

Ambiguous Snake Manipulations: The ‘Powers’ and Entity of Health in Antiquity

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In antiquity, many animals, including reptiles and amphibians, were considered primal in the hierarchy of the animal kingdom, and were valuable in manipulating the health of societies through their daily lives. Animals could influence health in a positive sense or a negative realm, and their use in these two manners was practiced in both private and public settings. Snakes (anguis, serpens; δράκων, ὄφις), which are found to dwell at the sub-terrestrial (ground) level, were among the most powerful symbols of the profound, ambivalent, and natural forces. It is the prototypical image of this subterranean animal that is associated with the ambivalent natures of medicine and health.¹ In the modern day, they have colonized every continent, and in the Mediterranean, particularly, in Greece and Italy, there are roughly twenty types, including the ‘*Elaphe longissima*’ and the ‘*Elaphe quatuorlineata*’.² Kenneth Kitchell Jr. argues that, in antiquity, exotic forms of the snake, such as the asp and viper, entered the folklore and traditions of the Italians through the means of exploration and trade, as with the python which originates from Africa and India. Since the earliest known records of ancient civilizations, it is clear that the snake played a significant role. Moreover, its role has been as an enigmatic creature with supernatural powers, as a protector of wisdom and eternal life, or as a perpetrator of evil and death.³ In Graeco-Roman antiquity snakes appear in many spheres, including depictions in art, myth and healing cult. What is discussed in this paper is the physical uses of snakes and their products in the contexts of the household, individual healing

¹ Kitchell Jr. 2014, 173.

² For the remainder of this paper, ‘*Elaphe*’ will be shortened to ‘*E*’.

³ Retief 2005, 189.

and the prophylactics. Of course, snakes were connected to health by other means, symbolically, in myth and in imagery, all of which reveal the snake's involvement in healing cult in this regard, which is examined later on.

There is this uncertainty of the snake's function as it has a multitude of faculties which causes researchers to have to peel away each role to deduce the core purpose of the snake's existence. It is unclear exactly where these meanings, regarding the snake, originated due to a lack in literary evidence, however through the means of archaeology and other ancient writings, the snake has reappeared to the modern eye as a symbol of our own healthcare system. When studying the snake, there is a line to draw from the evidence; on the one hand, is the understanding of the animal's habits and 'powers'; and, on the other, is the imaginative forms and characteristics people have endowed upon the snake. The former is considered as the primary course of this study, while the latter is discussed only in partial here. This research, too, notes the symbolism regarding the snake's integration into healing practices, including its artistic representations. The objective of the research is to address the snake as an ambiguous creature with great potency in the context of health, as a symbol and physical entity that was both beneficial and dangerous to one's health through the means of mythology, artistry, and in the flesh.

i. The Ambiguity of the Snake

Snakes in general were these unblinking, skin-shedding reptiles that were able to appear suddenly from the ground. Evidently, it is the very nature of the snake that makes this particular animal potentially an anomaly in any classification system. It is an unusual creature, yet common, that symbolizes both life and death, healing and harm. The following reasons make this so: it is a creature that lives on land, yet has no legs; swims in the water, yet has no fins; that dwells in the tress, yet has no wings – one can argue that it is an abomination created as an ambiguous entity of nature.⁴Snakes were profoundly sacred creatures in Greece and Rome as the image of the snake was used to represent both a spirit of life, Agathos Daimon, and reincarnation.⁵ According to Ramona Morris and Desmond Morris, scholars such as Jane Harrison believed that the snake stood

⁴ Lawrence 1978, 139.

⁵ Morris and Morris 1965, 46.

for the renewal of life, and this renewal could be completed by means of medicine, lineaments and charms.⁶ People in antiquity believed that the snake was associated with the dead, since there was an association between the snake and the ground where it dwelt. The snake also had the ability to heal the injured and the sick. This ambiguity of whether the snake was connected to life or death is important to the study of health and the meaning behind the snake as a symbol.⁷ As a whole, the snake's role can be considered endless, as everything begins and ends with its mouth, an ouroboros trait as it were, whether it has a positive or negative effect.⁸ There is this uncertainty, however, of the snake's function as it has faculties that are toxic to health and others that are positive for healing, therein it became a symbol of mental and physical health, a protector and a fertility symbol.⁹ What is more, snakes had a physical role in medicinal practices that were derived from its parts, which is discussed below.

The snake appears as an animal that was connected with the gods and was closely associated with them, in respect to religious worship, cult practices and healing traditions.¹⁰ Not only was the snake able to create life, in religious and healing aspects, it could also preserve it.¹¹ Tamed snakes were said to have been kept in sanctuaries and dwellings as 'geni loci', or as representations of divinities in certain sanctuaries, such as those dedicated to Asclepius, or as a deities' attribute as in the case of the god Mercury, who had the liminal connection with life and death.¹² These associations may help explain the remains of physical snakes and depictions of them in the archaeological record. For example, snake remains were found at the Sanctuary of Poseidon in Kalaureia that may have a connection with the cult of Asclepius.¹³ Healing cults manipulated the snake, specifically the 'E. Longissima', as an image, as a mythological symbol, and as a remedy that had the ability to heal a patient. These uses could have a positive or negative affect on a person, which ultimately reflects on the snake's ambivalence in its multitude of roles. It was not only considered to be symbolic in healing, but also of religious value. The image of snakes themselves, generally, provided

⁶ Morris and Morris 1965, 73.

⁷ Mylona 2013, 156.

⁸ This idea of the ouroboros trait is examined further in my current research on snakes as biomedical objects, their typologies, and their correlation with ailments in the Roman world; Bakowska-Czerner 2015, 28.

⁹ *HHA*p. 3.356.

¹⁰ Morris and Morris 1965, 50.

¹¹ Williams 1999, 475.

¹² Lazenby 1949, 248; Stafford 2005, 130; Williams 1999, 475.

¹³ The snake bones found at Kalaureia is discussed in detail below; Morris and Morris 1965, 50; Mylona 2013, 149.

significant symbolic parallels that connected them with scenes that depict libations of the ‘genus’ and honour snakes as inanimate objects; again, all could have ties to health.¹⁴ The sacredness of the snake was considered in myth as well. In mythological tales, for example, snakes had the knowledge of life-restoring herbs, through their knowledge as oracles, that could heal the sickly.¹⁵ The medical knowledge accredited to the snake could be offered to the ailing in various ways, such as through the image of the snake during the incubation period, and in real life.¹⁶

During the Roman Empire, a tribe, from the Italian region of Abruzzi, known as the Marsians were famous for their knowledge of snakes. The term ‘Marsian’ came to mean snake-handler, whom were more than just charmers and sellers of poisons and antidotes; the men of this tribe were commonly seen at vendors of drugs and remedies. They would frequently sell snakes as a whole, parts of them or their bodily fluids for daily uses.¹⁷ Galen mentioned that he ventured to their region to learn about their culture and their connection with snakes.¹⁸ Over time the handling of snakes was widely incorporated outside of the markets and placed into mystery cults, such as the cult of Asclepius and the cult of Bacchus.¹⁹ The snake was a constant companion of medicine and ‘magical’ practices, whether they were used as a positive or negative manipulation on health. It was also considered to have a connection with misfortune, most effectively symbolized by Medusa, who, some argue, had the ability to use these snakes to turn people to stone.²⁰ This duality of the snake as a positive and negative manipulator on health is apparent from the examples given above, yet the snake’s ambiguity included other associations, including its role as a pet in the household.

In the modern world a pet is presumed to be a dog, cat or fish, but as of recently exotic animals, such as monkeys, bearded dragons and chinchillas have been domesticated as pets. Generally, a pet is an animal in which the owner/human invests their time or resources to care for it, and the owner does this out of pleasure for the animal’s presence in the home.²¹ In antiquity, dogs and birds appear to be common pets in society, yet in some literary sources, including myth, some

¹⁴ Flower 2017, 70.

¹⁵ *HHAp.* 3.356; Alves *et al.* 2013, 17.

¹⁶ Morris and Morris 1965, 72.

¹⁷ Lawrence 1978, 138; see ‘Further Reading’ below.

¹⁸ Lawrence 1978, 138.

¹⁹ Morris and Morris 1965, 50.

²⁰ Howe 1954, 220.

²¹ Kitchell Jr. 2014, 148.

prominent men had pet snakes and treated them as though they were dogs.²² Ajax, for example, had a pet snake that followed him around like a dog.²³ The snake as a pet in antiquity seems odd, but its character as a pet could be seen in line with its dualistic nature elsewhere. Pet snakes were sometimes referred to as ‘dracones’, a common snake in the Mediterranean, which implies that they were fairly large and non-poisonous.²⁴ According to Francis Lazenby, household snakes appear to be the same type, the ‘*E. longissima*’, which was common in Epidaurus and Italian regions.²⁵ However, scholar Liliane Bodson argues that these harmless ‘dracones’ are, instead, the ‘*E. Quatuorlineata*’.²⁶ Louise Calder argues that surviving accounts from ancient Greece suggested that pet-keeping was a common practice since the role of animals could vary.²⁷ Harmless snakes, the ‘*E. Longissima*’ and ‘*E. Quatuorlineata*’, were kept in ancient households to destroy vermin and were known as ‘*muthēra, muraria*’, or to guard the ‘*penates*’.²⁸ Considering the evidence from the archaeological record, it is evident that some people in antiquity had some attachment to their pets, to the extent that after the pet passed away, the owner would bury it with some form of token of emotion, such as its collar, toy or a treat.²⁹ These pets were sometimes recreated in statuary, such as the marble statue of a young girl with a dove in her hands and a snake slithering upwards beside her, housed in the Capitoline Museum; the full meaning remains unknown without an inscription.³⁰ It is unclear, however, if this was executed with pet snakes as there lacks archaeological evidence to verify this cultural practice being performed.

In addition, pets could enhance the emotions and health of a human, as a human could isolate themselves through the means of their animal.³¹ It can be argued that this positive presence in the household was useful in continuing a fruitful and protected family.³² A companion animal, as viewed in a public setting, was not only a sign of possession on display, but also could convey

²² Calder 2017, 63.

²³ Philostr. *Her.* 9.1; Lazenby 1949, 248.

²⁴ Jennison 2005, 130; Pliny *NH* 29.72.

²⁵ Paus. 2.28.1; Mackinnon 2014b, 277.

²⁶ See Kitchell, Jr. 2014, 61.

²⁷ Calder 2017, 63.

²⁸ See McDermott, *op. cit.*, 292 no. 492 = Lazenby 1949, 248; Mackinnon 2014b, 277; Luc. 4.185; Paus. 2.28.1; Livy 10.47; Lewis and Llewellyn-Jones 2018, 578.

²⁹ Calder 2017, 64.

³⁰ Mackinnon 2014b, 277; inv. no. MC 738, Capitoline Museum, Rome.

³¹ Retief 2005, 190.

³² Jennison 2005, 20; Lewis and Llewellyn-Jones 2018, 578.

relevant information about someone's stature to the public eye.³³ Furthermore, in antiquity, pets, especially the exotic, could increase the prestige of someone's social status and their wealth.³⁴ This can be seen explicitly in Greek and Roman wall paintings and frescos, like the Lares, as they depict snakes among the people in the painting, further the skill of these Lares paintings would be dependent on the skill of the artist and the cost to be crafted. Suetonius said that the emperor Tiberius (r. 14-37 CE) had a pet snake which he fed with his own hands.³⁵ Seneca described 'dracones' climbing onto tables and climbing all over their owners (possibly during dinner parties).³⁶ In addition to Tiberius, Nero (r. 54-68 CE) had a pet 'draco', while Elagabalus (r. 212-222 CE) had both poisonous and harmless snakes as pets.³⁷ This familiarity with the snake in society, as a pet, makes the ambivalence of the snake seem rather straightforward, except that the role of the snake is more than just a pet and protector of the house, it had associations with the life and death, harm and healing, causing the common and familiar creature to continue to have unusual associations in antiquity.

The snake's duality, a symbolic representation of the struggle between life and death, as well as of resurrection and immortality, defines the snake's ambiguity. However, this duality may not be evident in all the sources, either material evidence or ancient writings, as biased opinions could present the snake being associated with one aspect but not another, when in fact, the snake had multiple associations.³⁸ There is a curiosity as to why the snake had a role with death since the snake could crawl out the ground as it pleased, a liminal trait, while the deceased may be buried, unmoving, in the same place. Moreover, its associations with the ground, death and the soul allowed the snake to have multiple representations in antiquity. According to some literary evidence, the snake was the embodiment of the soul of the recently deceased.³⁹ These notions of the snake having a connection with the dead is difficult to demonstrate definitively in the literary evidence, but a connection can be made with the snake and the decaying body, as a snake can shed its old

³³ Calder 2017, 66.

³⁴ Calder 2017, 64.

³⁵ "Erat ei in oblectamentis serpens draco, quem ex consuetudine manu sua cibaturus cum consumptum a formicis invenisset, monitus est ut vim multitudine caveret": Suetonius *Tib.* 72; Jennison 2005, 130.

³⁶ Kitchell Jr. 2014, 61.

³⁷ Lazenby 1949, 248; For Nero, see Tacitus *Ann.* 11.11 and Seneca *De Ira* 2.31; For Elagabalus, see Lampridius *Antonius Helogabalus* 28.3.

³⁸ Williams 1999, 475.

³⁹ Antoniou 2011, 218.

skin similar to that of the decomposing individual; the imagery here being that the snake is decaying itself but is renewed with youthful scales, a symbol of revival and infinity.⁴⁰ Snake sloughs were considered to have protective and curative powers and was used for both of these processes perhaps on the logic that their skin would, hypothetically, retain the properties used by their former owners; for example, an individual's amulet which had been given to another individual.⁴¹ These old superstitions, as they could be called, reflect the snake's symbolism as the prolonger of life, insurer of fertility and producer of poisons. Further, these so-called superstitions were seen by members of society, such as healers, through a haze of ambiguity and animism since the properties of the snake, imaginative or real, could not be one in the same.⁴² Rather, these 'powers' the snake possessed were conjoined with medicine and health in antiquity.

People in antiquity assumed that everything in nature must be potentially harmful or helpful; this included plants, animals and the elements. The challenge here is distinguishing the strange and dangerous from the positive and beneficial. Snakes fulfilled both these roles in antiquity, as they were linked with healing, along with cult, ritual and daily life, but were also strange and dangerous creatures.⁴³ This association of the snake and medicine, with life and death, has been argued to stand as a natural symbol of the most powerful forces in the cosmos.⁴⁴ The snake had the ability to heal and people would use its products or other forms of the snake for health benefits and remedies. Pliny listed multiple uses of the snake's body parts, as ingredients, and their uses towards healing and harm, which is examined below. Even the snake depicted on the staff of Asclepius represents the art of healing and the knowledge gained by the healer, in other words, how to cure someone's illness.⁴⁵ The snake's healing 'power' has survived through various theories for its use, as it is simplistic to consider the snake as having just one association. The snake was more than just an ingredient in medicine, it was and still is a powerful symbol of healing.⁴⁶ The snake could be argued as the good part of a bad situation, the silver lining, between life and death, since its ambivalent roles could go either way, particularly between healing and harm. Considering that the

⁴⁰ Alves *et al.* 2013, 17.

⁴¹ Morris and Morris 1965, 73.

⁴² Morris and Morris 1965, 72.

⁴³ Mackinnon 2014b, 277.

⁴⁴ Lawrence 1978, 140.

⁴⁵ The staff of Asclepius can also be an allegory for a sacred tree or building; Williams 1999, 475.

⁴⁶ Lawrence 1978, 137.

snake had a physical use as protection, preservation and health, it is necessary to discuss the snake as a ‘part of’ or ‘the whole of’ the healing process to better understand its role in the preservation of health. The positive and negative manipulations of the snake and why they are important for the understanding of the snake’s ambivalence within health in antiquity are included in this study in attempts to reveal the controversy that is the snake.

ii. Snakes as ‘Part of’ or ‘the Whole of’ in Healing

The snake was a means of therapy in the ancient world. The body of the snake was used because it was considered the symbol of a holistic remedy, whether the remedy included its flesh, or the snake was the symbol of the healer, or redemption of a previous illness, or a threat to someone’s life.⁴⁷ This personal use of the snake could be carried out through the means of amulets with the physical snake parts or the image of a snake engraved on the object. There are three types of snakes that are considered to be commonly used for healing in antiquity. Of course, there are other types of snakes that could be used as well, but for the purpose of this research, those discussed are the asp, the viper and the grass snake. These snakes are noted in Pliny, along with their uses in positive and negative manipulations of health. Pliny covered the uses of the snake in medicine in Books 28-30. Asps, for one, are mentioned throughout the *Natural History*, as they share a relationship with humans, which is both positive and negative.⁴⁸ They are one of the many snakes that were a remedy or were a threat to a person’s health, as they are quite venomous.⁴⁹ According to Pliny, burning a whole viper alive with fennel juice and one grain of frankincense makes an ointment for cataract and dimness of vision.⁵⁰ It should be noted that portions of the snake or its by-products were just as important as the whole. There are recipes in Pliny that say to use the ash of asps with bull suet, snake’s fat mixed with oil, or an ointment of snake’s ash in oil or with wax; all of these

⁴⁷ Lawrence 1978, 136.

⁴⁸ For biology of the asp, see Pliny *NH* 8.35.23, 8.36.88; For the asp’s negative relationship with humans and antidotes using the asp against its own bite, see Pliny *NH* 29.17.61, 29.17.63, 29.18.65; Dooley 2010, 142.

⁴⁹ Cleopatra VII was poisoned by an asp under the reign of Augustus, see Suetonius *Aug.* 17; Pliny *NH* 7.14.

⁵⁰ Pliny *NH* 29.38.119: “Viperam vivam in fictile novo comburere addito feniculi suco ad cyathum unum et turis manna una, atque ita suffusiones oculorum et caligines iungere utilissimum est.”

are to help cure scrofula, a disease with glandular swelling in men and women.⁵¹ From these examples, it can be argued that venomous snakes may have been characterized as those who cause harm, but with the ambivalence of the snake and its properties, even poisonous snakes could be rendered to heal. The ‘E. Longissima’, a common snake found throughout Italy, are skilled climbers and are non-venomous.⁵² This snake was known as the Asclepian snake because it was identified by some as having the role of the sacred snake (healing snake) in ancient world. According to Pliny, the ‘E. Longissima’ snake, was brought to Rome from Epidaurus in 293 BCE, however he does not mention when this snake itself became a popular symbol for health in the city of Rome.⁵³ In addition to the ‘E. Longissima’, the ‘E. Quatuorlineata’ was another snake that was connected to sacred acts in antiquity.⁵⁴ Even today, these two snakes are associated with healing and medicine in various cultures.

Snakes were also a popular image on jewelry, which have been found at some archaeological sites, such as in Britain and Pompeii.⁵⁵ The jewelry found included bracelets and rings which depict the Asclepian snake, and can be considered a representation of healing or were used for protective purposes.⁵⁶ The image that is used, for most of the jewelry that has been uncovered, was that of ‘ouroboros’, a snake eating its own tail, and this symbol of continuation was wide-spread throughout Graeco-Roman antiquity.⁵⁷ The ‘ouroboros’ snake was depicted on an amulet to aid in moderating fever; in some instances, it had words such as ‘σχιων’ or ‘σχίον’ engraved on the jewelry or amulet, which was significant when used for the hips or the stomach.⁵⁸ There was also Asclepian snake-headed jewellery, which was used for healing, and was quite common throughout the Roman Empire. Much of the snake jewelry that has been found, like that discovered in Roman Britain, is worth considering if it was connected to healing or had another meaning altogether.⁵⁹ The

⁵¹ Pliny *NH* 30.12.37: “item cinis aspidum cum sebo taurine ainpointur, anguinus adeps mixtus oleo, item anguium cinis ex oleo inlitis vel cum cera”.

⁵² Bodson 2002, 35-36.

⁵³ Jennison 2005, 130; Pliny *NH* 29.22.72: “anguis Aesculapius Epidauro Romam advectus est vulgoque pascitur et domibus”.

⁵⁴ Angeletti *et al.* 1992, 223.

⁵⁵ Mylona 2013, 156.

⁵⁶ Cool 2000, 33.

⁵⁷ Bakowska-Czerner 2015, 28; Bonner 1959, 281.

⁵⁸ Bonner 1959, 72.

⁵⁹ Cool 2000, 33-34.

deposits of snake jewelry found in Britain could very well be argued as votive offerings though their reason for being deposited is unknown,⁶⁰ as well archaeologists have uncovered two snake bracelets made of gold in Herculaneum, and two, one made of silver and one of gold (‘ourorboros’) from Pompeii. These snake bracelets were worn for good fortune and protective purposes, as well as possible ties to the cult of Asclepius.⁶¹ Yet, it is unclear since we lack the literary evidence to conclude why Asclepian snakes were frequently worn and what their importance was to the wearer.

Amulets, which are similar to jewelry, were mounted in rings or pendants, and were a type of jewelry that had some form of protective or health meaning.⁶² According to Campbell Bonner amulets had a primary function for protection, whether it would be to guard the wearer or to ensure health and healing functions. These amulets were made of stone that had engravings of a deity, animal and/or script that would accommodate a person’s reason for needing to wear the amulet.⁶³ A common image on engraved gems, for example, was the snake-bodied ‘Chnoubis’ image that was supposed to aid digestion.⁶⁴ Another function of amulets was to repel or heal various diseases.⁶⁵ The engravers of these amulets used symbolic images, words or even animal products, such as snake sloughs, to create meaning behind the use of the amulet and the wearer’s needs.⁶⁶ Moreover, animals were a popular image or product used in the production of various medicinal-type amulets. Pliny commented on several types of amulets crafted with snake by-products that were worn for a period of time, some of which are listed below, that were effective in the healing process:

- (1) “A serpent’s right eye worn as an amulet is good for eye fluxes, if the serpent is set free alive”.⁶⁷
- (2) “A snake’s heart, eaten or worn as an amulet is considered efficacious”.⁶⁸

⁶⁰ Cool 2000, 37-38.

⁶¹ Cool 2000, 34.

⁶² Nagy 2015, 215.

⁶³ Bonner 1959, 45.

⁶⁴ Nagy 2015, 214.

⁶⁵ Dasen 2014, 177.

⁶⁶ Dasen 2014, 177 and 180.

⁶⁷ Pliny *NH* 29.38.131: “serpentis oculum dextrum adalligatum contra epiphoras prodesse, si serpens viva dimittatur”.

⁶⁸ Pliny *NH* 30.8.23: “anguinum cor si mordeatur adalligeturve efficax habetur.”

- (3) “A snake’s tooth worn as an amulet, relieves toothache”.⁶⁹
- (4) “A serpent’s slough attached as an amulet in a piece of bull’s leather prevents such spasms”.⁷⁰
- (5) “A snake’s slough, tied to the lion skin as an amulet, makes childbirth easier, but it must be taken off immediately after delivery”.⁷¹
- (6) “A viper’s brain tied on with a piece of his skin helps dentition. The same effect has also the largest teeth of serpents”.⁷²

These examples show that Pliny had knowledge of some of the remedies used with physical parts of various snake taxa. Unfortunately, for most of these examples above, the type of snake used, and portions/quantity are not listed causing the recipe to be incomplete. In many instances, Pliny broadly used the ‘termanguis’/ ‘serpens’, interchangeably, rather than the specific type, causing ambiguity in whether or not it was necessary to use a specific snake or that any type would suffice for the medicament. Furthermore, the information that Pliny has recorded does lack in detail, such as which taxa is required, however these examples do show the wide range of uses to which the snake was put into the context of health. Additionally, these examples reveal that various parts of the snake, as well as the entire snake, were used to heal illness and, in some cases, make childbirth easier on a woman. By protecting the ill and injured, the snake has allowed itself to become a part of the healing process and through its inclusion in the medicament, the snake’s role in health is ever more apparent.

As mentioned above, snakes could be protectors of the home, but also the snake could be a protector of society through the means of its sacredness. During the Persian invasion in 495 BCE, the sacred snake in the Sanctuary of Athena (Athens), refused to eat its sacrificial food (usually honey cakes), which was a sign that the city was doomed to the fate of the gods or in this case the Persian

⁶⁹ Pliny *NH* 30.8.25-26: “et dens anguim adalligatus dolores mitigate”.

⁷⁰ Cramping spasms more specifically; Pliny *NH* 30.35.110: “serpentium senectus in pelle taurine adalligata spasmos fieri prohibet...”.

⁷¹ Pliny *NH* 30.45.129: “Anguim senectus adalligata lumbis faciliores partus facit, protinus a puerperio removenda”.

⁷² Pliny *NH* 30.30.137: “cerebrum ciperæ inligatum pellicular dentitiones adiuvat. Idem valent et gradissimi dentes serpentium”.

troops.⁷³ This example of the snake's role is the opposite of what has already been discussed since the snake is used as a protective emblem, rather than a protective poultice or amulet. Similar to the given example above, members of society would offer barely-cakes to a serpent that lived near the Temple of Hera. If the snake accepted the cakes it was a sign of fruitful husbandry and unsullied maidens, however it was an ill-omen if the snake refused to eat.⁷⁴ Of course, the ability of a single snake seems highly unlikely, however society believed this to be a precursor for the safety of Greece; this was also the case in Rome.⁷⁵ Going back to the period of the Minoans, societies on Crete would worship the Snake-Goddess, which has been argued to be a household goddess by scholars.⁷⁶ The Greeks, also, believed that snakes were not only guardians of the family and the household but were presiding spirits. In addition, there are multiple ancient Greek figures that had a symbol of a snake or relationship with a snake which showed the snake's association with society.⁷⁷ The Romans, as well as the Greeks, believed that snakes were not only guardians, but were significant to health and healing, which shows the interconnectedness between the snake and Asclepius.

The snake is a curious animal. In Greek and Roman daily life, the ambiguity of the snake was that it was an ominous animal that had varying uses regarding the people and their well-being. It is clear that the snake was thought to have a positive effect on the household, as a guardian or as a pet. The snake was a common image on jewelry as its appearance and abilities were argued to aid in protection or health to the wearer. Amulets using physical portions of the snake were common as well, as Pliny noted in his text. The snake was used as a popular means for healing, whether in its entirety or its by-products for healing traditions. The ambivalent uses of the snake can be applied to snake-like images, as snakes appear frequently in other aspects of daily life, this includes their appearance in mythology and art. Moreover, this can reveal that their significance and association in these aspects intertwined with the snake's manipulation of health.

⁷³ Morris, 1965, 47.

⁷⁴ Connelly 2009, 61.

⁷⁵ Morris 1965, 50.

⁷⁶ Morris 1965, 47; Antoniou *et al.* 2011, 217. The Minoan Snake-Goddess has a snake in each hand, their meaning is still unknown, but could be based on the domestication of snakes or safety in the household. The Snake-Goddess reinforced a connection with the serpent and its ability to rejuvenate by shedding its skin.

⁷⁷ Morris 1965, 47.

iii. Snakes as Images: paintings, statuary and healing with snakes

Snakes have been considered in Italy as familiar and protective animals, as they had multiple associations with health, their purpose in health, and their protective nature, which is attested in ancient writings and a numerous paintings from the first century CE.⁷⁸ There are many myths from Graeco-Roman antiquity that involve snakes, which are illustrated in paintings and sculpture, although at times the snakes are given unrealistic features, such as beards, multiple heads, and immense sizes.⁷⁹ The Lares, for one, were often depicted with one or two snakes in the painting, but were often found in separate registers from the Lares.⁸⁰ It can be argued that the snakes themselves were guardians of the household as these paintings were depicted close to the hearth or the kitchen of the house.⁸¹ These snakes were painted in fourth Pompeiian style, which was popular from 62-79 CE, and they were usually depicted in pairs.⁸² They are easily distinguishable as male or female, as the male was larger, painted in darker colours and has a beard on its face, although, of course, these details would depend on the artist's skill and the ambitions they had with their depictions of snakes.⁸³ Further, even in paintings with only one snake, the gender is usually distinguished. Each snake was painted receiving their own distinct offering of either eggs or pinecones. In Pompeii, the snake is the most commonly depicted animal, in lararia in the home and the street, but it is not clear what the snake's significance was.⁸⁴ Some of these wall paintings had physical altars for offerings, however due to the lack of literary sources and physical offerings, it is unclear what exactly these altars were used for.⁸⁵ Further, it could be probable that these altars were used for religious practices and, perhaps, the purpose of the offerings had associations with health, religion or another alternative altogether. According to Harriet Flower, recent analysis of the Lares, the snakes at Pompeii and the surrounding area, it appears that the shrines were dedicated to the snakes as though they were a cult.⁸⁶ She argues that these snakes were autonomous from the Lares as they had their own separate meaning such as their relationship to agriculture, which suggests they may

⁷⁸ Flower 2018, 2 and 70.

⁷⁹ Bodson 2002, 339.

⁸⁰ Flower 2018, 53.

⁸¹ Flower 2018, 52.

⁸² Flower 2018, 53; Mylona 2013, 156.

⁸³ Flower 2018, 63.

⁸⁴ Flower 2018, 53.

⁸⁵ Flower 2018, 151.

⁸⁶ Flower 2018, 52.

have a religious role and were honoured accordingly.⁸⁷ Without any clear proof that this was the snakes' purpose, assumptions could be made that these paintings were ideal for protection of the household or those living there.

Snakes have also been rendered in sculpture, whether they are depicting mythological scenes or their presence and function in daily life, such as the promotion of health or protection. Laocoön, for example, is a widely well-known sculpture depicting bodily harm and pain caused by snakes.⁸⁸ In the *Aeneid*, Vergil describes how Laocoön and his two sons were strangled by snakes as punishment after Laocoön ruined the sacred woodwork (the horse) by throwing a spear at its core, while in myth, the Trojans were warned by Laocoön not to trust the wooden horse.⁸⁹ Pliny the Elder describes another statue of Laocoön which has the father and sons being entwined by these snakes.⁹⁰ According to Pliny, this statue stood in Titus' palace, and Jacob Isager argues that this statue belonged to the imperial house, this statue of Laocoön was made at Titus' behest.⁹¹ Even more, only a few scholars agree with this statement, as the statue could have been moved at some point during the first century CE.⁹² Here, snakes were used in a negative manner towards health, causing death by strangulation, as agents of the gods. In antiquity society believed that the gods had the ability to sustain the health of the people but could also do quite the opposite by causing bodily harm, such as in the case of Laocoön.⁹³ In this example, the snake is associated with negative connotations towards health, which does appear as a frequent representation of the snake in mythology.

In myth Medusa is depicted as a negative entity, causing bodily harm to any man that looks upon her. Isador Coriat considers that Medusa's snakes were merely a symbol of genitalia and that this fear of young boys seeing such a sight caused them to turn to stone.⁹⁴ In art she is depicted as terrifying and dangerous, but it is generally agreed that she was a symbol of protection. For instance, Homer described a rendering of Medusa depicted on Agamemnon's shield, which features

⁸⁷ Flower 2018, 52.

⁸⁸ Verg. *Aen.* 2.225-226: "at gemini lapsu delubra ad summa dracones effugiunt saevaeque petunt Tritonidis arcem".

⁸⁹ Verg. *Aen.* 2.199-233; Vout 2010, 402.

⁹⁰ Pliny *NH* 36.4.37-38; Vout 2010, 406.

⁹¹ Isager 1991, 169; Pliny *NH* 36.4.37.

⁹² Isager 1991, 169-170.

⁹³ Verg. *Aen.* 2.199-233.

⁹⁴ Coriat 1941, 282-284.

her head.⁹⁵ Even more as an evil-averting device known as the Gorgoneion, in Italy, Medusa's head was sculpted and painted throughout the cities for protective purposes. Her snakes can be considered to represent both positive and negative health dynamics in respect to health in antiquity, as myth portrayed her as a villain that caused bodily harm, but also a protector, as with Agamemnon's shield. In societies, Medusa was displayed as a warder to keep away evil or was the cause of evil, which again shows that the snake as a symbol could have multiple associations. A Roman sculpture, housed at the Capitoline Museum, copied from the Hellenistic period depicts a young girl holding a dove with a snake at her side: this may be a representation of the 'E. longissima' in the household.⁹⁶ This can be rendered as either the snake protecting the child from harm or that it plans to attack either the dove or the girl. The head of the snake is missing which causes debate over what its intentions were. Moreover, the snake may have originally been rendered as a benefit to health or the opposite.

Snakes appear in other material representations too. There is, for example, a snake shaped glass figure from somewhere in Italy during the first century CE. According to the information from the Miho Museum, this glass snake, as a whole, is a rare find that may have been an inlay decoration of sorts.⁹⁷ Its archaeological context is unknown, but the suggestion is that this glass snake figure could have had the purpose of a votive offering giving thanks to Asclepius or the cult of healing.⁹⁸ A bronze hand amulet, from the British Museum, as another example, crafted in Rome in the first/second century CE, shows a snake crawling from the wrist towards the ring finger, with its head imitating the ring finger as it is bent; while on the thumb, there appears to be a pinecone.⁹⁹ Accordingly, it has been argued that these types of figures were most likely used to worship Sabazius.¹⁰⁰ Nonetheless, as already discussed, these images of the snake and the pinecone are considered widespread symbols of divinity, fertility or immortality.¹⁰¹ It can be argued that the snake's

⁹⁵ Homer *Il.* 11.33-37.

⁹⁶ The original is Hellenistic, however the Roman copy dates to first century CE.

⁹⁷ Miho Museum, 2019: inv. no. SS1662, 1st century CE.

⁹⁸ Lewis and Llewellyn-Jones 2018, 590-591.

⁹⁹ Lane 1980, 14.

¹⁰⁰ Lane 1980, 12-14.

¹⁰¹ Lane 1980, 14.

symbolic significance was present in other cultures other than the Greeks and Romans, as Sabazius' cult is root in the further East.

As we can see from the examples above, the snake is described and depicted in multiple accounts that connect the snake to health in antiquity. Through the literary accounts of myth, we can see that snakes could cause negative effects on a person, such as in the given example of Laocoön, as well the snake could cause both positive and negative effects, as with Medusa. We can see that the duality of the snake is reflected in artistic representations in mythology and through physical renditions, like Laocoön. Even when artistic representation was not confined to mythological subjects, like the young girl and the dove, this offers an example of the positive use of the snake in antiquity. In addition, the votive hand, dedicated to Sabazius, would have had religious connotations. The glass snake figure, however, is one example that does not offer a clear reason for its purpose in society, leaving it ambiguous. Altogether, the snake is rendered in various artistic forms which reflect its positive or negative effects on health in antiquity. This discussion of the snake continues below as it appears as a symbol of health in mythology, and the snake's association with healing cults.

iv. Snakes as Imagery: mythology, cults and healing with snakes

There is a duality when it comes to the snake itself, as the image of the snake could be represented in ancient myths and healing.¹⁰² The snake also has a role that is related to religious beliefs. There are several gods that have been associated with human health involving the snake, while mortals and heroes were associated with the negative side of the snake through challenges and dangers.¹⁰³ Myth, therefore, reflects the ambivalent nature of the snake already identified above. In Greek mythology, the snake was sometimes a symbol of rebirth, even though there was still a fear that the snake was poisonous and dangerous in these tales.¹⁰⁴ For example, Hercules is known as the serpent slayer because he throttled two serpents when he was young and slayed the Lernaean Hydra

¹⁰² Antoniou *et al.* 2011, 217.

¹⁰³ Pachis 2016, 2.

¹⁰⁴ Kitchell Jr. 2014, 173.

during his twelve labours.¹⁰⁵ The snake Typhon, a popular foe in Greek mythology, was also viewed as a monster.¹⁰⁶ On the other hand, snakes were thought to have the ability to bestow the gift of prophecy, such as the Python whose name was said to be a synonym for “soothsayer”.¹⁰⁷ The python itself was associated with the oracle at Delphi and Apollo.¹⁰⁸ This could be connected to the use of the snake in dreams and healing centres, such as the cult of Asclepius, as the snake would tell the patient how to be cured, and then the priests would have to translate the message. Of course, the snake was associated with Asclepius and his healing cult.

In Roman antiquity, many believed that disease was brought on by the gods, as people in antiquity credited divine powers the power to bring about and heal diseases.¹⁰⁹ Scholars argue that the gods were not the cause of positive or negative health, instead that ill-health was caused by an unhygienic way of living. It can be argued that the methods to heal illness and disease, described by Pliny the Elder, were more useful for curing illness than the incubation process since Pliny mentioned a multitude of recipes for one illness in his medical books, whereas the process of incubation lacks validity in the written record for the healing process. No doubt the cult of Asclepius was a useful means of healing and ritual because unlike a crowded city, these places of healing were considered to be a healthy environment where people could heal without any threats to their exposed bodies and immune systems.¹¹⁰ Healing centres and healing cults were established with the belief that divine assistance was the cure for illness, wounds and disease.¹¹¹ Cults, such as the healing cult of Asclepius, had a large impact on the populations in the wider area of the Roman Empire.¹¹² This cult was popular among anyone seeking a remedy by means of Asclepius and his snakes. According to tradition, the family of Asclepius, such as his children, especially Hygieia, devoted themselves to the art and skill of healing those in need.¹¹³ Emma Stafford states that

¹⁰⁵ Morris and Morris 1965, 49; Bodson 2002, 339.

¹⁰⁶ Morris and Morris 1965, 49; Mylona 2013, 156.

¹⁰⁷ Morris and Morris 1965, 49-50.

¹⁰⁸ *HHAp.* 3.356; Alves *et al.* 2013, 17.

¹⁰⁹ Edelstein 1967, 378.

¹¹⁰ Pachis 2016, 2.

¹¹¹ Pachis 2016, 2. These centers began at Epidaurus then spread to Athens, Cos, Eleusis and Pergamum, see Lawrence 1978, 135.

¹¹² Pachis, 2016, 5.

¹¹³ Asclepius' family: Epione (wife), Machaon and Podaleirios (hero sons), Iaso, Panakeia, Akeso and Hygieia, see Stafford 2005, 130; Retief 2005, 193; Hygieia is commonly seen with Asclepius and cult practices: *IG II²* 772.9-13, c. 250 BCE = Stafford 2005, 128.

Hygieia, like her father, was associated with the snake, as the majority of her representations, like in art, depict her with a snake.¹¹⁴ Asclepius' snake, also known as the sacred snake, has been identified as the 'E. longissima', a common snake in Italy that appears in medical prescriptions throughout antiquity, and was the symbolic form of health.¹¹⁵ Asclepius himself was believed to use the guise of a snake to visit the injured and ill in dreams; this method, incubation, was offered at healing centers across the Mediterranean.¹¹⁶ The process of incubation was usually carried out in an *abaton* where men and women would be under "incubation sleep", while priests of the centre would silently move among the patients with their sacred serpents and these snakes would lick the wounds of the sick.¹¹⁷ This licking of the wounds apparently had ancient roots in Greek folk medicine and scholar Daniel Ogden argues that the god of healing and the sacred snakes functioned as a divine metaphor for the actual medicinal power considered latent in snakes themselves, and their ambivalent role.¹¹⁸ Accordingly, during the patient's sleep Asclepius' visit would include him whispering in their ear how to be healed.¹¹⁹ Once awake, the patient's dream would be interpreted by the priests for the proper course of treatment the patient needed to take.¹²⁰ These interpretations could be considered as the first step towards the healing process, since the next step would be to use a remedy of sorts that was provided by the god, such as the pharmacological antidotes described by. However, there lacks any evidence of this being the case for the healing process at these centres. The snake was used as the first step to healing through its inclusion in the incubation process but was also a commonly used product in the remedy itself, as discussed above.¹²¹ Whether the snake's appearance in dreams was real to the dreamer or not is unclear, but it is the representation of the snake in the context of health that is relevant to this study, showing that even in a dream state, the snake had a role in health.

These categories, religious and symbolic, do overlap especially with images of snakes within cults. Vergil's *Aeneid* offers a poetic representation of snakes, which suggests that snakes had another

¹¹⁴ Stafford 2005, 130-131.

¹¹⁵ Lawrence 1978, 135.

¹¹⁶ Pachis 2016, 2.

¹¹⁷ Retief 2005, 194; Nutton 2013, 110.

¹¹⁸ Ogden 2013, 346; Mylona 2013, 156.

¹¹⁹ Compton 1998, 303; Ogden 2013, 369.

¹²⁰ Retief 2005, 194.

¹²¹ Edelstein 1967, 378.

religious function that included their symbolism in the death of fictional characters, which shows another correlation they had in health in antiquity.¹²² In Book 5 lines 84-96 there is one clear account of a snake making an appearance to Aeneas, where it appears to have an ambivalent meaning.¹²³ The snake is given a message sent by Aeneas' father; moreover the snake has a religious connection that is carried out through its dual associations with life and death.¹²⁴

“So had he spoken, when from the foot of the shrine a slippery serpent trailed seven huge coils, fold upon fold seven times, peacefully circling the mound and gliding among the altars; his back chequered with blue spots, and his scales ablaze with the seen of dappled gold, as in the clouds the rainbow darts a thousand shifting tints athwart the sun. Aeneas was awestruck at the sight. At last, sliding with long train amid the bowls and polished cups, the serpent tasted the bands, and again, all harmless, crept beneath the tomb, leaving the altars where he fed. More eagerly, therefore, does he renew his father's interrupted rites, knowing not whether to deem it the genius of the place of the attendant spirit of his sire?” (Verg. *Aen.* 5.84-96)

In this passage, Aeneas is stunned to see a snake emerge at his father's tomb, and he is unsure whether the snake was already inhabiting the area or that it was his father's spirit in the guise of a snake. Vergil offers two options as to the meaning of the snake; the first, the snake is the 'genius loci' or, the second, the appearance of the snake is linked to reincarnation and the fact that Aeneas is standing at his father's grave.¹²⁵ Even in epic poetry the snake has the symbol of rejuvenation or the incarnation of the soul, which asserts the snake's ambiguity in the ancient world.

¹²² MacKinnon 2014a, 175.

¹²³ This is similar to that of the snakes depicted in the Lares paintings, as the snake's purpose for its appearance is vague.

¹²⁴ Flower 2018, 67.

¹²⁵ Flower 2018, 68; Verg. *Aen.* 5. 84-96: “dixerat haec, adytis cum lubricus anguis ab imis setpem igens gyros, septena voluminal traxhit amplexus placide tumulum lapsusque per aras, caeruleae cui terga notae maculosus et auro squamam incendebat fulgor, ceu nubibus arcus mille iacit varios adverso sole colores. obstipuit visu Aeneas. ille agmine longo tandem inter pateras et levia pocula serpens libavitque dapes rursusque innoxius imo successit tumulo et depasta altaria liquit. hoc magis inceptos genituri instaurat honores, incertus geniumne loci famulumne parentis esse putet...”

v. Case Study: What to expect when you least expect it

Snakes have multiple associations with society that includes their uses as tangible and intangible objects. This case study looks at how the physical snake can be used in multiple situations; moreover, it considers how archaeologists have interpreted the uses of snakes within a sanctuary and why the ambiguity of the snake continues to puzzle scholars. Kalaureia is an early Roman site located on the Greek island of Poros, which was excavated in 1894, the 1930s, 1997, 2003 and finished around 2012.¹²⁶ Archaeologists have identified a structure on the island as the Sanctuary of Poseidon, which has a cistern at the back that, normally, held the remains of animal bones from sacrificial offerings. Of course, there have been plenty of identified bones that have been found at this site; however, some of these bones have been considered unnatural and a curious case study. These bones were from snakes, which amounted to 2720 bones, ultimately being the most numerous of all the zooarchaeological data found in this cistern.¹²⁷ This “unexpected” amount of different snake taxa is not typical with the common animals, such as goats and sheep, that were sacrificed in Greek or Roman religious ceremonies.¹²⁸ Furthermore, the snakes appear to have been butchered and exposed to fire with their skin still attached, yet some of the snake remains, both the vertebrae and ribs were burnt, but no cut marks were noticed, which is atypical.¹²⁹ The different taxa recorded include the Montpellier snake (‘Malpolon sp.’), the Balkan whip snake (‘Hierophis-gemonensis’), the Grass snake (‘Natrix natrix’), the Nose-horned viper (‘Vipera ammodytes’), the Dice snake (‘Natrix tessellata’) and the Four-lined snake (‘E. quatuorlineata’).¹³⁰ Relevant for the present discussion is the fact that archaeologists were able to determine the taxon of these different snakes, which included a common snake of Italy, ‘E. quatuorlineata’, a popular snake used for healing methods.¹³¹ As stated previously, snakes were often domesticated and kept as pets to bring

¹²⁶ Mylona 2013, 149.

¹²⁷ Mylona 2013, 151, Table 1.

¹²⁸ Mylona 2013, 151; For the different taxa included in this assemblage, see below.

¹²⁹ Mylona 2013, 153.

¹³⁰ Mylona 2013, 152.

¹³¹ The ‘E. longissima’ and ‘E. quatuorlineata’ are both harmless and shared similar roles in healing and religious practices. The ‘Viper ammodytes’ is also a commonly used type for medicaments in the ancient world, which I have determined in my current research through analysis of Pliny’s Books 28-30. Pliny noted this type of snake used in several pharmacological recipes in his work, see *NH* 29.34.109, 29.38.119-122, 30.33.77, 30.12.40. It should be noted that this snake was also a threat to a person’s health due to its venomous bite, see *NH* 29.21.69-71.

good fortune and protection while lingering in the household.¹³² As it appears in the archaeological and scholarly records, the grass snake is common among the household and sanctuaries as a symbol of good fortune (healthy life) and protection. Pausanias mentioned that these “yellowish snakes” were considered sacred to Asclepius and were commonly found around Epidaurus, perhaps so too are the, ‘E. longissima’, that are mentioned throughout Pliny’s text.¹³³

In addition, the snake remains found among the other bone assemblages at Kalaureia are from different habitats and locations, which raise the question of what the purpose and use of these different snake taxa were.¹³⁴ Dimitra Mylona discusses the symbolic nature of snakes in the ancient world and that they were involved in a number of rituals, however snakes were also used for healing purposes. Being that the site is Greek in origin but was inhabited by Romans and their culture, there could have been some overlap in Greek and Roman cultural practices, but no evidence of this overlap has been determined. She does not discuss the possibility of healing practices at this sanctuary or a connection to ritual; instead, she mentions that snakes in antiquity had a connection with the underworld and that they probably had a role with the Eleusinian mysteries.¹³⁵ Snakes, as discussed above, had associations with several deities, based on mythological and symbolic matters, which could have some meaning for the unusual snake taxa among the other remains at Kalaureia.

Using the archaeological record, the snake remains found at this site could have had various reasons for their usage, however, due to the snake’s ambiguity, it is difficult to determine its use in this instance. For further consideration, archaeologists would have to come across a similar deposit of snake taxa, as well as literary accounts that would amount to the reason for the snakes being butchered and killed in this manner. Altogether, this case study offers an insight to unusual circumstances, where snake remains have been included with other animal remains at a sanctuary. The reason for their presence in the midden is still unknown, as there lacks any evidence for their use at the Sanctuary of Poseidon, causing the snake’s purpose in antiquity to remain ambivalent.

¹³² Retief 2005, 190.

¹³³ Mylona 2013, 156; Nutton 2013, 111; Paus. 2.28.1.

¹³⁴ Mylona 2013, 154.

¹³⁵ Mylona 2013, 156; Nutton 2013, 107.

vi. Conclusion: The Nature of the Snake

Snakes had a plethora of meanings in the ancient world that were reflected in mythology, ritual, artistic productions and cults, in addition to the use of the physical snake in medical settings. The importance of the snake's relationship to health, both positive and negative manipulations, is further reflected in its presence in myth and artistic representations. It was depicted in paintings and sculpture, which could have had either religious or mythological meanings. In mythology, the snake was rendered as an enemy that caused bodily harms to its victims, which can be seen in the myth of Hercules and the Lernaean Hydra, and Laocoön. It had a duality in the ancient world created this association with life and death, symbolically or in reality. The snake depicted with Lares as found in the city of Pompeii have been argued to have religious associations or even protective associations. This idea of protection leans more towards the snake's associations to life and healing. Additionally, the snake can be identified as a healing symbol through the means of the cult of Asclepius and the representation of the snake during incubation. Asclepius' snake, the 'E. longissima', is a symbol of health in antiquity as society believed the snake had the abilities of rejuvenation, wisdom, protection and death; moreover, these abilities were used as a powerful symbol for health. With the site of Kalaureia, the evidence of snake bones does allow scholars to consider the medicinal purpose of the snake in a religious context, however its true purpose at the site remains unknown. The snake's ambiguity emphasizes that it is a multi-purpose animal that is deeply involved in the study of health in antiquity.

The snake, as it has been argued throughout this study, is an ambivalent creature that has been associated with several healing practices in antiquity. Its primary physical function was to protect or retain health to humans. The whole or specific parts of the snake were used for these purposes. Pliny listed many recipes that include the snake as an ingredient in medications, which were used for a wide range of illness, including digestion, fever and toothaches. It was also recognized as the cause, as poisonous snakes could have caused death from their venomous bite. The snake, as a representation of life and death, health and harm, was connected to the god Asclepius and his 'powers' of healing. Being associated with the cult of Asclepius, the snake was a symbolic representation of health and the notion of cyclical rejuvenation. The snake is considered an ambivalent creature since it was associated with health in several ways, both physically and conceptionally. Though the last word about the snake's ambiguity is still not resolved, with material evidence and

literary accounts, scholars have been able to illustrate how the snake was involved in health in its physical and symbolic uses.

Further Reading

Draycoot, J., 2019. *Roman Domestic Medical Practice in Central Italy: From the Middle Republic to the Early Empire*, London & New York.

Nutton, V., 1985. "The Drug Trade in Antiquity", *Journal of the Royal Society of Medicine* 78, 138-145.

Totelin, L. M. V., and R. Flemming (eds). 2020. *Medicine and Markets in the Graeco-Roman World and Beyond: Essays on Ancient Medicine in Honour of Vivian Nutton*, Wales.

Bibliography

Alves, R. R. N., M. F. T. Medeiros, U. P. Albuquerque, and I. L. Rosa, 2013. "From Past to Present: Medicinal Animals in a Historical Perspective", in R. R. N. Alves and I. L. Rosa (eds), *Animals in Traditional Folk-Medicine*, Berlin, 11-23.

Angeletti, L. R., D. French, U. Agrimi, C. Curia, and R. Marianai-Costantini, 1992. "Healing Rituals and Sacred Serpents", *Before Our Time* 340, 223-225.

Antoniou, S. A., G. A. Antoniou, R. Learney, F. A. Granderath, and A. I. Antoniou, 2011. "The Rod and the Serpent: History's Ultimate Healing Symbol", *World J Surg* 35, 217-221.

Bakowska-Czerner, G., 2015. "Elements of Gnostic Concepts in Depictions of Magical Gems", *The Polish Journal of the Arts and Culture* 13, 23-39.

Bodson, L., 1968. "Aspects of Pliny's Zoology" in R. French and F. Greenway (eds), *Science in the Early Roman Empire: Pliny the Elder, his Sources and Influences*, London & Sydney, 98-110.

Bonner, C., 1950. *Studies in Magical Amulets. Chiefly Graeco-Egyptian*, Ann Arbor (online database: <http://www2.szepmuveszeti.hu/talismans/bibliography/30>)

Calder, L., 2017. "Pet and Image in the Greek World: The Use of Domesticated Animals in Human Interactions", in Th. Fögen and E. Thomas (eds), *Interactions Between Animals and Humans in Graeco-Roman Antiquity*, Berlin, 61-88.

Compton, M. T., 1998. "The Union of Religion and Health in Ancient Asklepieia", *Journal of Religion and Health* 37 (4), 301-312.

Connelly, J. B., 2009. *Portrait of a Priestess: Women and Ritual in Ancient Greece*, Oxford.

Cool, H. E. M., 2000. "The Significance of Snake Jewellery Hoards", *Britannia* 31, 29-40.

Coriat, I. S., 1941. "A Note on the Medusa Symbolism," *American Imago* 2 (4), 281-285.

Dasen, V., 2014. "Healing Images. Gems and Medicine", *Oxford Journal of Archaeology* 33 (2), 177-191.

Edelstein, L., 1967. "The Distinctive Hellenism of Greek Medicine" in O. Temkin and C. L. Temkin (eds), *Ancient Medicine: Selected Papers of Ludwig Edelstein* (transl. C. L. Temkin), 367-397, Baltimore.

Flower, H. I., 2017. *The Dancing Lares and the Serpent in the Garden: Religion at the Roman Street Corner*, Princeton & Oxford.

Howe, T. P., 1954. "The Origin and Function of the Gorgon-Head," *American Journal of Archaeology* 58 (3), 209-221.

Isager, J., 1991. *Pliny of Art in Society: The Elder's Chapters on the History of Art*, London & New York.

Jennison, G., 2005. *Animals for Show and Pleasure in Ancient Rome*, Philadelphia.

Kitchell Jr., K. F., 2014. *Animals in the Ancient World from A-Z*, London & New York.

Lane, E. N., 1980. "Towards a Definition of the Iconography of Sabazius", *Numen* 27, 9-33.

- Lawrence, C., 1978. "The Healing Serpent: The Snake in Medical Iconography", *The Sir Thomas and Lady Dixon Memorial Lecture*, 134-140.
- Lazenby, F. D., 1949. "Greek and Roman Household Pets", *The Classical Journal* 44 (4), 245-252.
- Lewis, S. and L. Llewellyn-Jones., 2018. *The Culture of Animals in Antiquity: A Sourcebook with Commentaries*, London & New York.
- Mackinnon, M., 2014a. "Fauna of the Ancient Mediterranean World", in G. L. Campbell (ed.), *The Oxford Handbook of Animals in Classical Thought and Life*, Oxford, 156-179.
- Mackinnon, M., 2014b. "Pets", in G. L. Campbell (ed.), *The Oxford Handbook of Animals in Classical Thought and Life*, Oxford, 269-281.
- Morris R. and D. Morris, 1965. *Men and Snakes*, United Kingdom.
- Mylona, D., 2013. "Dealing with the Unexpected: Unusual Animals in an Early Roman cistern fill in the Sanctuary of Poseidon at Kalaureia, Poros", in G. Ekroth and J. Wallensten (eds), *Bones, Behaviour and Belief*, Stockholm, 149-166.
- Nagy, A. M., 2015. "Engineering Ancient Amulets: Magical Gems of the Roman Imperial Period", in D. Boschung and J. N. Bremmer (eds), *The Materiality of Magic*, Germany, 205-240.
- Nutton, V., 2006. "The Rise of Medicine", in R. Porter (ed.) *The Cambridge History of Medicine*, Cambridge, 46-70.
- Ogden, D., 2014. "Animal Magic", in G. L. Campbell (ed.), *The Oxford Handbook of Animals in Classical Thought and Life*, Oxford, 294-309.
- Pachis, P., 2016. "Healing Gods, Heroes and Rituals in the Graeco-Roman World", *Open Library of Humanities* 2 (1), 1-10.
- Retief, F. P., 2005. "Snake and Staff Symbolism and Healing," *Acta Theologica Supplementum* 7, 189-199.

Stafford, E., 2005. "Without you no one is happy: The Cult of Health in Ancient Greece", in H. King (ed.) *Health in Antiquity*, London & New York, 120-135.

Vout, C., 2010. "Laocoön's Children and the Limits of Representation", *Art History* 33 (3), 396-419.

Williams, N. W., 1999. "Serpents, Staffs and Emblems of Medicine", *JAMA* 281 (5), 474-477.