewhere (Peatfield 1992), but with additions and omissions, based on more up-to-date reports. There are other sites suggested recently as peak sanctuaries (Nowicki, 2007), which we have not yet personally examined. More broadly, the theme of this paper precludes detailed discussion on topographic terminology and function.
2 Rutkowski, who restudied the Petsophas figurines, was also aware of the methodological difficulty of distinguishing between these two potential categories: 1) heads made as detached offerings; 2) heads which had become detached from complete figurines (Rutkowski 1991, 33).
3 Suggestions for other body parts include a liver or womb (Rutkowski 1991, 116), and possible embryos (Arnott 1999, 3).
4 We thank him for sharing this info with us (pers. comm. April 2009).
5 Piskokephalo is described as a peak sanctuary by Velegrakis et al. (1993) and elsewhere in the literature, but it does not display the combined topographic and finds features which are considered characteristic of these sites.

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